GW - 221

GENERAL CORRESPONDENCE

YEAR(S): 2007-1995



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Goernor Joa nm Prukop Cabi nelSecretary Mark E. Fesmire, P.E. Director Oil Conservation Division

April 9, 2007

Norris D. Young President Envirotech, Inc. 5796 U.S. Highway 64 Farmington, New Mexico 87401

RE: Discharge Plan Permit (GW-221) Renewal Envirotech, Inc. Main Office and Maintenance Yard

Dear Mr. Young:

Fursuant to Water Quality Control Commission (WQCC) Regulations 20.6.2.3000 - 20.6.2.3114 NMAC, the Oil Conservation Division (OCD) hereby approves the discharge permit for the Envirotech, Inc. (owner/operator) Envirotech, Inc. Main Office and Maintenance Yard located in the NE/4 of the NW/4 of Section 27, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico, under the conditions specified in the enclosed **Attachment To The Discharge Permit**. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 working days of receipt of this letter including permit fees.**

Please be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If you have any questions, please contact Edward J. Hansen of my staff at (505-476-3489) or E-mail edwardj.hansen@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely, A

Wayne Price Environmental Bureau Chief

LWP/ejh Attachments-1 xc: OCD District Office Morris D. Young GW221 April 9, 2007 Page 2 of 7

ATTACHMENT TO THE DISCHARGE PERMIT RENEWAL Envirotech, Inc. Main Office and Maintenance Yard (GW221) DISCHARGE PERMIT APPROVAL CONDITIONS April 9, 2007

Please remit a check for \$1700.00 made payable to Water Quality Management Fund:

Water Quality Management Fund c/o: Oil Conservation Division 1220 S. Saint Francis Drive Santa Fe, New Mexico 87505

1. Payment of Discharge Plan Fees: All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of \$100.00, plus a renewal flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required \$100.00 filing fee. However, the owner/operator still owes the required \$1700.00 renewal permit fee for an oil and gas service company.

2. Permit Expiration, Renewal Conditions and Penalties: Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. The permit will expire on November 16, 2010 and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. *Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA1978} and civil penalties may be assessed accordingly.*

3. Permit Terms and Conditions: Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.

4. **Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its January 5, 2007, discharge permit renewal application, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.

Morris D. Young GW221 April 9, 2007 Page 3 of 7

5. Modifications: WQCC Regulation 20.6.2.3107.C, and 20.6.2.3109 NMAC addresses possible future modifications of a permit. The owner/operator (discharger) shall notify the OCD of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.

6. Waste Disposal and Storage: The owner/operator shall dispose of all wastes at an OCDapproved facility. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class II well. RCRA non-hazardous, non-exempt oil field wastes may be disposed of at an OCD-approved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis.

A. OCD Rule 712 Waste: Pursuant to OCD Rule 712 (19.15.9.712 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change.

B. Waste Storage: The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

7. **Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. The owner/operator must store empty drums on their sides with the bungs in place and lined up on a horizontal plane. The owner/operator must store chemicals in other containers, such as tote tanks, sacks, or buckets on an impermeable pad with curbing.

8. Process, Maintenance and Yard Areas: The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.

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10. Labeling: The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/operator may use a tank code numbering system, which is incorporated into their emergency response plans.

11. Below-Grade Tanks/Sumps and Pits/Ponds.

A. All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

B. All pits and ponds, including modifications and retrofits, shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all pits or ponds shall have approved hydrologic and geologic reports, location, foundation, liners, and secondary containment with leak detection, monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal.

C. The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds.

D. The owner/operator shall maintain the results of tests and inspections at the facility covered by this discharge permit and available for OCD inspection. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

Morris D. Young GW221 April 9, 2007 Page 5 of 7

12. Underground Process/Wastewater Lines:

A. The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half-times the normal operating pressure, if possible, or for atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD.

B. The owner/operator shall maintain underground process and wastewater pipeline schematic diagrams or plans showing all drains, vents, risers, valves, underground piping, pipe type, rating, size, and approximate location. All new underground piping must be approved by the OCD prior to installation. The owner/operator shall report any leaks or loss of integrity to the OCD within 15 days of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and they shall be available for OCD inspection. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

13. Class V Wells: The owner/operator shall close all Class V wells (e.g., septic systems, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only, must be permitted by the New Mexico Environment Department (NMED).

14. Housekeeping: The owner/operator shall inspect all systems designed for spill collection/prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and available for OCD inspection.

15. Spill Reporting: The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.5.12.1203 NMAC and OCD Rule 116 (19.15.3.116 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days.

16. OCD Inspections: The OCD may place additional requirements on the facility and modify the permit conditions based on OCD inspections.

Morris D. Young GW221 April 9, 2007 Page 6 of 7

17. Storm Water: The owner/operator shall implement and maintain run-on and runoff plans and controls. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any stormwater run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.

18. Unauthorized Discharges: The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. <u>An unauthorized discharge is a violation of this permit.</u>

19. Vadose Zone and Water Pollution: The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.

20. Additional Site Specific Conditions: <u>N/A</u>

21. Transfer of Discharge Permit (WQCC 20.6.2.3111) Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transfer or shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee. Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

22. Closure: The owner/operator shall notify the OCD when operations of the facility are to be discontinued for a period in excess of six months. Prior to closure of the facility, the operator shall submit a closure plan for approval. Closure and waste disposal shall be in accordance with the statutes, rules and regulations in effect at the time of closure.

Morris D. Young GW221 April 9, 2007 Page 7 of 7

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23. Certification: Envirotech, Inc., (Owner/Operator), by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here. Owner/Operator further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively.

<u>Conditions accepted by</u>: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

Company Name-print name above

Company Representative- print name

Company Representative- signature

Title

Date:



P0 Box 450 Farmington, NM 87499

Date: 03/12/07

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NM ENERGY, MINERALS & NATURA

NM ENERGY, MINERALS & NA

1220 SOUTH ST. FRANCIS DR. SANTA FE, NM 875053 (505) 476-3400

Ad# 1000627697 1000627697	Class 0152 - Legal Notices 0152 - Legal Notices	Start 03/09/2007 03/09/2007	Stop 03/09/2007 03/09/2007	Times 1 1	AS/400 Acct 780352 780352
				Total Cost: Payment:	\$194.89 \$0.00
	 			Balance Due:	\$194.89

TEXT:

NOTICE OF PUBLICATIONSTATE OF NEW MEXICOENERGY, MINERALS AND NAT

OK. to prove 2 2 2 2

Please include Ad number on your payment.

AFFIDAVIT OF PUBLICATION

Ad No. 54762

STATE OF NEW MEXICO County of San Juan:

ROBIN ALLISON, being duly sworn says: That she is the CLASSIFIED MANAGER of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication and appeared in the Internet at The Daily Times web site on the following day(s):

Friday, March 09, 2007

And the cost of the publication is \$194.89

ON 3/20/07 ROBIN ALLISON appeared before me, whom I know personally to be the person who signed the above document.

Complission Expires November

COPY OF PUBLICATION NOTICE OF PUBLICATION

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC), the following discharge permit renewal application has been submitted to the Direct or of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 176-3440:

(GW221) Envirotech, Inc., Morris D. Young, President, 5796 U. S. Hwy 64, Farmington, New Mexico 87401, has submitted a renew al application for the previously approved discharge plan (GW 221) for the office and shop facilities located in the NE ¼ of the NW ¼ of Section 27, Township 29 N, Range 12 W, NMPM, San Juan County, New Mexico, approximately 0.5 miles east of the in tersection of County Road 550 and Highway 64, Farmington, New Mexico. Approximately 520 gallons of non-hazardous liquid and solid lab waste, approximately 1,000 gallons of used oil, and ap proximately 165 used oil filters are generated annually, which are collected and temporarily stored in containment vessels prior to being transported and disposed of at an NMOCD approved facili ty. In case of a spill, leak, or accidental discharge an Emergency Response plan is in place, if this plan is not followed then ground water of concern is approximately 60 feet below ground surface and has a total dissolved solids concentration of approximately 500 mg/L. This discharge plan outlines the procedures that are to be taken when handling/storing/disposing of waste generated from daily operations in order to avoid contamination of fresh wa ter.

IPT. (GW228) CIP, Incorporated, Carl I. Padilla, 51 Road 5570, Farm ington, New Mexico 87401, has submitted a renewal application for the previously approved discharge plan (GW 228) for their CIP, Inc. shop and yard located in the East ½ NW ¼ SE ¼ of Sec tion 10, Township 29 N, Range 12 W and a portion of NE ¼ SE ¼ of Section 10, Township 29 N, Range 12 W, NMPM, Farmington, San Juan County, New Mexico. Approximately 250 gallons of oil & grease, 1,200-2,400 gallons of water for steam washing, sew age, office waste, and scrap metal are generated on site annually, which are collected and temporarily stored in containment vessels prior to being transported and disposed of at an NMOCD ap proved facility. In case of a spill, leak, or accidental discharge an Emergency Response plan is in place, if this plan is not followed then groundwater of concern is approximately 100 feet below ground surface and has a total dissolved solids concentration of approximately 1,000 mg/L. This discharge plan outlines the pro cedures that are to be taken when handling/storing/disposing of waste generated from daily operations in order to avoid contami nation of fresh water.

nation of tresh water. The NMOCD has determined that the application is administratively complete and has prepared a draft permit. The NMOCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The administrative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the NMOCD web site <u>http://www.emnrd.state.nm.us/ocd/</u>. Persons interested in ob taining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this no tice, during which interested persons may submit comments or request that NMOCD hold a public hearing. Requests for a public hearing will be held if the Director determines that there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available, including all comments received. If a public hearing is held, the director will ap prove or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.

Para obtener más información sobre esta solicitud en espan?ol, sir vase comunicarse por favor: New Mexico Energy, Minerals and Natu, rat Resources Department (Depto. Del Energia, Minerals y, Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Con servacion Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 7th day of March, 2007.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION Mark Fesmire, Director

Legal No. 54762, published in The Daily Times, Farmington, New Mexico on Friday, March 09, 2007

SEAL

District I 1625 N. Fench Dr., Hobbs, NM 88240 District I 1301 W. Grand Avenue, Artesia, NM 88210 District I 1000 Rico Irazos Road, Aztec, NM 87410 District I 1220 S. StFrancis Dr., Santa Fe, NM 87505	Energy Minerals a Oil Conserv 1220 South	New Mexico nd Natural Resour /ation Division St. Francis Dr. , NM 87505	Submit Or Plus 1	riginal Copy nta Fe priate
DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS, REFINERIES, COMPRESSOR, GEOTHERMAL FACILITES AND CRUDE OIL PUMP STATIONS (Refer to the OCD Guidelines for assistance in completing the application)				
1. Type: Oilfield Service Compa	∐ New ⊠ Renewa			
2. Operator: Envirotech, Inc.				
Address: <u>5796 U.S. Hwy 64,</u>	Farmington, NM 87401			
Contact Person: <u>Morris D. Yo</u>	oung	Phon	e: <u>(505) 632-0615</u>	
3. Location: <u>NE</u> /4	<u>NW</u> /4 Section <u>27</u> ubmit large scale topographic		<u>29N</u> Range <u>12W</u> act location.	
4. Attach the name, telephone nu	mber and address of the land	owner of the facili	ty site.	
5. Attach the description of the fa	acility with a diagram indicat	ing location of fen	ces, pits, dikes and tanks on the fac	cility.
6. Attach a description of all materials stored or used at the facility.				
 Attach a description of present must be included. 	sources of effluent and wast	e solids. Average	quality and daily volume of waste	water
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.				
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.				
10. Attach a routine inspection and maintenance plan to ensure permit compliance.				
11. Attach a contingency plan for	reporting and clean-up of sp	ills or releases.		
12. Attach geological/hydrologica	I information for the facility	. Depth to and qua	ality of ground water must be inclu-	ded.
13. Attach a facility closure plan, rules, regulations and/or order		ecessary to demor	astrate compliance with any other C	CD
14. CERTIFICATIONI hereby of best of my knowledge and belief		ibmitted with this	application is true and correct to th	e
Name: <u>Morris D. Young</u>		Title: <u>Pre</u>	sident	_
Signature: December 29, 2006				
E-mail Address: <u>myoung@en</u>	wirotech-inc.com			

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Commission Regulations NMAC). (20.6.2.3106 N^t the following disthe permit charge renewal application has been submitted to the Director of the New Mexico Oil Conserva-Division tion ("NMOCD"), 1220 Saint Francis Drive, Santa Fe, New Mexico 87505, Tel (505) 476-3440: Telephone

(GW221) Envirotech, inc. Morris D. Young, President, 5796 U. S. Hwy 64, Farmington, New Mexico 87401, has submitted a re-newal application for the previously ap-proved discharge plan (GW 221) for the office and shop facili-ties located in the NE1/4 of the NW1/4 of Section 27, Township 29 N, Range 12 W, NMPM, San Juan Juan County, New Mexico. approximately 0.5 miles east of the intersection of County Road 550 and Highway 64, Farmington, New Mexico. Ap-proximately 520 gallons of non-hazard-ous liquid and solid lab waste, approxi-mately 1,000 gallons of used oil, and ap-proximately 165 used oil filters are generated annually, which are collected and are collected and temporarily stored in containment vessels prior to being trans-ported and disposed of at an NMOCD approved facility. In case of a spill, leak, or accidental discharge an Emergency Response plan is in place, if this plan is not followed then not tollowed then groundwater of concern is approximately 60 feet below ground surface and has a total dissolved solids concentration of approximately 500 mg/L. This discharge plan outlines the procedures that are to be when taken handling/storing/disposing of waste generated from daily operations in order to avoid contamination of fresh water.

(GW228) CI icorporated, Carl I. Padilla, 51 Road 5570, Farm-ington, New Mexico 87401, has submitted a renewal application for the previously approved discharge plan (GW 228) for their CIP, Inc. shop and yard located in the East1/2 NW1/4 SE1/4 of Section 10, Township 29 N, Range 12 W and a portion of 12 W and a portion of NE1/4 SE1/4 of Section 10, Township 29 N, Range 12 W, NMPM, Farmington, San Juan County, New Mexico. Approximately 250 gallons of oil & of oil & 1,200-2,400 grease, 1,200-2,400 gallons of water for steam washing, sewage, office waste, and scrap metal are gen-erated on site annually, which are col-lected and temporarily stored in containment vessels prior to being transported and disposed of at an NMOCD approved fa-cility. In case of a spill, leak, or accidental discharge an Emergency Response plan is in place, if this plan is not followed then groundwater of concern is approxi-mately 100 feet below ground surface and has a total dissolved solids concentration approximately of $p_{1,000}$ mg/L. This dis-charge plan outlines the procedures that are to be taken when handling/storing/disposing of waste generated from daily operations in order to avoid contamination of fresh water. The NMOCD has determined that the application is administratively complete and has prepared a draft permit. The NMOCD will accept comments and statements of interest regarding this applica-tion and will create a facility-specific mailing list for persons who wish to receive future notices. Per-sons interested in obtaining further inforsubmitting mation. comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The adminis-trative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Fri-day, or may also be viewed at the NMOCD

web

http://www.emnrd.st ate.nm.us/ocd/. Per-

site

sons interested in obtaining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modi-fication, the Director shall allow a period of at least thirty (30) days after the date of publication of this nopublication of this notice, during which in-terested persons may submit comments or request that NMOCD hold a public hearing. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines that there is significant public interest. If no public hearing is held, the Director will

neid, the Director Wil approve or disapprove the proposed permit based on information available, including all comments received. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.

Para obtener más información sobre esta solicitud en espanol, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Re sources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacioín Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 7th day of March, 2007.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

S E A L Mark Fesmire, Director Legal #80530 Pub. March 12, 2007





NM EMNRD OIL CONSERV ATTA! Ecliver Hansen 1220 S ST FRANCIS DR SANTA FE NM 87505

 ALTERNATE ACCOUNT: 56689

 AD NUMBER: 00205793 ACCOUNT: 00002212

 LEGAL NO: 80530
 P.O. #: 52100-3956

 411 LINES 1 TIME(S) a
 230.16

 AFFIDAVIT:
 6.00

 TAX:
 18.01

 TOTAL:
 254.17

<u>ر</u>ب

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO COUNTY OF SANTA FE

I, R. Lara, being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily newspaper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication # 80530 a copy of which is hereto attached was published in said newspaper 1 day(s) between 03/12/2007 and 03/12/2007 and that the notice was published in the newspaper proper and not in any supplement; the first date of publication being on the 12nd day of March, 2007 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/S/

LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 12nd day of March, 2007

Notary 1123/07 **Commission Expires:**

www.santafenewmexican.com

202 Fast Marcy Street Santa Fel NM 87501-2021 • 505-983-3303 • fax: 505-984-1785 • P.O. Box 2048, Santa Fe, NM 87504-2048



March 8, 2007

2007 MAR 9 AM 11 22

Mr. Edward J. Hansen, HydrologistState of New Mexico Oil Conservation Bureau1220 South Saint Francis DrivePhone (505) 476-3489Santa Fe, NM 87505Fax (505) 476-3462

RE: Discharge Permit Application Public Notice Envirotech, Inc.

Dear Mr. Hansen:

Attached please find the Affidavit of Publication for the Public Notice for Envirotech, Inc. as required. The Public Notice was published in both Spanish and English as seen in the attached documents. Also attached is a copy of the certified mail receipts as requested for the owners of the properties where our lab facility and shop are located.

Please feel free to contact me if you have further questions. We anticipate receiving the permit after NMOCD approval and publication of your notices in newspapers.

Thank you,

Envirotech, Inc.

orin & young Morris D. Young President myoung@envirotech-inc.com

Attachment

MDY/aep/LF/GW221-shop/noticeapproval3-8-07.doc

AFFIDAVIT OF PUBLICATION

Ad No. 54673

STATE OF NEW MEXICO County of San Juan:

ROBIN ALLISON, being duly sworn says: That she is the CLASSIFIED MANAGER of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication and appeared in the Internet at The Daily Times web site on the following day(s):

Thursday February 22, 2007

And the post of the publication is \$131.62

ON $2/28/0^{2}$ ROBIN ALLISON appeared before me, whom I know personally to be the person who signed the above document.

Commission Expires November 2008

COPY OF PUBLICATION

PUBLIC NOTICE

Envirotech; Inc. Morris d. Young, President, 5796, U.S. Hwy 64, Farmington, NM 87401, has submitted a renewal application; for-sthe, previously approved discharge plan ((GW-221)) for the office and shop facilities located in sthee NE/4, of the NW/4 of Section 27, Township 29, North, Range 12 West NMPM San Juan County, New Mexico, approximately 5 miles east of the intersection of County Road 550 and Highway 64, Farmington, NM.

Envirotech Lab Facility: On-site disposal does not occur, with the exception of domestic sew, age to a septic system and leach field. Dis tance to ground water is more then 60 feet. Total dissolved solids average for groundwa ter, is less than 500 mg/L. Approximately 520 gallons of non-hazardous liquid and solid lab waster is generated annually. Non-hazardous wastes are tested by RCRA approved analysis prior to appropriate disposal. Wastes shown by analysis to be hazardous, are shipped offsite, biannually to a licensed hazardous waste incinerator. All materials are stored in 55 gal lon containers in lined containment.

Envirotech Maintenance Yard Onsite disposal of wastes does not occur at this site with the exception of domestic sewage to a septic sys fem and leach field. Distance to ground water is more than 60 feet. Total dissolved solids for groundwater are less than 500 mg/L Approximately 1.000 gallons of used oil is generated of this site. The used oil is collected for recy cling Approximately 165 used oil filters are generated at this site annually that are collected and temporarily stored in containment vessels. Used oil filters are drained and stored in containment vessels until they are collected by a waste management service for disposal in a local landfill.

All other waste stream materials are stored in drums and tanks within berned containment. Spills from these containers are not expected to impact surface or ground water. Soils con taminated from oil/fuel, leaks on equipment are collected, subject to TCLP and RCRA characterization, annually Collected, sampled soils are placed on Envirotech's Soil Remediation Facility, Landfarm #2 upon approval by NMOCD:

NMOCD: The discharge plan addresses how lab and maintenance product wastes will be properly handled, stored and disposed of including how spills, leaks and other accidental dis charges to the surface will be managed in or der to protect fresh water. Any interested person may obtain information, submit comments of request to be placed on a facility specific mailing list for future notices by contacting Ed ward J Hansen at the New Mexico OCD at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, Telephone (505), 476-3489, The OCD will accept comments and state ments of interest regarding the renewal and will create a facility-specific mailing, list for persons who wish to receive future notices.

Legal No. 54673, published in The Daily Times, Farmington, New, Mexicot on Thursday, February 22, 2007

AFFIDAVIT OF PUBLICATION

Ad No. 54679

STATE OF NEW MEXICO County of San Juan:

ROBIN ALLISON, being duly sworn says: That she is the CLASSIFIED MANAGER of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication and appeared in the Internet at The Daily Times web site on the following day(s):

Thursday February 22, 2007

And the cost of the publication is \$140.17

ON 2/28/07 ROBIN ALLISON appeared before me, whom I know personally to be the person who signed the above document.

Commission Expires November 17/2008

COPY OF PUBLICATION

NOTA PUBLICA

Envirotech, Inc. Morris, D. Young, Presidente, 5796 US HWY 64 Farmington, NM 87401 se ha sometido una aplicación de la renovación paro el plan previamente aprobado de la de scarga (GW-221) paro las focilidades de la ofi cina y la tienda localizo en el NE/4 del NW/4 de la Seccion 27 Municipio 29 al norte, la Gama 12 al oeste NMPM, San Condado de Juan, Nuevo México, aproximadamente .5 millas al este del cruce del Camino de Conda do 550 y la Carretera 64, Farmington, NM.

Envirotech Facilidad del laboratorio: En la dis posición del sitio no ocurre, a excepcion del agua residual domestico a un sistema septica y lixivia campo La distancia para moler agua es mas de 60 pies. Total se disolvió los solidos promedian para el agua subterránea es me nos de 500 mg/L. Aproximadamente. 520 ga lones de liquido no peligroso y desecho solido de laboratorio son engendrados, anualmente. Los desechos no peligrosos son probados por RCRA aproba en anclisis antes de la disposi ción apropiada. Los desechos mostrados por el análisis para ser peligrosos, son mandados el sitio semestralmente a un quemador de ba sura peligroso licenciado del desccho. Todas materias son almacenadas en 55 contene dores de galones en forro la contención.

Envirotech Yarda de la Conservación. En la disposición del sitio de desechos no ocurre en este sitio a excepción del agua residual do mestico a un sistema septica y lixivia campo. La distancia para moler agua es mas de 60 pies. Total se disolvio los solidos para el agua madamente 1,000 galones del petroleo uti lizado son engendrados en este sitio. El petro leo utilizado es reunido para reciclar. Aproxi madamente 165 filtros de aceite utilizados son engendrados en este sitio anualmente, eso es reunido y es almacenado temporalmente en noves de contención alos filtros de aceite util zados son desaguados y son almacenados en naves de contención hasta que ellos sean reu naves de contención hasta que ellos sean reu naves de contención en un vertedero local todas las otras materias de la corriente del desecho son almacenadas en tambores y tan ques dentro de la contención, de bermed. Ro cia do estos contención del vertedero local todas las otras materias de la corriente del desecho son almacenadas en tambores y tan ques dentro de la contención, de bermed. Ro cia do estos contención y desectos tierras son colocadas en la facilidad del Refuerzo de Tierr a de Envirotech, Landfarm #2 sobre la apro dirige como laboratorio y desechos de prod dirige como laboratorio y desechos de prod pación por NMOCD. El plan de la descarga dirige como laboratorio y desechos de prod pación por NMOCD. El plan de la descarga dirige como laboratorio y desechos de prod pición por NMOCD. El plan de la descarga dirige como laboratorio y desechos de prod pición de conservación seran manejados apro hasia de enviro especifica para notas futures ontactando a Eduardo II Hansen en el Nuevo México OCD en 1220, S' del sur Francis Maneja, Santa Fe, Nuevo México 87505, el Telefono (505) 476.3489. El OCD aceptara son respecto a la renovación y creara una fa dilidad lista de envio specifica para personas que desea recibir notas tutures.

Legal No. 54679 published in The Daily Times, Farmington, New Mexico on Thursday, February 22, 2007

 SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: KAY PADILLA ISOM E. MAIN 	COMPLETE THIS SECTION ON DELIVERY A. Signators A. Signat
FARMINGTON, NM 87401	 Service Type Certified Mail Registered Return Receipt for Merchandis Insured Mail C.O.D. Restricted Delivery? (Extra Fee) Yes
2. Article Number (Transfer from service label) 7004 285	10 0004 1772 115 8
PS Form 3811, August 2001 Domestic Ret	urn Receipt 102595-02-M-15
SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Also complete	COMPLETE THIS SECTION ON DELIVERY
	COMPLETE THIS SECTION ON DELIVERY A. Signature A. Signature A. Agent Address
 SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, 	COMPLETE THIS SECTION ON DELIVERY
SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: Jerry Clayton 501 Airport Dr	COMPLETE THIS SECTION ON DELIVERY A. Signature X B. Received by (Printed Name) C. Date of Delivery D. Is delivery address different from item 1?
 SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 1. Article Addressed to: 	COMPLETE THIS SECTION ON DELIVERY A. Signature X
 SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: Jerry Clayton 501 Airport Dr Farmington NM 87401 2. Article Number 	COMPLETE THIS SECTION ON DELIVERY A. Signature X

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Hansen, Edward J., EMNRD

From:	Hansen, Edward J., EMNRD
Sent:	Tuesday, March 06, 2007 1:36 PM
То:	Thompson, Bruce C., DGF; Shendo, Benny, DIA; 'ddapr@nmda.nmsu.edu'; 'Linda_Rundell@nm.blm.gov'; 'sthompson@ago.state.nm.us'; 'r@rthicksconsult.com'; 'sricdon@earthlink.net'; 'nmparks@state.nm.us'; Dantonio, John, OSE; 'seligman@nmoga.org'; Martinez, Elysia, NMENV; 'lwa@lwasf.com'; 'lazarus@glorietageo.com'; Stone, Marissa, NMENV; 'ron.dutton@xcelenergy.com'; 'cgarcia@fs.fed.us'; 'jbarnett@barnettwater.com'; Bearzi, James, NMENV; 'mschulz@theitgroup.com'; 'bsg@garbhall.com'; 'jcc_crb@pacbell.net'; Olson, Bill, NMENV; 'claudette.horn@pnm.com'; 'ekendrick@montand.com'; 'ken@crihobbs.com'
Subject:	GW221 and GW228: Public Notice for Renewal of Discharge Permit
Attachmen	ts: GW221 GW228 PermitNotice3_7_2007.pdf





Hansen, Edward J., EMNRD

From:	Hansen, Edward J., EMNRD
Sent:	Tuesday, March 06, 2007 1:41 PM
То:	'legals@sfnewmexican.com'
Subject:	GW221 and GW228 Public Notice - New Mexican
Attachme	ents: GW221 GW228 PermitNotice3_7_2007.DOC

Dear Ramona:

Please publish the attached notice(s) once in the classified-legal notice section of the newspaper. PO # is 52100-0000003956 Account # 56689 (account # included for Santa Fe paper only). Please mail an affidavit of proof of publication for the notice. Please contact me if you have questions. Thank you.

The Oil Conservation Division (OCD) appreciates the ad placement services that you provide to our agency. In order to streamline the review and approval process for newspaper ad invoices, the OCD requests that you send the original invoice with an original affidavit of proof of posting directly to the OCD requestor (contact info. usually at the bottom of e-mails or letters). This will help the proper OCD staff person responsible for the ad placement to promptly receive invoices from newspaper companies and quickly approve invoices for payment.

The OCD appreciates your cooperation and we look forward to working with you in the future. Please contact me if you have questions or need further assistance in this matter.

Edward J. Hansen Oil Conservation Division EMNRD 1220 S. St. Francis Dr. Santa Fe, New Mexico 87505

505-476-3489

Hansen, Edward J., EMNRD

From:	Hansen, Edward J., EMNRD	
Sent:	Tuesday, March 06, 2007 1:41 PM	
To:	'legals@daily-times.com'	
Subject:	GW22i and GW228 Public Notice - Farmington Daily Times	
Attachments: GW221 GW228 PermitNotice3_7_2007.DOC		

Dear Sir or Madam:

Please publish the attached notice(s) once in the classified-legal notice section of the newspaper. PO # is 52100-0000000131. Please mail an affidavit of proof of publication for the notice. Please contact me if you have questions. Thank you.

The Oil Conservation Division (OCD) appreciates the ad placement services that you provide to our agency. In order to streamline the review and approval process for newspaper ad invoices, the OCD requests that you send the original invoice with an original affidavit of proof of posting directly to the OCD requestor (contact info. usually at the bottom of e-mails or letters). This will help the proper OCD staff person responsible for the ad placement to promptly receive invoices from newspaper companies and quickly approve invoices for payment.

The OCD appreciates your cooperation and we look forward to working with you in the future. Please contact me if you have questions or need further assistance in this matter.

Edward J. Hansen Oil Conservation Division EMNRD 1220 S. St. Francis Dr. Santa Fe, New Mexico 87505

505-476-3489



STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC), the following discharge permit renewal application has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW221) Envirotech, Inc., Morris D. Young, President, 5796 U. S. Hwy 64, Farmington, New Mexico 87401, has submitted a renewal application for the previously approved discharge plan (GW 221) for the office and shop facilities located in the NE ¹/₄ of the NW ¹/₄ of Section 27, Township 29 N, Range 12 W, NMPM, San Juan County, New Mexico, approximately 0.5 miles east of the intersection of County Road 550 and Highway 64, Farmington, New Mexico. Approximately 520 gallons of non-hazardous liquid and solid lab waste, approximately 1,000 gallons of used oil, and approximately 165 used oil filters are generated annually, which are collected and temporarily stored in containment vessels prior to being transported and disposed of at an NMOCD approved facility. In case of a spill, leak, or accidental discharge an Emergency Response plan is in place, if this plan is not followed then groundwater of concern is approximately 60 feet below ground surface and has a total dissolved solids concentration of approximately 500 mg/L. This discharge plan outlines the procedures that are to be taken when handling/storing/disposing of waste generated from daily operations in order to avoid contamination of fresh water.

(GW228) CIP, Incorporated, Carl I. Padilla, 51 Road 5570, Farmington, New Mexico 87401, has submitted a renewal application for the previously approved discharge plan (GW 228) for their CIP, Inc. shop and yard located in the East ½ NW ¼ SE ¼ of Section 10, Township 29 N, Range 12 W and a portion of NE ¼ SE ¼ of Section 10, Township 29 N, Range 12 W, NMPM, Farmington, San Juan County, New Mexico. Approximately 250 gallons of oil & grease, 1,200-2,400 gallons of water for steam washing, sewage, office waste, and scrap metal are generated on site annually, which are collected and temporarily stored in containment vessels prior to being transported and disposed of at an NMOCD approved facility. In case of a spill, leak, or accidental discharge an Emergency Response plan is in place, if this plan is not followed then groundwater of concern is approximately 100 feet below ground surface and has a total dissolved solids concentration of approximately 1,000 mg/L. This discharge plan outlines the procedures that are to be taken when handling/storing/disposing of waste generated from daily operations in order to avoid contamination of fresh water.

The NMOCD has determined that the application is administratively complete and has prepared a draft permit. The NMOCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The administrative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the NMOCD web site http://www.emnrd.state.nm.us/ocd/. Persons interested in obtaining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that NMOCD hold a public hearing. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available,





including all comments received. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.

Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio'n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 7th day of March, 2007.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

SEAL

Mark Fesmire, Director





Hansen, Edward J., EMNRD

From: Hansen, Edward J., EMNRD

Sent: Tuesday, March 06, 2007 1:39 PM

To: Stone, Ben, EMNRD

Subject: GW221 Draft Permit Posting on the OCD website

Attachments: GW221_AdminComp_TechIncompLetter.pdf; GW221 PermitNotice3_7_2007.pdf; GW221 Discharge Plan draft approval_3_7_07.pdf

Ben, Please post these three documents on the OCD website Thank you.





NOTICE OF PUBLICATION

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 NMAC), the following discharge permit renewal application has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW221) Envirotech, Inc., Morris D. Young, President, 5796 U. S. Hwy 64, Farmington, New Mexico 87401, has submitted a renewal application for the previously approved discharge plan (GW 221) for the office and shop facilities located in the NE ¼ of the NW ¼ of Section 27, Township 29 N, Range 12 W, NMPM, San Juan County, New Mexico, approximately 0.5 miles east of the intersection of County Road 550 and Highway 64, Farmington, New Mexico. Approximately 520 gallons of non-hazardous liquid and solid lab waste, approximately 1,000 gallons of used oil, and approximately 165 used oil filters are generated annually, which are collected and temporarily stored in containment vessels prior to being transported and disposed of at an NMOCD approved facility. In case of a spill, leak, or accidental discharge an Emergency Response plan is in place, if this plan is not followed then groundwater of concern is approximately 60 feet below ground surface and has a total dissolved solids concentration of approximately 500 mg/L. This discharge plan outlines the procedures that are to be taken when handling/storing/disposing of waste generated from daily operations in order to avoid contamination of fresh water.

The NMOCD has determined that the application is administratively complete and has prepared a draft permit. The NMOCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact the Environmental Bureau Chief of the Oil Conservation Division at the address given above. The administrative completeness determination and draft permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or may also be viewed at the NMOCD web site http://www.emnrd.state.nm.us/ocd/. Persons interested in obtaining a copy of the application and draft permit may contact the NMOCD at the address given above. Prior to ruling on any proposed discharge permit or major modification, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that NMOCD hold a public hearing. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines that there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available, including all comments received. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.

Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservacio'n Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Dorothy Phillips, 505-476-3461)

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 7th day of March, 2007.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

Mark Fesmire, Director







NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary Mark E. Fesmire, P.E. Director Oil Conservation Division

March 7, 2007

Morris D. Young President Envirotech, Inc. 5796 U.S. Highway 64 Farmington, New Mexico 87401

RE: Discharge Plan Permit (GW-221) Renewal DRAFT Envirotech, Inc. Main Office and Maintenance Yard

Dear Mr. Young:

Pursuant to Water Quality Control Commission (WQCC) Regulations 20.6.2.3000 - 20.6.2.3114 NMAC, the Oil Conservation Division (OCD) hereby approves the discharge permit for the Envirotech, Inc. (owner/operator) Envirotech, Inc. Main Office and Maintenance Yard located in the NE/4 of the NW/4 of Section 27, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico, under the conditions specified in the enclosed **Attachment To The Discharge Permit**. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 working days of receipt of this letter including permit fees.**

Please be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If you have any questions, please contact Edward J. Hansen of my staff at (505-476-3489) or E-mail edwardj.hansen@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Wayne Price Environmental Bureau Chief

LWP/ejh Attachments-1 xc: OCD District Office





Morris D. Young GW221 March 7, 2007 Page 2 of 7

ATTACHMENT TO THE DISCHARGE PERMIT RENEWAL Envirotech, Inc. Main Office and Maintenance Yard (GW221) DISCHARGE PERMIT APPROVAL CONDITIONS March 7, 2007

Please remit a check for \$1700.00 made payable to Water Quality Management Fund:

Water Quality Management Fund C/o: Oil Conservation Division 1220 S. Saint Francis Drive Santa Fe, New Mexico 87505

1. Payment of Discharge Plan Fees: All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of \$100.00, plus a renewal flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required \$100.00 filing fee. However, the owner/operator still owes the required \$1700.00 renewal permit fee for an oil and gas service company.

2. Permit Expiration, Renewal Conditions and Penalties: Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. The permit will expire on November 16, 2010 and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. *Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA1978} and civil penalties may be assessed accordingly.*

3. Permit Terms and Conditions: Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.

4. **Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its January 5, 2007, discharge permit renewal application, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.

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Morris D. Young GW221 March 7, 2007 Page 3 of 7

5. Modifications: WQCC Regulation 20.6.2.3107.C, and 20.6.2.3109 NMAC addresses possible future modifications of a permit. The owner/operator (discharger) shall notify the OCD of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foresceable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.

6. Waste Disposal and Storage: The owner/operator shall dispose of all wastes at an OCDapproved facility. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class II well. RCRA non-hazardous, non-exempt oil field wastes may be disposed of at an OCD-approved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis.

A. OCD Rule 712 Waste: Pursuant to OCD Rule 712 (19.15.9.712 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change.

B. Waste Storage: The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

7. **Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. The owner/operator must store empty drums on their sides with the bungs in place and lined up on a horizontal plane. The owner/operator must store chemicals in other containers, such as tote tanks, sacks, or buckets on an impermeable pad with curbing.

8. Process, Maintenance and Yard Areas: The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.





Morris D. Young GW221 March 7, 2007 Page 4 of 7

9. Above Ground Tanks: The owner/operator shall ensure that all aboveground tanks have impermeable secondary containment (e.g., liners and berms), which will contain a volume of at least one-third greater than the total volume of the largest tank or all interconnected tanks. The owner/operator shall retrofit all existing tanks before discharge permit renewal. Tanks that contain fresh water or fluids that are gases at atmospheric temperature and pressure are exempt from this condition.

10. Labeling: The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/operator may use a tank code numbering system, which is incorporated into their emergency response plans.

11. Below-Grade Tanks/Sumps and Pits/Ponds.

A. All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

B. All pits and ponds, including modifications and retrofits, shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all pits or ponds shall have approved hydrologic and geologic reports, location, foundation, liners, and secondary containment with leak detection, monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal.

C. The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds.

D. The owner/operator shall maintain the results of tests and inspections at the facility covered by this discharge permit and available for OCD inspection. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.





Morris D. Young GW221 March 7, 2007 Page 5 of 7

12. Underground Process/Wastewater Lines:

A. The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half times the normal operating pressure, if possible, or for atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD.

B. The owner/operator shall maintain underground process and wastewater pipeline schematic diagrams or plans showing all drains, vents, risers, valves, underground piping, pipe type, rating, size, and approximate location. All new underground piping must be approved by the OCD prior to installation. The owner/operator shall report any leaks or loss of integrity to the OCD within 15 days of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and they shall be available for OCD inspection. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

13. Class V Wells: The owner/operator shall close all Class V wells (e.g., septic systems, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only, must be permitted by the New Mexico Environment Department (NMED).

14. Housekeeping: The owner/operator shall inspect all systems designed for spill collection/prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and available for OCD inspection.

15. Spill Reporting: The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.5.12.1203 NMAC and OCD Rule 116 (19.15.3.116 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days.

16. OCD Inspections: The OCD may place additional requirements on the facility and modify the permit conditions based on OCD inspections.





Morris D. Young GW221 March 7, 2007 Page 6 of 7

17. Storm Water: The owner/operator shall implement and maintain run-on and runoff plans and controls. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any stormwater run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.

18. Unauthorized Discharges: The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. <u>An unauthorized discharge is a violation of this permit.</u>

19. Vadose Zone and Water Pollution: The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.

20. Additional Site Specific Conditions: N/A

21. Transfer of Discharge Permit (WQCC 20.6.2.3111) Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transfer or shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee. Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

22. Closure: The owner/operator shall notify the OCD when operations of the facility are to be discontinued for a period in excess of six months. Prior to closure of the facility, the operator shall submit a closure plan for approval. Closure and waste disposal shall be in accordance with the statutes, rules and regulations in effect at the time of closure.



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Morris D. Young GW221 March 7, 2007 Page 7 of 7

23. Certification: Envirotech, Inc., (Owner/Operator), by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained here. Owner/Operator further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively.

<u>Conditions accepted by</u>: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

Company Name-print name above

Company Representative- print name

Company Representative- signature

Title_____

Date:_____





Hansen, Edward J., EMNRD

From:	April Pohl [apohl@envirotech-inc.com]	
Sent:	Wednesday, February 28, 2007 1:42 PM	

To: Hansen, Edward J., EMNRD

Cc: Denny Foust; Morris Young

Subject: RE: Letter of February 23 for GW:221

Attachments: ENVIROTECH MAIN OFFICE.doc

Mr. Hansen:

Please see attachment per your request. We had the Public Notice published February 22, 2007. We have not yet received the affidavit of publication from the newspaper. I do have a call in to them asking for the affidavit. Would you like me to send you a copy of the notice as well? I sent out the certified mail notices to seven neighboring landowners but have only received four in return. Would you like the original green return cards or would copies suffice? I have copies of all seven certified mail notices on the envelopes that were sent, would copies of the envelopes sent out but not returned suffice? How long do I wait to see if any more receipts come back? I would like to get this in the mail by Friday so we can get it wrapped up.

April E Pohl Landfarm Administrator Envirotech Inc 505-632-0615 office 505-632-1865 fax 505-320-6431 cell

From: Hansen, Edward J., EMNRD [mailto:edwardj.hansen@state.nm.us]
Sent: Tuesday, February 27, 2007 6:31 PM
To: April Pohl
Cc: Price, Wayne, EMNRD
Subject: Letter of February 23 for GW-221

April,

Thanks for sending your revised renewal application - we are almost there: please send me (you can email it) a revised page 2 with the edit of striking the phrase "...per request of NMOCD". The disposal of the lab waste at an out-of-state landfill is not a request of OCD. This is one option that is available to you. Thank you for your cooperation in this matter.

P.S.: be sure to provide proof of public notice as stated below - let me know if you have any further questions

Edward J. Hansen Hydrologist Environmental Bureau 505-476-3489

From: Hansen, Edward J., EMNRD
Sent: Thursday, February 08, 2007 6:12 PM
To: 'April Pohl'
Cc: Price, Wayne, EMNRD
Subject: RE: Letter of January 24 for GW-221

2/28/2007

April,

I have received and reviewed your edited Public Notice and edited renewal application for GW221.

The OCD hereby approves your submitted draft version of the Public Notice for translation into Spanish and publication in the specified newspaper in both English and Spanish.

The public notice must be given no later than <u>February 22, 2007</u>. Once the notice has been given, then please submit to the OCD within 15 days of public notice:

1) proof that the notice was published in the newspaper in both English and Spanish (affidavit of publication from the newspaper) and

2) proof that the notice was sent via certified mail to each landowner [signed certified mail receipt (green card) by each landowner – *this is not required if you are the landowner*].

Regarding the edited renewal application, most of the edits are acceptable to the OCD. However, #8 (for the Main Office) <u>All storage on site is in drums or smaller containers</u> must be edited to strike the phrase "...at NMOCD permitted Landfarm #2." The OCD has reviewed your protocol (faxed 1-30-07). The protocol is unacceptable to ensure the proper disposal laboratory waste at Landfarm #2. The disposal of non-hazardous laboratory waste cannot be allowed at the landfarm. In addition, please indicate where the non-hazardous laboratory waste will be disposed (i.e., name address and location of the disposal facility).

Edward J. Hansen Hydrologist Environmental Bureau 505-476-3489

From: Hansen, Edward J., EMNRD
Sent: Tuesday, January 30, 2007 12:42 PM
To: 'April Pohl'
Cc: Price, Wayne, EMNRD
Subject: RE: Letter of January 24 for GW-221

April,

I spoke with Wayne regarding the disposal of waste soils from the lab. We are concerned that the waste soils are not only nonhazardous, but also acceptable to be disposed at the landfarm. Therefore, please send me your written protocol for determining that the waste soils or sludges are acceptable to be disposed at the landfarm. Also, the protocol must be for testing of TPHcontaminated soils or sludges only. The protocol must be sent (via FAX or email) by 5:00 p.m. today. If an acceptable protocol cannot be sent today, then other disposal arrangements for the waste soils / sludges must be made.

If you have any further questions regarding this matter, please contact me.

Edward J. Hansen Hydrologist Environmental Bureau 505-476-3489 office 505-476-3462 fax

From: April Pohl [mailto:apohl@envirotech-inc.com] **Sent:** Tuesday, January 30, 2007 11:13 AM **To:** Hansen, Edward J., EMNRD





Subject: Letter of January 24 for GW-221

Dear Mr. Hansen:

In your letter of January 24, 2007 you mentioned laboratory waste is not to go to landfarms in Item #6. However, our lab waste is soil and sludge samples from testing material for acceptance into our landfarm. In essence, our lab waste is material we have been approved to accept into our landfarm by the NMOCD. According to Morris Young, the former administrator of our GW-221, Mr. Roger Anderson, set up this format as we are accepting the remains of our soil as proved non-hazardous by testing. If you have further questions please feel free to contact me either by phone or email.

We are in the process of making the corrections you listed in your letter so we can send out the corrected version for your approval.

Thank you very much,

April E Pohl Landfarm Administrator Envirotech Inc <u>apohl@envirotech-inc.com</u> 505-632-0615 office 505-632-1865 fax 505-320-6431 cell

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

This inbound email has been scanned by the MessageLabs Email Security System.

2-28-07 page replaced E/

6. Description of all materials used or stored at the facility: Hand soap Paint and paint supplies. Various containers less than 20 gal. Sulfuric acid liquid. Stored in original plastic, estimated 3.5 liters in lab Hydrochloric acid liquid. Original glass, estimated 2.5 liters in lab Nitric acid liquid. Original glass, estimated 2.5 liters in lab Acetic acid liquid. Original glass, estimated 12.5 liters in lab Sodium hydroxide liquid. Original plastic, estimated 1 liter in lab Alconox solid. Original container, estimated 20 lb in lab Micro-90 liquid. Original plastic, estimated 1 quart in lab No-Chromix liquid. Original glass, estimated .5 quart in lab Freon 113 liquid. Original glass, estimated 2 liters in lab Methylene Chloride liquid. Original glass, estimated 4 liters in lab Hexane liquid. Original glass, estimated 8 liters in lab Ispropanol liquid. Original glass, estimated 8 liters in lab Methanol liquid. Original glass, estimated 16 liters in lab n-propanol liquid. Original glass, estimated 4 liters in lab Cyclohexane liquid. Original glass, estimated 4 liters in lab Toluene liquid. Original glass, estimated 500 ml in lab

- Lab waste, solid and liquid. Stored in drum w/lid, less than a total of 100 gal in lab and yard.
 Soil/water samples containing Methylene Chloride, Freon or Methanol as solvent extraction residue. Various acids used in extraction and analysis from lab samples.
- 8. All storage on site is in drums or smaller containers. On-site storage is in either original containers (unused products) or in other appropriate containers (used products). Unused laboratory products are stored in the lab in the original containers. Most products are stored in segregated fire-resistant cabinets (not vented) with built-in secondary containment. Lab waste is collected at point of use and stored in containers compatible with waste being stored. When full, lab containers are transferred into drums located in yard.

There are no surface impoundments located on-site. There is no underground process piping. Facility is less than 30 years old. On-site disposal does not occur at this site, with the exception of domestic sewage to septic system and leach field.

Lab solids and liquids are segregated into hazardous and non-hazardous (by listing). Non-hazardous wastes will go for disposal at an appropriate out-of-state landfill per request of NMOCD. Hazardous wastes, if any, are shipped off-site biannually to a licensed hazardous waste incinerator. Different incinerators are used depending on price and availability. Approval from receiving facility is received prior to shipment.





February 23, 2007

FEB 27 2007

Mr. Edward J. Hansen, Hydrologist State of New Mexico Oil Conservation Bureau 1220 South Saint Francis Drive Santa Fe, NM 87505 Oil Conservation Division 1220 S. St. Francis Drive Santa Fe. NM 87505 Phone (505) 476-3489 Fax (505) 476-3462

RE: Discharge Permit Application – Revised – 2/23/2007 Envirotech, Inc.

Dear Mr. Hansen:

Attached please find a Renewal Discharge Plan Application for Oilfield Service Facilities that has been completed for Envirotech, Inc.

As the two (2) facilities are close in location, both are covered under the same application. However, each location will be submitting information individually. The main office is located at 5796 U.S. Hwy 64 and the shop yard is located at 5726 U.S. Hwy 64, both in Farmington, NM.

ENVIROTECH MAIN OFFICE:

- 1. Oilfield Service Company
- Envirotech, Inc.
 5796 U.S. Hwy 64, Farmington, NM 87413
 Contact person: Morris D. Young; Phone (505) 632-0615
- 3. NE/4 NW/4 Section 27, Township 29 North, Range 12 West. A 7.5 minute topographic map is attached.
- 4. Mr. Jerry Clayton is the land owner. Mr. Clayton's address is 501 Airport Drive, Farmington, NM 87401. Phone (505) 326-5571.
- 5. Site is located approximately 1500 yards east of the intersection of U.S. Hwy 64 and County Road 5500 in Farmington, NM.

A plat map of the subject property is attached.

Solid and liquid waste generated from our laboratory is currently stored in labeled drums at the eastern property boundary.

The facility is fenced and has no pits.
6. Description of all materials used or stored at the facility: Hand soap

> Paint and paint supplies. Various containers less than 20 gal. Sulfuric acid liquid. Stored in original plastic, estimated 3.5 liters in lab Hydrochloric acid liquid. Original glass, estimated 2.5 liters in lab Nitric acid liquid. Original glass, estimated 2.5 liters in lab Acetic acid liquid. Original glass, estimated 12.5 liters in lab Sodium hydroxide liquid. Original plastic, estimated 1 liter in lab Alconox solid. Original container, estimated 20 lb in lab Micro-90 liquid. Original plastic, estimated 1 quart in lab No-Chromix liquid. Original glass, estimated .5 quart in lab Freon 113 liquid. Original glass, estimated 2 liters in lab Methylene Chloride liquid. Original glass, estimated 4 liters in lab Hexane liquid. Original glass, estimated 8 liters in lab Ispropanol liquid. Original glass, estimated 8 liters in lab Methanol liquid. Original glass, estimated 16 liters in lab n-propanol liquid. Original glass, estimated 4 liters in lab Cyclohexane liquid. Original glass, estimated 4 liters in lab Toluene liquid. Original glass, estimated 500 ml in lab

- Lab waste, solid and liquid. Stored in drum w/lid, less than a total of 100 gal in lab and yard.
 Soil/water samples containing Methylene Chloride, Freon or Methanol as solvent extraction residue. Various acids used in extraction and analysis from lab samples.
- 8. All storage on site is in drums or smaller containers. On-site storage is in either original containers (unused products) or in other appropriate containers (used products). Unused laboratory products are stored in the lab in the original containers. Most products are stored in segregated fire-resistant cabinets (not vented) with built-in secondary containment. Lab waste is collected at point of use and stored in containers compatible with waste being stored. When full, lab containers are transferred into drums located in yard.

There are no surface impoundments located on-site. There is no underground process piping. Facility is less than 30 years old. On-site disposal does not occur at this site, with the exception of domestic sewage to septic system and leach field.

Lab solids and liquids are segregated into hazardous and non-hazardous (by listing). Non-hazardous wastes will go for disposal at an appropriate out-of-state landfill. Hazardous wastes, if any, are shipped off-site biannually to a licensed hazardous waste incinerator. Different incinerators are used depending on price and availability. Approval from receiving facility is received prior to shipment.

- 9. There are no proposed modifications to the site at this time.
- 10. Routine inspection: Lab supplies and waste are tracked closely on a daily basis.
- 11. Contingency plan for reporting and cleanup of spills: All materials are stored in four (4) 55 gallon containers and spills from these containers are not expected to impact surface or ground water. Storage area is bermed and lined. Containers are inspected on a regular basis to prevent leaks related to corrosion.

Spillage will be collected and placed into a container for continued storage. NMOCD will not be notified of spills less than reportable quantities.

12. The San Juan River is located approximately 3900 feet south of the site. An unnamed dry wash is located approximately 1900 feet west of the site with a dry wash drainage ditch located approximately 50 feet east of the site. All streams in the vicinity flow to the San Juan River.

Water well locations are noted on the attached map. There are 61 wells located within a one (1) mile radius of the site. These wells are located according to "Records of Water Wells and Springs prior to 1978", "Records of Water Wells in San Juan County 1978-1983", and "Listings of Point of Diversion for the San Juan Basin in New Mexico 2/7/92".

Soil types are typically cobble filled sandy loams ranging from silty to clayey sands. Soils are typically moist, loose, non-cohesive, and have high permeability.

The aquifer below site is not named and is typically poorly graded medium sand with varying amounts of cobble and silt. Depth to bedrock is anticipated in excess of 60 feet below the site. Flooding potential and run-off potential is very minimal; therefore flood protection measures are not required. Due to thorough tracking of lab wastes, impact to either ground water or surface water is not probable.

13. Facility closure plan: Lab testing will cease and waste will not be generated. Any material in containers will be taken to an out-of-state landfill per NMOCD request. Envirotech Soil Remediation Facility currently has an existing Discharge permit, and is not included in this application.

ENVIROTECH MAINTENANCE YARD:

1. Oilfield Service Company

Envirotech, Inc.
 5796 U.S. Hwy 64, Farmington, NM 87413
 Contact person: Morris D. Young; Phone (505) 632-0615

- 3. NE/4 NW/4 Section 27, Township 29 North, Range 12 West. A 7.5 minute topographic map is attached.
- 4. Mr. Ray Padilla is the land owner. Mr. Padilla's address is 1809 East Main, Farmington, NM 87401. Phone (505) 325-0046.
- 5. Site is located approximately 100 yards west of the intersection of U.S. Hwy 64 and County Road 5500 in Farmington, NM.

A plat map of the subject property is attached, including location of the current tank and barrels at the facility.

The facility is fenced and there is one (1) bermed area enclosing a 4,000 gal double walled convault fuel tank for diesel. The tank is enclosed in a cement containment.

- 6. Description of material used or stored at the facility: Paint and paint supplies. Various containers less than 20 gal stored in shop area. Hand soap. Diesel, contained in double walled convault, 4000 gal, cement containment. Motor oil, less than 50 gal in enclosed metal drum. Solid grease for lubrication.
- 7. Waste solids and effluent: Used motor oil, less than 100 gal. Used as fuel, excess is recycled. Used filters, less than 6. Occasional oil fuel. 1-2 gal.

8. Collection and Disposal:

All storage on site is in drums or smaller containers. On-site storage is in either original containers (unused products) or in other appropriate containers (used products). Spent acid is stored in original battery until entire battery is picked up by recycler, no formal approval needed.

Filters are drained while hot, liquid goes into waste drum. Sixteen filters per month are permitted at the landfill.

Soils contaminated from oil/fuel leaks on equipment are subject to TCLP and RCRA characterization annually. Collected, sampled soils are placed on Envirotech's Soil Remediation Facility, Landfarm #2 upon approval by NMOCD.

Most storage is inside of the building on the cement floor. There are no floor drains in the work area or storage area.

This facility is less than 30 years old and there is no underground process.



Off-site disposal is allowed through recyclers. Used motor oil (in excess of 4 drums) is picked up by Mesa Petroleum of Albuquerque, NM. Used lead-acid batteries are sent to Intermountain Batteries, located at 534 East Broadway, Farmington, NM, when new batteries are delivered to the site. Both facilities dispatch their own trucks and personnel to collect material from the Maintenance Yard.

The trash is collected weekly by Waste Management of Four Corners, located at 101 Spruce Street, Farmington, NM, for placement at the San Juan County Landfill. A maximum of four (4) filters per week are permitted for disposal through this method.

- 9. There are no proposed modifications to the site at this time.
- 10. The facility will be inspected monthly by management for leaks and spillage. A record of each inspection will be kept at the main office. Any reportable quantities will be reported to the NMOCD.

Monitor wells are not located at this site.

The used oil tank is contained in a lined berm with a fence around the secondary containment.

11. Whereas all material is stored in secondary containment (as a minimum), spillage will be into contained areas. There is not any anticipated threat to surface or groundwater.

Spillage will be collected from its containment and placed into its container (or equivalent) for continued storage. NMOCD will not be notified of spills less than reportable quantities.

All containment is visually inspected from all sides, which makes a leak of quantity easily detectable. A monthly inspection by management and frequent use of the facility by employees ensures leaks are repaired with only minor spillage.

There is not an injection well at this site.

12. The San Juan River is located approximately 3900 feet south of the site. An unnamed dry wash is located approximately 1900 feet east of the site. All streams in the vicinity flow to the San Juan River.





Water well locations are noted on the attached map. There are 61 wells located with in a one (1) mile radius of the site. These wells are located according to "Records of Water Wells and Springs prior to 1978", "Records of Water Wells in San Juan County 1978-1983", and "Listings of Point of Diversion for the San Juan Basin in New Mexico 2/7/92".

Soil types are typically cobble filled sandy loams ranging from silty to clayey sands. Soils are typically moist, loose, non-cohesive, and have high permeability.

The aquifer below site is not named and is typically poorly graded medium sand with varying amounts of cobble and silt. Depth to bedrock is anticipated in excess of 60 feet below the site. Flooding potential and run-off potential is very minimal therefore flood protection measures are not needed. Due to thorough tracking of shop wastes, impact to either ground water or surface water is not probable.

13. Facility closure plan: Shop use will cease and waste will not be generated. All existing waste will be disposed of as specified previously. Envirotech Soil Remediation Facility has a currently existing Discharge permit, and is not included in this application.

Should you need any clarification of our responses, or have any comments, please contact us at (505) 632-0615.

Respectfully Submitted, ENVIROTECH, INC.

President

Hansen, Edward J., EMNRD

From: Hansen	, Edward J., EMNRD
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Sent: Thursday, February 15, 2007 11:20 AM

To: 'April Pohl'

Subject: RE: Lab waste disposal

April,

I spoke with John Hall (Ground Water Quality Bureau, NMED) regarding the disposal of this waste at the NMED landfarm. He said it would not be allowed at an NMED landfarm because the waste would be considered an "OCD waste". Also, this waste cannot be disposed at a NMED solid waste landfill under OCD Rule 712, but could be disposed at an OCD landfill. Another option for disposal of this laboratory waste would be at the solid waste landfill in Colorado near Durango (assuming that landfill would accept it) or some other out-of-state landfill or landfarm if they can accept it.

Therefore, your discharge permit renewal application must be edited to reflect another disposal option for this laboratory waste (i.e., either an OCD landfill in New Mexico or some out-of-state disposal option). Please submit this edit by Friday, February 23, 2007.

If you have any questions regarding this matter, please contact me. Thank you.

Edward J. Hansen Hydrologist Environmental Bureau 505-476-3489

From: April Pohl [mailto:apohl@envirotech-inc.com] Sent: Monday, February 12, 2007 8:23 AM To: Hansen, Edward J., EMNRD Subject: Lab waste disposal

Good morning Mr. Hansen:

In accordance with your last email asking for disposal arrangements for the non-hazardous lab waste. Envirotech Inc will be accepting the non-hazardous lab waste at our NMED permitted landfarm #3. This will be at:

Envirotech Inc Landfarm #3 Hilltop, NM

If you have any questions please feel free to call me or email in return.

April E Pohl Landfarm Administrator Envirotech Inc 505-632-0615 office 505-632-1865 fax 505-320-6431 cell

CONFIDENTIALITY NOTICE: This e-mail transmission, and any documents, files for previous e-mail messages attached to it may contain information that is confidential or legally privileged. If you are not the intended recipient, or a person responsible for delivering it to the intended recipient, you are hereby notified that you must not read this transmission and that any disclosure, copying, printing, distribution or use of any of the information contained in or attached to this transmission is STRICTLY







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Hansen, Edward J., EMNRD

From:	Hansen, Edward J., EMNRD
Sent:	Thursday, February 08, 2007 6:12 PM
To:	'April Pohl'
Cc:	Price, Wayne, EMNRD
Subject	: RE: Letter of January 24 for GW-221

April,

I have received and reviewed your edited Public Notice and edited renewal application for GW221. The OCD hereby approves your submitted draft version of the Public Notice for translation into Spanish and publication in the specified newspaper in both English and Spanish.

The public notice must be given no later than <u>February 22, 2007</u>. Once the notice has been given, then please submit to the OCD within 15 days of public notice:

1) proof that the notice was published in the newspaper in both English and Spanish (affidavit of publication from the newspaper) and

2) proof that the notice was sent via certified mail to each landowner [signed certified mail receipt (green card) by each landowner – *this is not required if you are the landowner*].

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Edward J. Hansen Hydrologist Environmental Bureau 505-476-3489

From: Hansen, Edward J., EMNRD
Sent: Tuesday, January 30, 2007 12:42 PM
To: 'April Pohl'
Cc: Price, Wayne, EMNRD
Subject: RE: Letter of January 24 for GW-221

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If you have any further questions regarding this matter, please contact me.

Edward J. Hansen

2/8/2007



February 6, 2007

Mr. Edward J. Hansen, Hydrologist State of New Mexico Oil Conservation Bureau 1220 South Saint Francis Drive Santa Fe, NM 87505

Phone(505) 476-3489Fax(505) 476-3462

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RE: Discharge Permit Application - Revised Envirotech, Inc.

Dear Mr. Hansen:

Attached please find a Renewal Discharge Plan Application for Oilfield Service Facilities that has been completed for Envirotech, Inc.

As the two (2) facilities are close in location, both are covered under the same application. However, each location will be submitting information individually. The main office is located at 5796 U.S. Hwy 64 and the shop yard is located at 5726 U.S. Hwy 64, both in Farmington, NM.

ENVIROTECH MAIN OFFICE:

- 1. Oilfield Service Company
- Envirotech, Inc.
 5796 U.S. Hwy 64, Farmington, NM 87413
 Contact person: Morris D. Young; Phone (505) 632-0615
- 3. NE/4 NW/4 Section 27, Township 29 North, Range 12 West. A 7.5 minute topographic map is attached.
- 4. Mr. Jerry Clayton is the land owner. Mr. Clayton's address is 501 Airport Drive, Farmington, NM 87401. Phone (505) 326-5571.
- 5. Site is located approximately 1500 yards east of the intersection of U.S. Hwy 64 and County Road 5500 in Farmington, NM.

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The facility is fenced and has no pits.

6. Description of all materials used or stored at the facility: Hand soap Paint and paint supplies. Various containers less than 20 gal. Sulfuric acid liquid. Stored in original plastic, estimated 3.5 liters in lab Hydrochloric acid liquid. Original glass, estimated 2.5 liters in lab Nitric acid liquid. Original glass, estimated 2.5 liters in lab

Acetic acid liquid. Original glass, estimated 12.5 liters in lab Sodium hydroxide liquid. Original plastic, estimated 1 liter in lab Alconox solid. Original container, estimated 20 lb in lab Micro-90 liquid. Original plastic, estimated 1 quart in lab No-Chromix liquid. Original glass, estimated .5 quart in lab Freon 113 liquid. Original glass, estimated 2 liters in lab Methylene Chloride liquid. Original glass, estimated 4 liters in lab Hexane liquid. Original glass, estimated 8 liters in lab Ispropanol liquid. Original glass, estimated 8 liters in lab Methanol liquid. Original glass, estimated 16 liters in lab n-propanol liquid. Original glass, estimated 4 liters in lab Cyclohexane liquid. Original glass, estimated 4 liters in lab Toluene liquid. Original glass, estimated 500 ml in lab

- 7. Lab waste, solid and liquid. Stored in drum w/lid, less than a total of 100 gal in lab and vard. Soil/water samples containing Methylene Chloride, Freon or Methanol as solvent extraction residue. Various acids used in extraction and analysis from lab samples.
- 8. All storage on site is in drums or smaller containers. On-site storage is in either original containers (unused products) or in other appropriate containers (used products). Unused laboratory products are stored in the lab in the original containers. Most products are stored in segregated fire-resistant cabinets (not vented) with built-in secondary containment. Lab waste is collected at point of use and stored in containers compatible with waste being stored. When full, lab containers are transferred into drums located in yard.

There are no surface impoundments located on-site. There is no underground process piping. Facility is less than 30 years old. On-site disposal does not occur at this site, with the exception of domestic sewage to septic system and leach field.

Lab solids and liquids are segregated into hazardous and non-hazardous (by listing). Non-hazardous wastes are subject to RCRA analysis prior to disposal at NMOCD permitted Landfarm #2. Hazardous wastes, if any, are shipped off-site biannually to a licensed hazardous waste incinerator. Different incinerators are used depending on price and availability. Approval from receiving facility is received prior to shipment.

9. There are no proposed modifications to the site at this time.

- 10. Routine inspection: Lab supplies and waste are tracked closely on a daily basis.
- 11. Contingency plan for reporting and cleanup of spills: All materials are stored in four (4) 55 gallon containers and spills from these containers are not expected to impact surface or ground water. Storage area is bermed and lined. Containers are inspected on a regular basis to prevent leaks related to corrosion.

Spillage will be collected and placed into a container for continued storage. NMOCD will not be notified of spills less than reportable quantities.

12. The San Juan River is located approximately 3900 feet south of the site. An unnamed dry wash is located approximately 1900 feet west of the site with a dry wash drainage ditch located approximately 50 feet east of the site. All streams in the vicinity flow to the San Juan River.

Water well locations are noted on the attached map. There are 61 wells located within a one (1) mile radius of the site. These wells are located according to "Records of Water Wells and Springs prior to 1978", "Records of Water Wells in San Juan County 1978-1983", and "Listings of Point of Diversion for the San Juan Basin in New Mexico 2/7/92".

Soil types are typically cobble filled sandy loams ranging from silty to clayey sands. Soils are typically moist, loose, non-cohesive, and have high permeability.

The aquifer below site is not named and is typically poorly graded medium sand with varying amounts of cobble and silt. Depth to bedrock is anticipated in excess of 60 feet below the site. Flooding potential and run-off potential is very minimal; therefore flood protection measures are not required. Due to thorough tracking of lab wastes, impact to either ground water or surface water is not probable.

13. Facility closure plan: Lab testing will cease and waste will not be generated. Any material in containers will be taken to the landfarm and spread after appropriate testing. Envirotech Soil Remediation Facility currently has an existing Discharge permit, and is not included in this application.

ENVIROTECH MAINTENANCE YARD:

- 1. Oilfield Service Company
- Envirotech, Inc.
 5796 U.S. Hwy 64, Farmington, NM 87413
 Contact person: Morris D. Young; Phone (505) 632-0615

- 3. NE/4 NW/4 Section 27, Township 29 North, Range 12 West. A 7.5 minute topographic map is attached.
- 4. Mr. Ray Padilla is the land owner. Mr. Padilla's address is 1809 East Main, Farmington, NM 87401. Phone (505) 325-0046.
- 5. Site is located approximately 100 yards west of the intersection of U.S. Hwy 64 and County Road 5500 in Farmington, NM.

A plat map of the subject property is attached, including location of the current tank and barrels at the facility.

The facility is fenced and there is one (1) bermed area enclosing a 4,000 gal double walled convault fuel tank for diesel. The tank is enclosed in a cement containment.

- 6. Description of material used or stored at the facility: Paint and paint supplies. Various containers less than 20 gal stored in shop area. Hand soap.
 Diesel, contained in double walled convault, 4000 gal, cement containment. Motor oil, less than 50 gal in enclosed metal drum. Solid grease for lubrication.
- 7. Waste solids and effluent: Used motor oil, less than 100 gal. Used as fuel, excess is recycled. Used filters, less than 6. Occasional oil fuel. 1-2 gal.

8. Collection and Disposal:

All storage on site is in drums or smaller containers. On-site storage is in either original containers (unused products) or in other appropriate containers (used products). Spent acid is stored in original battery until entire battery is picked up by recycler, no formal approval needed.

Filters are drained while hot, liquid goes into waste drum. Sixteen filters per month are permitted at the landfill.

Soils contaminated from oil/fuel leaks on equipment are subject to TCLP and RCRA characterization annually. Collected, sampled soils are placed on Envirotech's Soil Remediation Facility, Landfarm #2 upon approval by NMOCD.

Most storage is inside of the building on the cement floor. There are no floor drains in the work area or storage area.

This facility is less than 30 years old and there is no underground process.





On-site disposal does not occur at this site, with the exception of domestic sewage to a septic system and leach field.

Off-site disposal is allowed through recyclers. Used motor oil (in excess of 4 drums) is picked up by Mesa Petroleum of Albuquerque, NM. Used lead-acid batteries are sent to Intermountain Batteries, located at 534 East Broadway, Farmington, NM, when new batteries are delivered to the site. Both facilities dispatch their own trucks and personnel to collect material from the Maintenance Yard.

The trash is collected weekly by Waste Management of Four Corners, located at 101 Spruce Street, Farmington, NM, for placement at the San Juan County Landfill. A maximum of four (4) filters per week are permitted for disposal through this method.

- 9. There are no proposed modifications to the site at this time.
- 10. The facility will be inspected monthly by management for leaks and spillage. A record of each inspection will be kept at the main office. Any reportable quantities will be reported to the NMOCD.

Monitor wells are not located at this site.

The used oil tank is contained in a lined berm with a fence around the secondary containment.

11. Whereas all material is stored in secondary containment (as a minimum), spillage will be into contained areas. There is not any anticipated threat to surface or groundwater.

Spillage will be collected from its containment and placed into its container (or equivalent) for continued storage. NMOCD will not be notified of spills less than reportable quantities.

All containment is visually inspected from all sides, which makes a leak of quantity easily detectable. A monthly inspection by management and frequent use of the facility by employees ensures leaks are repaired with only minor spillage.

There is not an injection well at this site.

12. The San Juan River is located approximately 3900 feet south of the site. An unnamed dry wash is located approximately 1900 feet east of the site. All streams in the vicinity flow to the San Juan River.





Water well locations are noted on the attached map. There are 61 wells located with in a one (1) mile radius of the site. These wells are located according to "Records of Water Wells and Springs prior to 1978", "Records of Water Wells in San Juan County 1978-1983", and "Listings of Point of Diversion for the San Juan Basin in New Mexico 2/7/92".

Soil types are typically cobble filled sandy loams ranging from silty to clayey sands. Soils are typically moist, loose, non-cohesive, and have high permeability.

The aquifer below site is not named and is typically poorly graded medium sand with varying amounts of cobble and silt. Depth to bedrock is anticipated in excess of 60 feet below the site. Flooding potential and run-off potential is very minimal therefore flood protection measures are not needed. Due to thorough tracking of shop wastes, impact to either ground water or surface water is not probable.

13. Facility closure plan: Shop use will cease and waste will not be generated. All existing waste will be disposed of as specified previously. Envirotech Soil Remediation Facility has a currently existing Discharge permit, and is not included in this application.

Should you need any clarification of our responses, or have any comments, please contact us at (505) 632-0615.

Respectfully Submitted, ENVIROTECH, INC.

D. Young President



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February 6, 2007

Mr. Edward J. Hansen, Hydrologist State of New Mexico Oil Conservation Bureau 1220 South Saint Francis Drive Santa Fe, NM 87505

Phone (505) 476-3489 Fax (505) 476-3462

RE: Discharge Permit Application Public Notice Envirotech, Inc.

Dear Mr. Hansen:

Attached please find the corrected Public Notice for Envirotech, Inc. as requested in your email of January 19, 2007.

After you have approved this Public Notice it will be interpreted into Spanish and placed in the Farmington Daily Times of Farmington, New Mexico. The Daily Times is the primary newspaper in our Four Corners area with a circulation of 22,626 as of January 15, 2007. We will also place a notice in the local Post Office in Bloomfield, New Mexico.

Please feel free to contact me if you have further questions. We anticipate receiving your approval.

Thank you, Envirotech, Inc.

Morris D. Young President <u>myoung@envirotech-inc.com</u>

Attachment

MDY/aep/LF/GW221-shop/publicnotice020507.doc

PUBLIC NOTICE

Envirotech, Inc. Morris D. Young, President, 5796 U.S. Hwy 64, Farmington, NM 87401, has submitted a renewal application for the previously approved discharge plan (GW-221) for the office and shop facilities located in the NE/4 of the NW/4 of Section 27, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico, approximately .5 miles east of the intersection of County Road 550 and Highway 64, Farmington, NM.

<u>Envirotech Lab Facility</u>: On-site disposal does not occur, with the exception of domestic sewage to a septic system and leach field. Distance to ground water is more than 60 feet. Total dissolved solids average for groundwater is less than 500 mg/L. Approximately 520 gallons of non-hazardous liquid and solid lab waste is generated annually. Non-hazardous wastes are tested by RCRA approved analysis prior to appropriate disposal. Wastes shown by analysis to be hazardous, are shipped off-site biannually to a licensed hazardous waste incinerator. All materials are stored in 55 gallon containers in lined containment.

Envirotech Maintenance Yard: Onsite disposal of wastes does not occur at this site with the exception of domestic sewage to a septic system and leach field. Distance to ground water is more than 60 feet. Total dissolved solids for groundwater are less than 500 mg/L. Approximately 1,000 gallons of used oil is generated at this site. The used oil is collected for recycling. Approximately 165 used oil filters are generated at this site annually, that are collected and temporarily stored in containment vessels. Used oil filters are drained and stored in containment vessels until they are collected by a waste management service for disposal in a local landfill.

All other waste stream materials are stored in drums and tanks within bermed containment. Spills from these containers are not expected to impact surface or ground water. Soils contaminated from oil/fuel leaks on equipment are collected, subject to TCLP and RCRA characterization annually. Collected, sampled soils are placed on Envirotech's Soil Remediation Facility, Landfarm #2 upon approval by NMOCD.

The discharge plan addresses how lab and maintenance product wastes will be properly handled, stored and disposed of, including how spills, leaks and other accidental discharges to the surface will be managed in order to protect fresh water. Any interested person may obtain information, submit comments or request to be placed on a facility specific mailing list for future notices by contacting Edward J. Hansen at the New Mexico OCD at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3489. The OCD will accept comments and statements of interest regarding the renewal and will create a facility-specific mailing list for persons who wish to receive future notices.

ENVIROTECH, INC.

FACSIMILE TRANSMITTAL SHEET						
TO: PROM: Edward J. Hansen April E Pohl						
company <i>n</i> : NMOC	D	DATIL 1/30/2007				
FAX NUMBER: 505-476	-3462	TOTAL NO. OF PAGES INCLUDING COVER: 2				
PHONE NUMBER: RE/						
		ana ya maana maagaa adala				
URGENT	FOR REVIEW	D PLEASE COMMENT	PLEASE REPLY	D PLEASE RECYCLE		

NOTES/COMMENTS:

Mr. Hansen:

Attached please find our protocol as requested in your email of January 30, 2007 1:01p.m. If you have further concerns please call or email as usual. I will be leaving the office at 5:55 p.m. today.

April E Pohl

5796 U.S. HIGHWAY 64 FARMINGTON, NEW MEXICO 87401 PHONE: (505) 632-0615 / FAX: (505) 632-1865 # 1/ 2

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PRE-DISPOSAL PROTOCOL – ENVIROTECH LABORATORY

Most of the analysis at Envirotech Laboratory is on oil-field related wastes. These wastes include chlorides, metals, glycols and hydrocarbons. Oilfield samples are both exempt and non-exempt. A fraction of the samples tested are non-oilfield related hydrocarbon contaminated soils and fluids. Some soils and fluids may contain other industrial chemicals. All of these samples are tested for hazardous levels of contamination. Before disposal at Landfarm #2. A TCLP excluding herbicides and pesticides is run on the waste to test for hazardous constituents.

<u>Protocol</u>: The waste stream from the laboratory containing primarily hydrocarbon contaminated soils and sludges is stored in fifty-five gallon drums in a bermed, lined containment area. Four barrels of waste are normal for an annual accumulation. When four barrels are accumulated, these barrels are composite sampled for a TCLP excluding herbicides and pesticides prior to disposal at Landfarm #2.

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Hansen, Edward J., EMNRD

From:	Hansen, Edward J., EMNRD
Sent:	Tuesday, January 30, 2007 12:42 PM
То:	'April Pohl'
Cc:	Price, Wayne, EMNRD
• • • •	

Subject: RE: Letter of January 24 for GW-221

April,

I spoke with Wayne regarding the disposal of waste soils from the lab. We are concerned that the waste soils are not only nonhazardous, but also acceptable to be disposed at the landfarm. Therefore, please send me your written protocol for determining that the waste soils or sludges are acceptable to be disposed at the landfarm. Also, the protocol must be for testing of TPHcontaminated soils or sludges only. The protocol must be sent (via FAX or email) by 5:00 p.m. today. If an acceptable protocol cannot be sent today, then other disposal arrangements for the waste soils / sludges must be made.

If you have any further questions regarding this matter, please contact me.

Edward J. Hansen Hydrologist Environmental Bureau 505-476-3489 office 505-476-3462 fax

From: April Pohl [mailto:apohl@envirotech-inc.com]
Sent: Tuesday, January 30, 2007 11:13 AM
To: Hansen, Edward J., EMNRD
Subject: Letter of January 24 for GW-221

Dear Mr. Hansen:

In your letter of January 24, 2007 you mentioned laboratory waste is not to go to landfarms in Item #6. However, our lab waste is soil and sludge samples from testing material for acceptance into our landfarm. In essence, our lab waste is material we have been approved to accept into our landfarm by the NMOCD. According to Morris Young, the former administrator of our GW-221, Mr. Roger Anderson, set up this format as we are accepting the remains of our soil as proved non-hazardous by testing. If you have further questions please feel free to contact me either by phone or email.

We are in the process of making the corrections you listed in your letter so we can send out the corrected version for your approval.

Thank you very much,

April E Pohl Landfarm Administrator Envirotech Inc <u>apohl@envirotech-inc.com</u> 505-632-0615 office 505-632-1865 fax 505-320-6431 cell

1/30/2007



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary Mark E. Fesmire, P.E. Director Oil Conservation Division

January 25, 2007

Morris D. Young President Envirotech, Inc. 5796 U.S. Highway 64 Farmington, New Mexico 87401

RE: Discharge Plan Permit (GW-221) Renewal Envirotech, Inc. Main Office and Maintenance Yard San Juan County, New Mexico Determination of Administratively Complete

Dear Mr. Young:

The New Mexico Oil Conservation Division (OCD) has received the Envirotech, Inc. application, dated December 29, 2006, to renew the discharge permit, GW-221, for the Envirotech, Inc. Main Office and Maintenance Yard located in the NE/4 of the NW/4 of Section 27, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. The application and filing fee were received on January 5, 2007. The application and a follow-up correspondence, which proposed the newspaper to publish the public notice, provided the required information in order to deem the application "administratively" complete.

Now that the submittal is deemed "administratively" complete, the New Mexico Water Quality Control Commission regulations (WQCC) public notice requirements of 20.6.2.3108 NMAC must be satisfied and demonstrated to the OCD. The OCD recommends a draft version of the public notice be provided for a pre-review prior to publishing in the newspaper, in order to ensure all of the required information is provided prior to translation into Spanish and to prevent the expenditure of additional funds to republish the public notice.

Once your public notice has been approved for translation into Spanish by the OCD, you may then publish the public notice in the specified newspaper. The public notice must be given by February 22, 2007. Once the notice has been given, then please submit to the OCD within 15 days of public notice:

- 1) proof that the notice was published in the newspaper (affidavit of publication from the newspaper) and
- 2) proof that the notice was sent via certified mail to each landowner [signed certified mail receipt (green card) by each landowner].

Mr. Young January 25, 2007 Page 2 of 2

In addition, the review of the application is to determine if any additional information or modifications may be required before consideration for technical approval. The application has been determined to be technically incomplete. Therefore, the OCD requests additional information. All technical issues must be resolved prior to OCD's proposed permit renewal. In order to expedite the review, the OCD recommends that the requested information and modifications be provided within two weeks of receipt of this letter. A list of the required changes, additions, and corrections is provided below:

#6. (for the Main Office) All storage on site is in drums or smaller containers.

Please strike the phrase "...at NMOCD permitted Landfarm #2." The disposal of non-hazardous laboratory waste in not allowed at a landfarm. Please indicate where the non-hazardous laboratory waste will be disposed (i.e., name, address and location of the disposal facility).

#11. (for the Main Office) Contingency plan for reporting and cleanup of spills

Please indicate the maximum number of 55-gallon containers at the Main Office used for storage of waste materials. Also, please indicate what measures are taken to prevent contamination from surface run-off at the Main Office storage area (e.g., the area is bermed).

#13. (for both the Main Office and the Maintenance Yard) Facility Closure Plan

Please indicate what clean up procedures will be followed to closed the facility (e.g, the 55gallon containers will be removed for appropriate disposal and any soil with apparent contamination will be appropriately disposed).

If you have any questions regarding this matter, please do not hesitate to contact me at (505) 476-3489 or <u>edwardj.hansen@state.nm.us</u>. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Elward A. Hansen

Edward J. Hansen Hydrologist Environmental Bureau

EJH:ejh

cc: OCD District III Office, Aztec

Hansen, Edward J., EMNRD

From: Hansen, Edward J., I	EMNRD
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Sent: Friday, January 19, 2007 5:13 PM

To: 'April Pohl'

Subject: RE: Public notice letter

April,

I discussed the draft public notice with Wayne and we will need a few edits to the notice before we can approve it. In particular, the phrase: "...prior to disposal at NMOCD permitted Landfarm #2" should be replaced with "...prior to appropriate disposal." We cannot approve the disposal of the laboratory waste at the landfarm; however, contaminated soils from the Maintenance Yard is approvable.

Also, both the depth to groundwater at the facility and the total dissolved solids of the groundwater must be included in the notice. (I believe you had some acceptable language in your notice for the initial discharge permit.) Let me know if you have any questions.

Edward J. Hansen 505-476-3489

From: April Pohl [mailto:apohl@envirotech-inc.com]
Sent: Friday, January 19, 2007 3:48 PM
To: Hansen, Edward J., EMNRD
Subject: Public notice letter

Dear Mr. Hansen:

Denny Foust says he feels the Public Notice we sent you recently for your approval is not as good as he would like. Mr. Young thinks it is sufficient. Please contact me immediately and tell me what you would like me to do in this case. We can certainly resubmit the Public Notice if it is not what you want. I just want to get it done in a timely fashion.

Thank you,

April E Pohl Landfarm Administrator Envirotech Inc 505-632-0615 office 505-320-6431 cell

PUBLIC NOTICE

Envirotech, Inc. Morris D. Young, President, 5796 U.S. Hwy 64, Farmington, NM 87413, has submitted a renewal application for the previously approved discharge plan (GW-221) for the office and shop facilities located in the NE/4 of the NW/4 of Section 27, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico, approximately .5 miles east of the intersection of County Road 550, and Highway 64, Farmington, NM.

Envirotech Lab Facility: On-site disposal does not occur, with the exception of domestic sewage to septic system and leach field. Approximately 520 gallons of non-hazardous liquid and solid lab waste is generated annually. Non-hazardous wastes are tested by RCRA approved analysis prior to disposal at NMOCD apropriate permitted Landfarm #2. Wastes shown by analysis to be hazardous, are shipped off-site biannually to a licensed hazardous waste incinerator. All materials are stored in 55 gallon containers in lined containment.

Envirotech Maintenance Yard: Onsite disposal of wastes does not occur at this site with the exception of domestic sewage to a septic system and leach field. Approximately 1,000 gallons of used oil and 165 used oil filters are generated at this site annually, which are collected and temporarily stored in containment vessels prior to being collected for recycling. Used oil filters are drained and stored in containment vessels until they are collected by the waste management service for disposal in local landfill. All materials are stored in 55 gallon containers and one large bermed area enclosing a double wall fuel tank within cement containment. Spills from these containers are not expected to impact surface or ground water. Soils contaminated from oil/fuel leaks on equipment are collected, subject to TCLP and RCRA characterization annually. Collected, sampled soils are placed on Envirotech's Soil Remediation Facility, Landfarm #2 upon approval by NMOCD.

The discharge plan addresses how lab and maintenance product wastes will be properly handled, stored and disposed of, including how spills, leaks and other accidental discharges to the surface will be managed in order to protect fresh water. Any interested person may obtain information, submit comments or request to be placed on a facility specific mailing list for future notices by contacting Edward J. Hansen at the New Mexico OCD at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3489. The OCD will accept comments and statements of interest regarding the renewal and will create a facility-specific mailing list for persons who wish to receive future notices. TDs # DTW



January 17, 2007

2007 JAN 19 PM 2 05

Mr. Edward J. Hansen, Hydrologist State of New Mexico Oil Conservation Bureau 1220 South Saint Francis Drive Santa Fe, NM 87505

Phone (505) 476-3489 Fax (505) 476-3462

RE: Discharge Permit Application Public Notice Envirotech, Inc.

Dear Mr. Hansen:

Attached please find the Public Notice for Envirotech, Inc. as requested in your letter of January 11, 2007.

After you have approved this Public Notice it will be interpreted into Spanish and placed in the Farmington Daily Times of Farmington, New Mexico. The Daily Times is the primary newspaper in our Four Corners area with a circulation of 22,626 as of January 15, 2007. We will also place a notice in the local Post Office in Bloomfield, New Mexico.

Please feel free to contact me if you have further questions. We anticipate receiving your approval.

Thank you, Envirotech, Inc.

Morris D. Young President <u>myoung@envirotech-inc.com</u>

Attachment

MDY/aep/LF/GW221-shop/publicnotice011707.doc

PUBLIC NOTICE

Envirotech, Inc. Morris D. Young, President, 5796 U.S. Hwy 64, Farmington, NM 87413, has submitted a renewal application for the previously approved discharge plan (GW-221) for the office and shop facilities located in the NE/4 of the NW/4 of Section 27, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico, approximately .5 miles east of the intersection of County Road 550 and Highway 64, Farmington, NM.

Envirotech Lab Facility: On-site disposal does not occur, with the exception of domestic sewage to septic system and leach field. Approximately 520 gallons of non-hazardous liquid and solid lab waste is generated annually. Non-hazardous wastes are tested by RCRA approved analysis prior to disposal at NMOCD permitted Landfarm #2. Wastes shown by analysis to be hazardous, are shipped off-site biannually to a licensed hazardous waste incinerator. All materials are stored in 55 gallon containers in lined containment.

Envirotech Maintenance Yard: Onsite disposal of wastes does not occur at this site with the exception of domestic sewage to a septic system and leach field. Approximately 1,000 gallons of used oil and 165 used oil filters are generated at this site annually, which are collected and temporarily stored in containment vessels prior to being collected for recycling. Used oil filters are drained and stored in containment vessels until they are collected by the waste management service for disposal in local landfill. All materials are stored in 55 gallon containers and one large bermed area enclosing a double wall fuel tank within cement containment. Spills from these containers are not expected to impact surface or ground water. Soils contaminated from oil/fuel leaks on equipment are collected, subject to TCLP and RCRA characterization annually. Collected, sampled soils are placed on Envirotech's Soil Remediation Facility, Landfarm #2 upon approval by NMOCD.

The discharge plan addresses how lab and maintenance product wastes will be properly handled, stored and disposed of, including how spills, leaks and other accidental discharges to the surface will be managed in order to protect fresh water. Any interested person may obtain information, submit comments or request to be placed on a facility specific mailing list for future notices by contacting Edward J. Hansen at the New Mexico OCD at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3489. The OCD will accept comments and statements of interest regarding the renewal and will create a facility-specific mailing list for persons who wish to receive future notices.



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON Governor Joanna Prukop Cabinet Secretary

Mark E. Fesmire, P.E. Director Oil Conservation Division

January 11, 2007

Morris D. Young Envirotech, Inc. 5796 U.S. Hwy 64 Farmington, New Mexico 87401

RE: Renewal of Discharge Permit, GW221

Dear Mr. Young:

Thank you for your timely submittal of the Renewal Application Form for the renewal of Discharge Permit, GW221. The New Mexico Oil Conservation Division (OCD) has reviewed the application for administrative completeness. The OCD has determined that the application is not complete; and therefore, is requesting additional information.

You must provide information regarding which newspaper will be used for your public notice for OCD approval. Please provide the name of the newspaper and the circulation of the newspaper (i.e., is the newspaper of general circulation in the location of the facility?) that you intend to use for your public notice regarding the renewal of your discharge permit.

The OCD strongly recommends that you submit a draft (see attached example) public notice to the OCD for review prior to publication; thereby, avoiding republication due to possible errors or omissions. The public notice must be given in accordance with Subsection C of 20.6.2.3108 NMAC, including publishing the notice in both English and Spanish. Therefore, please submit a draft notice in English for OCD review. Once the OCD has approved the draft public notice in English, then you must have it translated into Spanish and have it published in both English and Spanish in the OCD approved newspaper.

Below are excerpts from the Rules that indicate the specific information required to be included in the public notice. The required information [F(1) through F(5) below] must be updated to reflect the current operations (e.g., the operational information regarding the reduced laboratory waste generation should be included in addition to any other current practices).

20.6.2.3108 PUBLIC NOTICE AND PARTICIPATION:

F. The notice provided under Subsection B, C and E of 20.6.2.3108 NMAC shall include:

Morris D. Young January 11, 2007 Page 2

V

- (1) the name and address of the proposed discharger (*as submitted with your Application Form*);
- (2) the location of the discharge, including a street address, if available, and sufficient information to locate the facility with respect to surrounding landmarks (e.g., this could be the distance from a particular intersection);
- (3) a brief description of the activities that produce the discharge described in the application *(please update this information if appropriate)*;
- (4) a brief description of the expected quality and volume of the discharge (*please update this information if appropriate*);
- (5) the depth to and total dissolved solids concentration of the ground water most likely to be affected by the discharge (*please update this information if appropriate*);
- (6) the address and phone number within the department by which interested persons may obtain information, submit comments, and request to be placed on a facility-specific mailing list for future notices (*see attached example*); and
- (7) a statement that the department will accept comments and statements of interest regarding the application and will create a facility-specific mailing list for persons who wish to receive future notices (*see attached example*).

Please submit the required information within 30 days of receipt of this letter. If you have any questions regarding this matter, please call me at 505-476-3489.

Sincerely,

Edward J. Hansen^V Hydrologist Environmental Bureau

EJH:ejh

attachment

PUBLIC NOTICE

Enterprise Products Operating, L.P., Shiver J. Nolan, Senior Compliance Administrator, P.O. Box 4324, Houston, Texas 77210-4324, has submitted a renewal application for the previously approved discharge plan (GW-332) for their San Ysidro Pump Station, located in the SE/4 of the NW/4 of Section 19, Township 15 North, Range 2 East, NMPM, Sandoval County, New Mexico, approximately three miles south of San Ysidro, New Mexico. Approximately 1000 gallons of wash-down water, 100 gallons of used oil, 4 used oil filters, 75 used process filters, and 20 empty barrels are generated on site annually, which are collected and temporarily stored in containment vessels prior to transport and disposal at an NMOCD approved facility. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of approximately 30 to 50 feet, with a total dissolved solids concentration of approximately 200 to 2000 mg/l. The discharge plan addresses how oilfield products and waste will be properly handled, stored, and disposed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water. Any interested person may obtain information, submit comments or request to be placed on a facility specific mailing list for future notices by contacting Edward J. Hansen at the New Mexico OCD at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3489. The OCD will accept comments and statements of interest regarding the renewal and will create a facility-specific mailing list for persons who wish to receive future notices

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505	State of New Me Energy Minerals and Natur Oil Conservation D 1220 South St. Fran Santa Fe, NM 87	al Resources ivision cis Dr.	Revised June 10, 2003 Submit Original Plus 1 Copy to Santa Fe 1 Copy to Appropriate District Office
AND	CATION FOR SERV DMPRESSOR, GEOT CRUDE OIL PUMP Guidelines for assistance in c	HERMAL FACILIT	
	w 🎗 Renewal 🗌] Modification	
1. Type: <u>Oilfield Service Company</u>			
2. Operator: <u>Envirotech, Inc.</u>			
Address: <u>5796 U.S. Hwy 64, Farmin</u>	gton, NM 87401		
Contact Person: <u>Morris D. Young</u>		Phone: <u>(505) 632-061</u>	5
3. Location: <u>NE</u> /4 <u>NW</u> Submit la	_/4 Section <u>27</u> Tow rge scale topographic map sho		<u>12W</u>
4. Attach the name, telephone number an	d address of the landowner of	the facility site.	
5. Attach the description of the facility v	with a diagram indicating locat	ion of fences, pits, dikes and	tanks on the facility.
6. Attach a description of all materials st	ored or used at the facility.		
 Attach a description of present source must be included. 	s of effluent and waste solids.	Average quality and daily	volume of waste water
8. Attach a description of current liquid	and solid waste collection/trea	tment/disposal procedures.	
9. Attach a description of proposed mod	fications to existing collection	n/treatment/disposal systems	
10. Attach a routine inspection and maint	enance plan to ensure permit	compliance.	
11. Attach a contingency plan for reporti	ng and clean-up of spills or re	eases.	
12. Attach geological/hydrological inform	nation for the facility. Depth	to and quality of ground wat	er must be included.
13. Attach a facility closure plan, and oth rules, regulations and/or orders.	er information as is necessary	to demonstrate compliance	with any other OCD
14. CERTIFICATIONI hereby certify t best of my knowledge and belief.	hat the information submitted	with this application is true	and correct to the
Name: <u>Morris D. Young</u>	Titl	e: <u>President</u>	· · · · · · · · · · · · · · · · · · ·
Signature: Morris Q. Ur	Ur- Dat	e: <u>December 29, 2006</u>	
E-mail Address: <u>myoung@envirotec</u>	h-inc.com		

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ater Quality Mana	gement Fund		Renew GW-221		-	Check Number:	3460
··· 4				Date:	12/29/2006	Check Amt:	\$100.00
Tran # Invoice	Type	Date	Reference		Balance	Discount	Pay Amount
28368 MR82257	Invoice	12/29/0)6 Renew GW-221		\$0.00	\$0.00	\$100.00

	ENVIROTECH INC. Operating Account 5796 U.S. Hwy 64 FARMINGTON, NM 87401 (505) 632-0615	FIRST FEDERAL BANK ROSWELL, NM 88201 95-7045/3122	
xactly	One hundred and no / 100 Dollars	DATE	AMOUNT
PAY TO THE ORDER		12/29/2006	\$100.00
ORDER OF	Water Quality Management Fund		
	1220 S. St. Francis Dr		
	Albuquerque NM 87505	monio. y	Gurg M
-		MEN. MENNING BAND.	0

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December 28, 2006

Mr. Edward J. Hansen, Hydrologist State of New Mexico Oil Conservation Bureau 1220 South Saint Francis Drive Santa Fe, NM 87505

Phone (505) 476-3489 Fax (505) 476-3462

RE: Discharge Permit Application Envirotech, Inc.

Dear Mr. Hansen:

Attached please find a Renewal Discharge Plan Application for Oilfield Service Facilities that has been completed for Envirotech, Inc.

As the two (2) facilities are close in location, both are covered under the same application. However, each location will be submitting information individually. The main office is located at 5796 U.S. Hwy 64 and the shop yard is located at 5726 U.S. Hwy 64, both in Farmington, NM.

ENVIROTECH MAIN OFFICE:

- 1. Oilfield Service Company
- Envirotech, Inc.
 5796 U.S. Hwy 64, Farmington, NM 87413
 Contact person: Morris D. Young; Phone (505) 632-0615
- 3. NE/4 NW/4 Section 27, Township 29 North, Range 12 West. A 7.5 minute topographic map is attached.
- 4. Mr. Jerry Clayton is the land owner. Mr. Clayton's address is 501 Airport Drive, Farmington, NM 87401. Phone (505) 326-5571.
- 5. Site is located approximately 1500 yards east of the intersection of U.S. Hwy 64 and County Road 5500 in Farmington, NM.

A plat map of the subject property is attached.

Solid and liquid waste generated from our laboratory is currently stored in labeled drums at the eastern property boundary.

The facility is fenced and has no pits.

6. Description of all materials used or stored at the facility: Hand soap

> Paint and paint supplies. Various containers less than 20 gal. Sulfuric acid liquid. Stored in original plastic, estimated 3.5 liters in lab Hydrochloric acid liquid. Original glass, estimated 2.5 liters in lab Nitric acid liquid. Original glass, estimated 2.5 liters in lab Acetic acid liquid. Original glass, estimated 12.5 liters in lab Sodium hydroxide liquid. Original plastic, estimated 1 liter in lab Alconox solid. Original container, estimated 20 lb in lab Micro-90 liquid. Original plastic, estimated 1 quart in lab No-Chromix liquid. Original glass, estimated .5 quart in lab Freon 113 liquid. Original glass, estimated 2 liters in lab Methylene Chloride liquid. Original glass, estimated 4 liters in lab Hexane liquid. Original glass, estimated 8 liters in lab Ispropanol liquid. Original glass, estimated 8 liters in lab Methanol liquid. Original glass, estimated 16 liters in lab n-propanol liquid. Original glass, estimated 4 liters in lab Cyclohexane liquid. Original glass, estimated 4 liters in lab Toluene liquid. Original glass, estimated 500 ml in lab

- Lab waste, solid and liquid. Stored in drum w/ lid, less than a total of 100 gal in lab and yard.
 Soil/water samples containing Methylene Chloride, Freon or Methanol as solvent extraction residue. Various acids used in extraction and analysis from lab samples.
- 8. All storage on site is in drums or smaller containers. On-site storage is in either original containers (unused products) or in other appropriate containers (used products). Unused laboratory products are stored in the lab in the original containers. Most products are stored in segregated fire-resistant cabinets (not vented) with built-in secondary containment. Lab waste is collected at point of use and stored in containers compatible with waste being stored. When full, lab containers are transferred into drums located in yard.

There are no surface impoundments located on-site. There is no underground process piping. Facility is less than 30 years old. On-site disposal does not occur at this site, with the exception of domestic sewage to septic system and leach field.

Lab solids and liquids are segregated into hazardous and non-hazardous (by listing). Non-hazardous wastes are subject to RCRA analysis prior to disposal at NMOCD permitted Landfarm #2. Hazardous wastes, if any, are shipped off-site biannually to a licensed hazardous waste incinerator. Different incinerators are used depending on price and availability. Approval from receiving facility is received prior to shipment.

9. There are no proposed modifications to the site at this time.

- 10. Routine inspection: Lab supplies and waste are tracked closely on a daily basis.
- 11. Contingency plan for reporting and cleanup of spills: All materials are stored in 55 gallon containers and spills from these containers are not expected to impact surface or ground water. Containers are inspected on a regular basis to prevent leaks related to corrosion.

Spillage will be collected and placed into a container for continued storage. NMOCD will not be notified of spills less than reportable quantities.

12. The San Juan River is located approximately 3900 feet south of the site. An unnamed dry wash is located approximately 1900 feet west of the site with a dry wash drainage ditch located approximately 50 feet east of the site. All streams in the vicinity flow to the San Juan River.

Water well locations are noted on the attached map. There are 61 wells located within a one (1) mile radius of the site. These wells are located according to "Records of Water Wells and Springs prior to 1978", "Records of Water Wells in San Juan County 1978-1983", and "Listings of Point of Diversion for the San Juan Basin in New Mexico 2/7/92".

Soil types are typically cobble filled sandy loams ranging from silty to clayey sands. Soils are typically moist, loose, non-cohesive, and have high permeability.

The aquifer below site is not named and is typically poorly graded medium sand with varying amounts of cobble and silt. Depth to bedrock is anticipated in excess of 60 feet below the site. Flooding potential and run-off potential is very minimal; therefore flood protection measures are not required. Due to thorough tracking of lab wastes, impact to either ground water or surface water is not probable.

13. Facility closure plan: Lab testing will cease and waste will not be generated. Envirotech Soil Remediation Facility currently has an existing Discharge permit, and is not included in this application.

ENVIROTECH MAINTENANCE YARD:

- 1. Oilfield Service Company
- Envirotech, Inc.
 5796 U.S. Hwy 64, Farmington, NM 87413
 Contact person: Morris D. Young; Phone (505) 632-0615
- 3. NE/4 NW/4 Section 27, Township 29 North, Range 12 West. A 7.5 minute topographic map is attached.

- 4. Mr. Ray Padilla is the land owner. Mr. Padilla's address is 1809 East Main, Farmington, NM 87401. Phone (505) 325-0046.
- 5. Site is located approximately 100 yards west of the intersection of U.S. Hwy 64 and County Road 5500 in Farmington, NM.

A plat map of the subject property is attached, including location of the current tank and barrels at the facility.

The facility is fenced and there is one (1) bermed area enclosing a 4,000 gal double walled convault fuel tank for diesel. The tank is enclosed in a cement containment.

- 6. Description of material used or stored at the facility: Paint and paint supplies. Various containers less than 20 gal stored in shop area. Hand soap.
 Diesel, contained in double walled convault, 4000 gal, cement containment. Motor oil, less than 50 gal in enclosed metal drum. Solid grease for lubrication.
- 7. Waste solids and effluent: Used motor oil, less than 100 gal. Used as fuel, excess is recycled. Used filters, less than 6. Occasional oil fuel. 1-2 gal.

8. Collection and Disposal:

All storage on site is in drums or smaller containers. On-site storage is in either original containers (unused products) or in other appropriate containers (used products). Spent acid is stored in original battery until entire battery is picked up by recycler, no formal approval needed.

Filters are drained while hot, liquid goes into waste drum. Sixteen filters per month are permitted at the landfill.

Soils contaminated from oil/fuel leaks on equipment are subject to TCLP and RCRA characterization annually. Collected, sampled soils are placed on Envirotech's Soil Remediation Facility, Landfarm #2 upon approval by NMOCD.

Most storage is inside of the building on the cement floor. There are no floor drains in the work area or storage area.

This facility is less than 30 years old and there is no underground process.

On-site disposal does not occur at this site, with the exception of domestic sewage to a septic system and leach field.

Off-site disposal is allowed through recyclers. Used motor oil (in excess of 4 drums) is picked up by Mesa Petroleum of Albuquerque, NM. Used lead-acid batteries are sent to Intermountain Batteries, located at 534 East Broadway, Farmington, NM, when new batteries are delivered to the site. Both facilities dispatch their own trucks and personnel to collect material from the Maintenance Yard.

The trash is collected weekly by Waste Management of Four Corners, located at 101 Spruce Street, Farmington, NM, for placement at the San Juan County Landfill. A maximum of four (4) filters per week are permitted for disposal through this method.

- 9. There are no proposed modifications to the site at this time.
- 10. The facility will be inspected monthly by management for leaks and spillage. A record of each inspection will be kept at the main office. Any reportable quantities will be reported to the NMOCD.

Monitor wells are not located at this site.

The used oil tank is contained in a lined berm with a fence around the secondary containment.

11. Whereas all material is stored in secondary containment (as a minimum), spillage will be into contained areas. There is not any anticipated threat to surface or groundwater.

Spillage will be collected from its containment and placed into its container (or equivalent) for continued storage. NMOCD will not be notified of spills less than reportable quantities.

All containment is visually inspected from all sides, which makes a leak of quantity easily detectable. A monthly inspection by management and frequent use of the facility by employees ensures leaks are repaired with only minor spillage.

There is not an injection well at this site.

12. The San Juan River is located approximately 3900 feet south of the site. An unnamed dry wash is located approximately 1900 feet east of the site. All streams in the vicinity flow to the San Juan River.

Water well locations are noted on the attached map. There are 61 wells located with in a one (1) mile radius of the site. These wells are located according to "Records of Water Wells and Springs prior to 1978", "Records of Water Wells in

San Juan County 1978-1983", and "Listings of Point of Diversion for the San Juan Basin in New Mexico 2/7/92".

Soil types are typically cobble filled sandy loams ranging from silty to clayey sands. Soils are typically moist, loose, non-cohesive, and have high permeability.

The aquifer below site is not named and is typically poorly graded medium sand with varying amounts of cobble and silt. Depth to bedrock is anticipated in excess of 60 feet below the site. Flooding potential and run-off potential is very minimal therefore flood protection measures are not needed. Due to thorough tracking of shop wastes, impact to either ground water or surface water is not probable.

13. Facility closure plan: Shop use will cease and waste will not be generated. All existing waste will be disposed of as specified previously. Envirotech Soil Remediation Facility has a currently existing Discharge permit, and is not included in this application.

Should you need any clarification of our responses, or have any comments, please contact us at (505) 632-0615.

Respectfully Submitted, ENVIROTECH, INC.

ound Morris D. Young President


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ASSOCIATES, INC. SOL V. APACHE, FARVINGION, HH.

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PROPERTY SURVEY FOR ENVIROTECH INC. E 1/2 NW 1/4 SEC, 27 T29N R12W NMPM SAN JUAN COUNTY, NEW MEXICO

Theil part of the East One-Holf of the North-est Querter (E1/2 NM1/4) of Section 27. in 729N RIZN', N.H.P.H., described as follows:

BEGINNING East 702.65 (set and South 925.13 (set from the Narthwest Corner at the NET/4 NW1/4 of soid Section 27, using a point on the East Env of a tract of land conveyed to Myrom Sasthes, of us by worranty deed recorded in Book 826, Page 521 of the Records of San Juan County, Haw Maxico;

DEC-28-2006

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FAX

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- 508°04°C for a distance of 154.48 leaf, clang the East line of sold Sanchez fract to a point on the Northeasterly line of a fract of land conveyed to Jae D Sterardine by warronly deed recorded in Book 754. Page 593 of the Records of THERCE:
- San Juan County, Markany Casal recolumn book in the second state of the said State of 19.62 feet, to the northeastery Corner of said Sherrafter tract: THENCE:
- SUPULY for a distance of 195.20 (est, along the east far of soid Grerordine tract to a point on the northerly right-of-way line of Highway 64; S780/1 for a distance of 338.08 (est, along the northerly right-of-way af THENCE: WENCE:
- Highway 64; NOC 3512 for a distance of 420.40 feet; RS9235W for a distance of 345.67 feet; THENCE:
- THENCE:

L DEDRCE 1. WALTERS ... A REGISTERCE PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE IN WHICH THIS SURVEY WAS PERFORMED, HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FILL ROTED COT AN ACTUAL SURVEY BEEN'S THE WHIMMUM REDURING FOR FAILED ROTED AND THE SURVEYS AND IS RULE AND CORRECT TO THE BEST OF MY KNOWLEVE AND SURVEYS AND IS RULE AND CORRECT TO THE BEST OF MY KNOWLEVE AND SELVET, AND THAT NO EXERCOCHMENTS EXIST EXCEPT AS NOTED ADDIVE, AND THAT ALL IMPROVEMENTS ARE SHOWN IN THEIR COMPLECT LOCATION RELATIVE RECORD ROUNDARES AS LOCATED BY THIS SURVEY.

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D41E, 9-22-92	BANE OF FALLS SURVEY	19-21-92 TEED GJURA
ZASIS OF TEARING WEST PL.		FED.ACT NJ. 92533 FILE 92573

Edgar L. Risenhoover

Registered Land Surveyor New Mexico • Colorado • Arizona Route 2, Box 105 + 665 County Road 1191 Farmington, New Mexico 87401 Phone (505) 325-3904

PRAX TRUJILLO

Lot 5 of Section 28 in T-29-N, R-12-W, N.M.P.M., Son Juan County, New Maxico, same being situated in the NWWNE¥ of said Section 28, containing 3.83 acres, more or less, and subject to all right-of-ways, eusements, restrictions and reservations of record or in existence.





Hansen, Edward J., EMNRD

From:	Hansen, Edward J., EMNRD
Sent:	Wednesday, December 13, 2006 10:44 AM
То:	'apohl@envirotech-inc.com'
Subject:	Renewal of Discharge Permit GW221
Attachments	: Renewal WQCC Notice Regs.pdf; Discharge Plan App Form.pdf; Guidelines For Discharge Plans.pdf; PN Flow Chart.20.6.2renewal.pdf

Dear Discharge Permit (GW221) Holder:

The Oil Conservation Division's (OCD) records indicate that your discharge plan has expired. New Mexico Water Quality Control Commission regulations (WQCC) Section 3106.F (20.6.2.3106.F NMAC) specifies that if a discharger submits a discharge plan renewal application at least 120 days before the discharge plan expires and is in compliance with the approved plan, then the existing discharge plan will not expire until the application for renewal has been approved or disapproved. You may be operating without a permit. Please submit a permit renewal application with a filing fee (20.6.2.3114 NMAC) of \$100.00 by December 31, 2006. Please make all checks payable to the **Water Quality Management Fund** and addressed to the OCD Santa Fe Office. There is also a discharge plan permit fee, based on the type of facility, which OCD will assess after processing your application. An application form and guidance document is attached in order to assist in expediting this process.

In accordance with the public notice requirements (Subsection A of 20.6.2.3108 NMAC) of the newly revised (July 2006) WQCC regulations, "...to be deemed administratively complete, an application shall provide all of the information required by Paragraphs (1) through (5) of Subsection F of 20.6.2.3108 NMAC and shall indicate, for department approval, the proposed locations and newspaper for providing notice required by Paragraphs (1) through (4) of Subsection B or Paragraph (2) of Subsection C of 20.6.2.3108 NMAC." You are required to provide the information specified above in your permit renewal application submittal. Attached are a flow chart and the regulatory language pertaining to the new WQCC public notice requirements for your convenience. After the application is deemed administratively complete, the revised public notice pursuant to the revised WQCC notice requirements of 20.6.2.3108 NMAC to determine if there is any public interest.

Please contact me by phone 505-476-3489 or email <u>mailto:edwardj.hansen@state.nm.us</u> if you have any questions regarding this matter.

Sincerely,

Edward J. Hansen Hydrologist Environmental Bureau



ACXNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No. dated 2-12-02 or cash received on in the amount of \$ 740.00 from Enviroter for Facilia Submitted by: Data: Submitted to ASD by: Data: Received in ASD by: Date: Filing Fee V New Facility ____ Renewal V Modification ____ Other Organization Code 521.07 Applicable FY 2001 To be deposited in the Water Quality Management Fund. Full Payment _ or Annual Increment _ VECTRA BANK COLORADO, N.A. - 23-315/1020 **ENVIROTECH INC** 2000 E. 20th St **OPERATING ACCOUNT** Farmington NM 8740 5798 U.S. HWY 84 FARMINGTON, NM 87401 \$ (505) 632-0815 Exactly Seven, hundred forty and no, 100 Do MOUNT DATE NMED-Water Quality Management OCD Santa Fe Office 1220 South St Francis Drive Santa Fe NM 87505 Compliance filing and flat fee

ENVIROTECH INC.

NMED-Water Quality Management

ompliance filing and flat fee



2/12/02

Balance

\$740.00

Date:

Check

\$740.00 Pay Amount \$740.00

Tran # Invoice 2752 011002

Туре Date Invoice

Reference 01/10/02 \$50 Filing Fee/690 Flat Fee

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3.81	
5.5	

Check Amt: Discount \$0.00



NEW MEXICO ENERGY, MOERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON Governor Jennifer A. Salisbury Cabinet Secretary

January 10, 2002

Lori Wrotenbery Director Oil Conservation Division

<u>CERTIFIED MAIL</u> <u>RETURN RECEIPT NO. 3929 7389</u>

Mr. Morris Young Envirotech, Inc. 5796 US Highway 64 Farmington, New Mexico 87401

RE: Discharge Plan Fees GW-221 Farmington Service Facility San Juan County, New Mexico

Dear Mr. Young:

On February 1, 2001, Envirotech, Inc., received, via certified mail, an approval dated January 22, 2001 from the New Mexico Oil Conservation Division (OCD) for discharge plan GW-221. Each discharge plan has a filing fee and a flat fee as described in WQCC Section 3114. The OCD has not as of this date (January 10, 2002) received the filing fee nor the flat fee. The last check submitted by Envirotech, Inc. was dated February 27, 1998 for the final payment of the required flat fee for the discharge plan approved November 16, 1995. The filing fee of \$50.00 and the total flat fee amount remaining is \$690.00 for discharge plan GW-221.

Envirotech, Inc. will submit the remaining \$50.00 filing fee and \$690.00 flat fee in full by February 28, 2002 in order to be in compliance with Water Quality Control Commission Regulation 3114.B.6, or the OCD may initiate enforcement actions which may include fines and/or an order to cease all operations at the facility. Please make all checks payable to: **NMED-Water Quality Management** and addressed to the OCD Santa Fe Office.

If you have any questions regarding this matter, please contact Mr. Jack Ford at (505) 476-3489.

Sincerely,

Roger Anderson Environmental Bureau Chief

RCA/wjf

xc: Aztec OCD district office

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STATE OF NEW MEXICO **County of San Juan:**

ALETHIA ROTHLISBERGER, being duly sworn says: That she is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meeting of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s):

Friday, December 1, 2000

And the cost of the publication is \$82.76

2000 ALETHIA ROTHLISBERGER appeared before me, whom I know personally to be the person who signed the above document.

Commission (Expires April 10, 2004

COPY OF PUBLICATION

Legals NOTICE OF PUBLICATION STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION otta lotice is hereby given that pursuant to New Mexico Water Quality Control Commission egulations, the following discharge plan renewal application has been submitted to the Director f the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone 305) 827-7131:

3W-221) - Mr. Morris D. Young, ENVIROTECH, INC., 5796 US Highway 64, Farmington, New lexico 87401 has submitted an application for their FARMINGTON OILFIELD SERVICE ENTER located in the NE/4 NW/4 of Section 27, Township 29 North, Range 12 West, San uan County, New Mexico. All effluents generated at this facility are collected in a closed p tank prior to transport off-site to an OCD approved disposal facility. Ground water most kely to be affected in the event of an accidental discharge at the surface is at a depth of pproximately 55 feet with a total dissolved solids concentration of approximately 1000 g/l. The discharge plan addresses how spills, leaks, and other accidental discharges to le surface will be managed.

ny interested person may obtain further information from the Oil Conservation Division and may ibmit written comments to the Director of the Oil Conservation Division at the address given pove. The discharge plan application may be viewed at the above address between 8:00 a.m. id 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its odification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after e date of publication of this notice during which comments may be submitted to him and public aring may be requested by any interested person. Requests for public hearing shall set forth e reasons why a hearing should be held. A hearing will be held if the Director determines there significant public interest. ́н:

no public hearing is held, the Director will approve or disapprove the proposed plan based on formation available. If a public hearing is held, the director will approve or disapprove the oposed plan based on information available. If a public hearing is held, the director will approve disapprove the proposed plan based on information in the plan and information submitted at the arina.

VEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on is 10th day of May, 2000.

> STATE OF NEW MEXICO **OIL CONSERVATION DIVISION** /s/Roger Cullander for LORI WROTENBERY, Director

gal No. 43704, published in The Daily Times, Farmington, New Mexico, Friday, December 1, 00.

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THE SANTA FE EW MEXIC Founded 1849

NM OIL CONSERVATION DIVISION ATTN: DONNA DOMINGUEZ 2040 S. PACHECO ST. SANTA FE, NM 87505

AD NUMBER: 183373 ACCOUNT: 56689 LEGAL NO: 68479 P.O.#: 00199000278 175 LINES 1 time(s) at \$ 77.14 AFFIDAVITS: 5.25 TAX: 5.15 TOTAL: 87.54

NOTICE OF PUBLICATION from the Oil Conservation

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT **OIL CONSERVATION** DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan renewal application has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(GW-221) - Mr. Morris D. Young ENVIROTECH, INC., 5796 US Highway 64, Farmington, New Mexico 87401 has submitted an FARMINGTON their OILFIELD SERVICE CENTER located in the NE/4 NW/4 of Section 27, Township 29 North, Range 12 West, San Juan County, New Mexico. All effluents generated at this facility are collected in a closed top tank prior to transport offsite to an OCD approved disposal facility. Ground water most likely to be affected in the event of an accidental discharge at the surface is at a depth of approximately 55 feet with a total dissolvod solids concentration of approximately 1000 mg/l. The discharge plan ad-dresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may further information obtain

Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. public Requests for a hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a 30 day of public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and informa- Notary tion submitted at the hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe. New Mexico, this 10th day of May, 2000.

> STATE OF NEW MEXICO OIL CONSERVATION DIVISION LORI WROTENBERY. Director

Legal #68479 Pub. December 1, 2000 AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO

COUNTY OF SANTA FE I, Brink being first duly sworn declare and say that I am Legal Advertising Representative of THE SANTA FE NEW MEXICAN, a daily newspaper published in the English language, and having a general circulation in the Counties of Santa Fe and Los Alamos, State of New Mexico and being a Newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 on Session Laws of 1937; that the publication #68479 a copy of which is hereto attached was published in said newspaper 1 day(s) between 12/01/2000 and 12/01/2000 and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 1 day of December, 2000 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

11/23/03

/s/ LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this November A.D., 2000

Commission Expires



202 East Marcy Street, Santa Fe, NM 87501-2021 • 505 983 3303 • fax: 505 984 1785 • P.O. Box 2048, Santa Fe, NM 87504-2048



ENVIROTECH, INC. 5796 U.S. HIGHWAY 64 FARMINGTON, NEW MEXICO 87401 (505) 632-0615

DISCHARGE

PERMIT

APPLICATION

OCTOBER 2000

5796 U.S. HIGHWAY 64 • FARMINGTON, NM 87401 • (505) 632-0615

ENVIROTECHINC

October 16, 2000

Mr. Roger C. Anderson, Chief Environmental Bureau State of New Mexico Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87505

Re: Discharge Permit Application Envirotech, Inc.

Dear Mr. Anderson: Attached please find a Renewal Discharge Plan Application for Oilfield Service Facilities that has been completed for Envirotech, Inc.

Based on the close proximity of the two facilities, both will be covered under the same application, although information is provided separately for each individual facility. Envirotech's main office is located at 5796 US Highway 64, Envirotech's maintenance yard is located at 5726 US Highway 64. Both facilities are located in Farmington, New Mexico.

Due to the lack of space on the application for supplemental information, the application information is provided in this letter. For your convenience, a blank application is attached.

Envirotech main Office:

- 1. Oilfield Service Company
- Envirotech, Inc.
 5796 US Highway 64, Farmington, New Mexico 87401.
 Contact Person: Morris Young; phone (505) 632-0615.
- 3. NE/4 NW/4 Section 27, Township 29 North, Range 12 West. A 7.5 minute topographic map of Horn Canyon Quadrangle is attached.
- 4. Jerry Clayton is the land owner. Mr. Clayton's address is 710 E. 20th street, Farmington, New Mexico.
- 5. A plat map of the subject property is attached, including the location of the current of the current tanks and barrels at the facility.

Solid and liquid waste generated from our laboratory are currently stored in labeled drums located at the eastern property boundary.

The facility is fenced and has no pits.

6. A part 6 Form is attached

7. A part 7 Form is attached

8. A part 8 Form is attached

<u>8.B.1.</u> All storage on site is in drums, or smaller containers. On-site storage

is in either original containers (unused products) or in other appropriate containers (used products). Unused laboratory products are stored inside the lab in the original containers (or equivalent) containers. Most new lab products are subsequently stored in segregated fire-resistant cabinets (not-vented) with built-in secondary containment. Lab waste is stored inside the lab in containers compatible with the waste being stored. When full, lab waste containers are transferred into drums located in the yard.

<u>8.B.2.</u> There are no surface impoundments located on-site.

<u>8.B.3.</u> This facility is less than 25 years old and there is no underground process piping.

<u>8.C.1.</u> On-site disposal does not occur at this site, with the exception of domestic sewage to a septic system and leach field.

<u>8.C.2.</u> Lab solids and liquids are segregated into hazardous and non-hazardous (by listing). Non-hazardous wastes are subject to RCRA analysis prior to shipment to Landfarm # 2. Hazardous wastes are shipped off-site biannually to a licenced hazardous waste incinerator. Different incinerators are used, depending on price and availability. Approval from the receiving facility is received prior to shipment.

Trash is collected weelky by Waste Management of Four Corners, located at 101 Spruce Street, Farmington, New Mexico, for placement at San Juan County Landfill.

- 9. There are no proposed modifications at this time.
- 10. There are no surface impoundments located on-site.
- 11. There are no Aboveground Storage Tanks (AST) or injection wells located at this facility.
- 12. <u>12.A.1.</u>The San Juan River is located approximately 3900' south of the site. An unnamed ephemeral stream (dry wash) is located approximately 1900' west of the site. A dry drainage ditch is located approximately 50' east of the site. All streams in the vicinity flow to the San Juan River.

<u>12.A.2.</u> Water well locations are located on the attached map. All water wells are assumed to be for domestic use. There may be up to 61 wells located within a 1 mile radius of the site. These wells are located according to <u>"Records of Water Wells and Springs prior to 1978"</u> <u>"Records of Water Wells in San Juan County 1978-1983"</u> and <u>"Listing of Points of Diversion for the San Juan Basin in New Mexico, 2/7/92"</u>.

<u>12.A.3.a.</u> Soil types in area typically consists of cobble filled sandy loams ranging to silty to clayey sands. Soils are typically moist, loose, non-cohesive, and have high permeability.

<u>12.A.3.b.</u> The aquifer below site is not named.

<u>12.A.3.c.</u> The aquifer is a typically poorly graded medium sand with varying amounts of cobble and silt.

<u>12.A.3.d.</u> Depth to bedrock is undetermined, however it is anticipated to in excess of 60' below the site.

<u>12.A.4.a.</u> Flooding potential and run-off potential at the site is very minimal.

<u>12.A.4.b.</u> Flood protection measures at the site are not necessary.

<u>12.B.</u> Due to thorough tracking of lab wastes, impact to either groundwater or surface water is not probable.

13. Envirotech Soil Remediation Facility is currently an existing discharge permit, and is not included in this application.

Envirotech Maintenance Yard:

- 1. Oilfield Service Company
- Envirotech, Inc.
 5726 US Highway 64, Farmington, NM 87401.
 Contact Person: Morris Young; phone (505) 632-0615.
- 3. NW/4 NE/4 Section 28, Township 29 North, Range 12 West. A 7.5 minute Topographic map of the Horn Canyon Quadrangle is attached.
- 4. Raymond Padilla is the land owner. Mr. Padilla' address is 446 CR 3000, Aztec, New Mexico 87410
- 5. A plat map of subject property is attached, including the location of the building the facility is fenced and has no pits.
- 6. A Part 6 Form is attached
- 7. A Part 7 Form is attached
- 8. A Part 8 Form is attached

<u>8.B.1.</u> All storage on-site is inside the building on the concrete floor. Floor drains

are not present in the storage area and work area.

<u>8.B.2.</u> All storage on-site is inside the building on the concrete floor. Floor drains are not present in the storage and in the work area.

<u>8.B.3.</u> This facility is less than 25 years old and there is no underground process piping.

<u>8.C.1.</u> On-site disposal does not occur at this site, with the exception of domestic sewage to a septic system and leach field.

<u>8.C.2.</u> Off-site disposal is allowed through recyclers. Used motor oil (in excess of 4 drums) is pickup by Mesa Petroleum of Albuquerque, New Mexico. Used lead-acid batteries are sent to Intermountain Batteries, located at 534 E. Broadway, Farmington, New Mexico, when new batteries are delivered to the site. Both facilities dispatch their own trucks and personnel to collect material from the Maintenance yard.

Trash is collected weekly by Waste Management of Four Corners, located at 101 Spruce Street, Farmington, New Mexico, for placement at the San Juan County Landfill. A maximum of 4 oil filters per week are permitted for disposal through this method. The approval is attached, which includes both facilities as a combined waste stream.

9. No modifications are anticipated to the outlined operating procedures at this facility.

10. <u>10.A.</u> The facility will be inspected monthly by management for leaks and spillage. A record of each inspection will be kept at the main office. Any reportable quantities of spillage will be reported to OCD.

<u>10.B.</u> Monitor wells are not located at the site.

<u>10.C.</u> Since all waste streams will be indoors in secondary containment, precipitation and run-off containment will not be constructed.

11. <u>11.A.</u> Whereas all material is stored in secondary containment (as a minimum), spillage will be into contained areas. There is not any anticipated threat to surface or groundwater.

Spillage will be collected from its containment and placed into its container, (or equivalent) for continued storage. OCD will not be notified of spills less than reportable quantities.

<u>11.B.</u> All containment is visually inspected from all sides, which makes a leak of quantity easily detectable. Monthly inspections by management and frequent use of the facilities by employees ensure that leaks are repaired with only minor spillage.

<u>11.C.</u> There is not an injection well at this site.

12. <u>12.A.1.</u> The San Juan River is located approximately 3900' south of the site. An unnamed

ephemeral stream (dry wash) is located approximately 1900' west of the site. A dry drainage ditch is located approximately 50' east of the site. All streams in the vicinity flow to the San Juan River.

<u>12.A.2.</u> Water well locations are located on the attached map. All water wells are assumed to be for domestic use. There may be up to 61 wells located within a 1 mile radius of the site. These wells are located according to <u>"Records of Water Wells and Springs prior to 1978"</u> <u>"Records of Water Wells in San Juan County 1978-1983"</u> and <u>"Listing of Points of Diversion for the San Juan Basin in New Mexico, 2/7/92"</u>.

<u>12.A.3.a.</u> Soil types in area typically consists of cobble filled sandy loams ranging to silty to clayey sands. Soils are typically moist, loose, non-cohesive, and have high permeability.

<u>12.A.3.b.</u> The aquifer below site is not named.

<u>12.A.3.c.</u> The aquifer is a typically poorly graded medium sand with varying amounts of cobble and silt.

<u>12.A.3.d.</u> Depth to bedrock is undetermined, however it is anticipated to in excess of 60' below the site.

<u>12.A.4.a.</u> Flooding potential and run-off potential at the site is very minimal.

12.A.4.b. Flood protection measures at the site are not necessary.

<u>12.B.</u> Due to thorough tracking of shop wastes, impact to either groundwater or surface water is not probable.

13. Envirotech Soil Remediation Facility is currently an existing discharge permit, and is not included in this application.

Should you need any clarification of our responses, or have any comments, please contact at (505) 632-0615.

Respectfully submitted, ENVIROTECH, INC.

Going Morris D. Young (

President

DISCHARGE PLAN APPLICATION FO GAS PLANTS. REFINERIES, COMPRESSOR, A	•
(Refer to the OCD Guidelines for assistance in	completing the application)
New Renewal	Modification
1. Type:	
2. Operator:	· · · · · · · · · · · · · · · · · · ·
Address:	
Contact Person:	
3. Location:/4/4 Section Submit large scale topographic map sho	TownshipRange owing exact location.
4. Attach the name, telephone number and address of the landowner o	f the facility site.
5. Attach the description of the facility with a diagram indicating locat	tion of fences, pits, dikes and tanks on the facility.
6. Attach a description of all materials stored or used at the facility.	
7. Attach a description of present sources of effluent and waste solids. must be included.	Average quality and daily volume of waste water
8. Attach a description of current liquid and solid waste collection/trea	tment/disposal procedures.
9. Attach a description of proposed modifications to existing collection	n/treatment/disposal systems.
10. Attach a routine inspection and maintenance plan to ensure permit c	compliance.
11. Attach a contingency plan for reporting and clean-up of spills or rele	eases.
12. Attach geological/hydrological information for the facility. Depth to	o and quality of ground water must be included.
13. Attach a facility closure plan, and other information as is necessary rules, regulations and/or orders.	to demonstrate compliance with any other OCD
14. CERTIFICATION	
I hereby certify that the information submitted with this application and belief.	is true and correct to the best of my knowledge
Name: Tit	ile:
	te:

Oilfield Service Facilities

Part VI. Form (Optional)

<u>Materials Stored or Used at the Facility</u> - For each category of material listed below provide information or the general composition of the material or specific information (including brand names if requested), whether a solid or liquid, type of container, estimated volume stored and location. Submit MSD information for chemicals as requested. Use of this form is optional, but the information requested must be provided.

Name	General Makeup or Specific Brand Name (if requested)	Solids(S) or Liquids(L)?	Type c Contair (tank drum,	ner Est	imated ne Stored	Location (yard, shop, drum storage etc.)
1. Drilling Fluids (include general makeup & types special additives [e.g. oil, chrome, etc.])	None					
2. Brines - (KCl, NaCl, etc.,	.) None					. X
3. Acids/Caustics (Provide names & MSD sheets)	None					
4. Detergents/Soaps	Hand Soap Only		·			
i. Solvents & Degreasers (Provide names & MSD sheets)	None					
. Paraffin Treatment/ Emulsion Breakers (Provide names & MSD sheets)	None					
Biocides (Provide names & MSD sheets)	None					
Others - (Include other liquids & solids, e.g. cement etc.)	Paint & Paint S	Supplies	· ·	ious Containe ss Than 1 Gal.	-	Inside Sho

5726 Hwy 64 Farminton, NM SHOP DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VII. Form (Optional)

<u>Sources and Quantities of Effluent and Waste Solids Generated at the Facility</u> - For each source include type. of effluents (e.g. salt water, hydrocarbons, sewage, etc.), estimated quantities in barrels or gallons per month and types and volumes of major additives (e.g. acids, biocides, detergents, degreasers, etc.). Use of this form is optional, but the information requested must be provided.

Waste Type	General Composition and Source (solvents from small parts cleaning, oil filters from trucks, etc.)	Volume Per Month (bbl or gal)	Major Additives (e.g. degreaser fluids from truck washing, soap in steam cleaners)
 Truck Wastes (Describe types of original contents trucked [e.g. brind produced water, drilling flu oil wastes, etc]) 	, ,		
2. Truck, Tank & Drum Wası	hing N/A		
3. Steam Cleaning of Parts, Equipment, Tanks	N/A		
4. Solvent/Degreaser Use	None		
. Spent Acids, Caustics, or Completion Fluids (Describe)	Lead-Acid	1-2 Batteries	H ₂ SO ₄

Waste Type	General Composition and Source (solvents from small parts cleaning, oil filters from trucks, etc.)	Volume Per Month (bbl or gal)	Major Additives (degreaser fluids fi truck washing, so in steam cleaner
6. Waste Slop Oil _N ,	/ A		
7. Waste Lubrication and Motor Oils	d Used Motor Oil	100 gal. Used as Fuel Excess is Recycled	None
8. Oil Filters	Used Filters	Six	None
9. Solids and Sludges from Tanks (Describe types of materials [e.g. crude oil tank bottoms, sand, etc.])			
10. Painting Wastes	N/A		
1. Sewage (Indicate if othe wastes mixed with sewa if no commingling, dom sewage under jurisdiction of the NMEID)	rge; Domestic Only restic		Hand Soap
2. Other Waste Liquids (Describe in detail)	None		
3. Other Waste Solids (Cement, construction	Occasional Oil Fuel	1-2 gal.	

Leak from Equip. on Soil

materials, used drums)

5726 Hwy. 64 Farmington, NM

DISCHARGE PLAN APPLICATION

SHOP

Oilfield Service Facilities

Part VIII. Form (Optional)

<u>Summary Description of Existing Liquid and Solids Waste Collection and Disposal</u> - For each waste type listed in Part VII, provide summary information about onsite collection and disposal systems. Information on basic construction features, specific descriptions, and wastewater schematics should be provided as required in the Guidelines. The use of this form is optional, but the summary information requested must be provided.

	Tank(T)/ Drum(S)	Floor Drain/(F) Sump(S)	Pits- Lined(L) or Unlined(U)	Onsite Injection Well	Leach Field	Offsite Disposa
. Truck Wastes	N/A			-		
. Truck, Tank and Drum Washing	N/A					,
Stream Cleaning of Parts, Equipment, Tanks	N/A					
Solvent/Degreaser Use	N/A					
Spent Acids, Caustics, or Completion Fluids	Spent Aci Entire ba	d is stored in ttery. No form	original batte al approval ne	ery until re eeded	ecycler pick	ks up
Waste Slop Oil	N/A					

Waste Type	Tank(T)/ Drum(S)	Floor Drain/(F) Sump(S)	Pits- Lined(L) or Unlined(U)	Onsite Injection Well	Leach Field	Offsite Disposa
7. Waste Lubrication and Motor Oils	N/A					
8. Oil Filters	Hot drai used mot	ned into or oil drum		of 1	itted to di 6/month at both locati	landfill
9. Solids and Sludges from Tanks	N/A					
10. Painting Wastes	N/A					I
1. Sewage	Domestic and leac	Sewage, floor (h field.	drain collect	and channel	into septi	c tank
2. Other Waste Liquids	N/A					
3. Other Waste Solids	RCRA Char	ntaminated from racterization an ch's Soil Remedi	nnually. Coll	ected soils	are placed	at

Main Office

Oilfield Service Facilities

Part VI. Form (Optional)

cement etc.)

<u>Materials Stored or Used at the Facility</u> - For each category of material listed below provide information on the general composition of the material or specific information (including brand names if requested), whether a solid or liquid, type of container, estimated volume stored and location. Submit MSD information for chemicals as requested. Use of this form is oprtional, but the information requested must be provided.

Name	General Makeup or Specific Brand Name (if requested)	Solids(S) or Liquids(L)?	Type of Container (tank drum, etc.)	Estimated Volume Stored	Location (yard, shop, drum storage etc.)
1. Drilling Fluids (include general makeup & types special additives [e.g. oil, chrome, etc.])	None				
2. Brines - (KCL, NaCL, etc.)	None				e.
3. Acids/Caustics (Provide names & MSD sheets)	Sulfuric Acid Hydrochloric Ac Nitric Acid	(L) id.(L) (L`	∩ri⊈. P¹as⁺ic Orig. Glass Orig. Glass	3.5 Liters 2.5 Liters 2 5 Liters	Lab ⊺ab Lab
1. Detergents/Soaps	Acetic Acid Sodium Hydroxid Alconox Micro-90 No-Chromix	(L) e (L) (S) (L) (L)	Orig. Glass Orig. Plastic Orig. Containe Orig. Plastic Glass	er 20 1bs.	Lab Lab Lab Lab Lab
i. Solvents & Degreasers (Provide names & MSD sheets)	Freon 113 Methylene Chlor Hexane Isopropanol	(L)	Orig. Glass Orig. Glass Orig. Glass Orig. Glass	2.0 Ľiters 12 Liters 8 Liters 8 Liters	Lab Lab Lab Lab
Paraffin Treatment/ Emulsion Breakers (Provide names & MSD	Methanol n-Propanol Cyclohexane Toluene	(L) (L) (L) (L)	Orig. Glass Orig. Gläss Orig. Glass Orig. Glass	16 Liters 4 Liters 4 Liters 500 ml	Lab Lab Lab Lab
sheets) Biocides (Provide names & MSD sheets)	None None				
Others - (Include other	Lab Waste (S)	& (L)	Drum w/Lid Le	ess Than 100 gal.	Lab & Yard

5796 US Hwy 64, Farmington, NM Main Office

Oilfield Service Facilities

Part VII. Form (Optional)

Sources and Quantities of Effluent and Waste Solids Generated at the Facility - For each source include types of effluents (e.g. salt water, hydrocarbons, sewage, etc.), estimated quantities in barrels or gallons per month, and types and volumes of major additives (e.g. acids, biocides, detergents, degreasers, etc.). Use of this form is optional, but the information requested must be provided.

		General Composition and Source (solvents from small parts cleaning, oil filters from trucks, etc.)	Volume Per Month (bbl or gal)	Major Additives (e.g. degreaser fluids from truck washing, soap in steam cleaners)
	Truck Wastes (Describe types of original contents trucked [e.g. brine, produced water, drilling fluids, oil wastes, etc])	None		. ·
2.	Truck, Tank & Drum Washing	None		
3	Steam Cleaning of Parts, Equipment, Tanks	None		
4. S	Solvent/Degreaser Use	Lab Waste	2-3 Gallons	containing Methylene Chloride, Freon, or Methanol as solvent fo Extraction minor
0	Spent Acids, Caustics, or Completion Fluids Describe)	Lab Waste	Less Than 1/2 G Various Acids u analysis from 1	sed in extraction and

	Waste Type	General Composition and Source (solvents from small parts cleaning, oil filters from trucks, etc.)	Volume Per Month (bbl or gal)	Major Additives (e degreaser fluids fro truck washing, soo in steam cleaners
6.	Waste Slop Oil	None		
7.	Waste Lubrication and Motor Oils	None		
8.	Oil Filters	None		
	Solids and Sludges from Tanks (Describe types of materials [e.g. crude oil tank bottoms, sand, etc.])	None		
1 <i>0</i> .	Painting Wastes	None		
1	Sewage (Indicate if othe wastes mixed with sewag if no commingling, dom sewage under jurisdiction of the NMEID)	ge; Domestic Sewage only to septic sestic	tank and leach field.	
	Other Waste Liquids (Describe in detail)	€ombined solids/liquids make up this section.	lab waste listed in 4	and 5 of

13. Other Waste Solids (Cement, construction materials, used drums) Combined solids/liquids make up lab waste listed in 4 and 5 of this section.

5796 Hwy.

Farmington, NM Main Office DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VIII. Form (Optional)

<u>Summary Description of Existing Liquid and Solids Waste Collection and Disposal</u> - For each waste type listed in Part VII, provide summary information about onsite collection and disposal systems. Information on basic construction features, specific descriptions, and wastewater schematics should be provided as required in the Guidelines. The use of this form is optional, but the summary information requested must be provided.

Waste Type	Tank(T)/ Drum(S)	Floor Drain/(F) Sump(S)	Pits- Lined(L) or Unlined(U)	Onsite Injection Well	Leach Field	Offsite Disposal
1. Truck Wastes	None					
2. Truck, Tank and Dru Washing	um _{None}					
3. Stream Cleaning of P Equipment, Tanks	Parts, None					
4. Solvent/Degreaser Use	e Đrums co	llected at point	t of use.	No	No	Hazardous Wa Facility
5. Spent Acids, Caustics, or Completion Fluids		llected at point	of use	No		zardous Wast cility

None

6. Waste Slop Oil

Wa	oste Type	Tank(T)/ Drum(S)	Floor Drain/(F) Sump(S)	Pits- Lined(L) or Unlined(U		Leach Field	Offsite Disposa
	Vaste Lubrication and Iotor Oils	None					
8. O	il Filters	None at	this site				
	olids and Sludges om Tanks	None					
10. PC	ainting Wastes	None					
11. Se	ewage	Sep⁺ic ኘ	'ank/Leach Field	(F) N/A	. –	Yes	No
12. OI	ther Waste Liquids						
13. Ot	her Waste Solids	Combined 4 and 5	solids and liqu of this section	uida make u	p lab waste l	isted in qu	estion



NORTHWEST CORNER NE 1/4 NW 1/4 SEC. 27 TZ9N R12W NMPM



PROPERTY SURVEY FOR ENVIROTECH INC. E 1/2 NW 1/4 SEC. 27 T29N R12W NMPM SAN JUAN COUNTY, NEW MEXICO

That part of the East One→Half at the Northwest Quarter (E1/2 NW1/4) of Section 27, in T29N R12W, N.M.P.M., described as follows:

BEGINNING East 702.65 feet and South 925.13 feet from the Northwest Corner of the NE1/4 NW1/4 of soid Section 27, being a point on the East line of a tract of land conveyed to Myron Sanchez, et ux by warranty deed recorded in Book 826, Page 531 of the Records of San Juan County, New Mexico:

THENCE: S00'04'E for a distance of 154.48 feet, along the East line of soid Sanchez tract to a point on the Northeasterly line of a tract of land conveyed to Joe D Gherardine by warranty deed recorded in Book 754, Page 593 of the Records of San Juan County, New Mexico; THENCE:

S75 27'E for a distance of 19.82 feet, to the northeasterly Corner of said Gherordine tract:

THENCE: S00'01'E for a distance of 196.20 feet, along the eat line of said Gherardine tract to a point on the northerly right-of-way line of Highway 64; THENCE: S78'04'E for a distance of 330.08 feet, along the northerly right-of-way of

Highway 64: N00'35'E for a distance of 420,40 feet; THENCE:

THENCE: N89'25'W for a distance of 346.67 feet to the point of beginning

> I, GEORGE I, WALTERS , A REGISTERED PROFESSIONAL SURVEYOF UNDER THE LAWS OF THE STATE IN WHICH THIS SURVEY WAS PERFORMED, HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY MEETING THE MINIMUM REDUREMENTS OF THE STANDARDS FOR LATD SURVEYS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEVE AND FUNCTION THE STANDARD CORRECT TO THE BEST OF MY KNOWLEVE BELIEF, AND THAT NO ENCROACHMENTS EXIST EXCEPT AS NOTED ABOVE, AND THAT ALL IMPROVEMENTS ARE SHOWN IN THEIR CORRECT LOCATION RELATIVE RECORD BOUNDARIES AS LOCATED BY THIS SURVEY.

	ATE GEORGE T. V PROFESSION 22-92 STATE OF NI E	AL SURVEYOR # 5159
MOPIGAGE PLATE NO	PROPERTY SURVEY? YES	MONUMENTS SETT YES
DFAVN BY: GTV	PAPTY CHIEF GRT	AFPPOVED GTV

DEAVN B 56-53-6 (3Ted

BASIS OF BEARING WEST PL

BREWER ASSOCIATES, INC. 909 W. APACHE. FARMINGTON, N.M.

CHENEY

SCALE IN FEET

100

:50

DATE OF FIELD SUPVEY 9-21-92 DEED: GUARDIAN PROJECT NO. 92533 FILE: 92533

Edgar L. Risenhoover Registered Land Surveyor New Mexico • Celotado • Arizona Route 2, Box 105 + 665 County Road 1191 Farmington, New Mexico 87401 Phone (505) 325-3904

Ъ., .

PRAX TRUJILLO

Lot 5 of Section 20 in T-29-N, R-12-W, N.M.P.M., San Juan County, New Mexico, same being situated in the NW4NE4 of said Section 20, containing 3.03 acres, more or less, and subject to all right-of-ways, easements, restrictions and reservations of record or in existance.



	VVaste Management of Four (101 Spreas Street Formington, NM 37401 505/327-6284	Comers		CE AGREEMENT ZARDOUS WASTES
	CUSTOMER INFORMATION		BILLING STATUS	NEW ACCOUNT
	5796 US th			RATE INCREASE = RATE DECREASE = CANCEL = OTHER
	SPECIFICATIONS SERV	VICE START/DELIVERY DATE:	SECUI	
	DESCRIPTION/COMMENTS	OWNERSHIP C C S A Y O U H T E T T E	SPECIAL WASTE PROFILE PROFILE NUMBER EXPIRES	
ADORESS	Y BINDING CONTRACT, AND CONTRACTOR AG EQUENCY INDICATED ON THIS AGREEMENT SU	GREES TO PROVIDE AND CUSTOME UBJECT TO THE TERMS AND COND	R AGREES TO ACCEPT THE SER INTIONS SPECIFIED ON THE REVE PHONE CONTACT MASTER ACCOU	RSE SIDE.
STREET NUMBER	DIR STREET NAME	ZIP/POSTAL CODE	MAJOR ACCOUN PURCHASE ORD	
	DESCRIPTION	xwk P/u	Т Е Т 4 Р 4 Г 4 Г 7 Г 7 Г 7 Г 7 Г 7 Г 7 Г 7 Г 7	
DENTAL SPEC	AL WASTE TYPES AND AMOUNTS:	MStruchin Special ACHED CONTRACTOR'S DEFINITION REPRESENTATIVE'S S	OILLITTERS 3-	of THIS AGREEMENT.

DATE: 02/06/93 ACCT: 146969-01 PAGE: 1 INDEX: 45930368051 CAT NO: A4141 PD NBR: N/A	PAGE: 2 DATE: 02/06/93 ACCT: 146965-01 INDEX: 45930368051 CAT NO: A4141 PO NBR: N/A
1-PROPANOL **1-PROPANOL**	VAPOR-AIR MIXTURES ARE EXPLOSIVE ABOVE FLASH POINT.
I-PROPANOL	FLASH POINT: 74 F (23 C) (CC) UPPER EXPLDSIVE LIMIT: 13.7%
MATERIAL SAFETY DATA SHEET	LOWER EXPLOSIVE LIMIT: 2.2% AUTOIGNITION TEMP .: 775 F (412 C)
SHER SCIENTIFIC EMERGENCY NUMBER: (201) 798-7100	FLAMMABILITY CLASS(OSHA): 18
IEMICAL DIVISION CHEMITREC ASSISTANCE: (800) 424-9300 REAGENT LANE IR LAWN NJ 07410 01) 796-7100	FIREFIGHTING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL-RESISTANT FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).
	FOR LARGER FIRES, USE WATER SPRAY, FOG OR ALCOHOL-RESISTANT FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).
IIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST FORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF ERCHANTABILITY OF ANY OTHER WARRANTY. EXPRESS OR IMPLIED, WITH RESPECT TO ICH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS HOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE FORMATION FOR THEIR PARTICULAR PURPOSES.	ALCOHOL FOAM (NFPA 325M, FIRE HAZARD PROPERTIES OF FLAMMABLE LIQUIDS, GASES, AND VOLATILE SOLIOS, 1991).
	FIREFIGHTING: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRI IS OUT. STAY AWAY FROM ENDS OF TANKS. FOR MASSIVE FIRE IN CARGO AREA, USE UNMANNED HOSE HOLDER OR MONITOR NOZLES: IF THIS IS IMPOSSIBLE, WITHDRAW FRO AREA AND LET FIRE BURN. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE. ISOLATE FOR 1/2 MILE IN ALL DIRECTIONS IF TANK, RAIL CAR OR TANK, TRUCK IS INVOLVED IN FIRE (1990 EMERGENOUS GENDES CUIDER FOR DUE DE ROM DUE DE REPORE 2010)
SUBSTANCE IDENTIFICATION CAS-NUMBER 71-23-8	IS OUT. STAY AWAY FROM ENDS OF TANKS. FOR MASSIVE FIRE IN CARGO AREA, USE
JBSTANCE: **1-PROPANOL**	AREA AND LET FIRE BURN, WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM
ADE NAMES/SYNONYMS: N-PROPYL ALCOHOL: ETHYL CARBINOL: PROPYL ALCOHOL: PROPANOL: N-PROPANOL:	1/2 MILE IN ALL DIRECTIONS IF TANK, RAIL CAR OR TANK TRUCK IS INVOLVED IN FIRE (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 26).
Ч-РКОРУL ALCOHOL; ETHYL CARBINOL; PROPYL ALCOHOL; PROPANOL; N-PROPANOL; - НУDROXYPROPANE; OPTAL; OSMOSOL EXTRA; PROPANOL-1; PROPYLIC ALCOHOL; - PROPYL ALCOHOL; STCC 4909287; UN 1274; A-414; A-414-5; ВР1130; ACC19780	
IEMICAL FAMILY:	EXTINGUISH ONLY IF FLOW CAN BE STOPPED; USE FLOODING AMOUNTS OF WATER AS A FOG, SOLID STREAMS MAY BE INEFFECTIVE. COOL CONTAINERS WITH FLOODING AMOUNTS OF WATER. APPLY FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING VAPORS, KEEP UPWIND.
DLECULAR FORMULA: C3-H8-O	WATER MAY BE INEFFECTIVE (NFPA 325M, FIRE HAZARD PROPERTIES OF FLAMMABLE LIQUIDS, GASES. AND VOLATILE SOLIDS. 1991)
DLECULAR WEIGHT: 60.13 PCLA PATINCS (SCALE 0-2): HEALTH-2 EIRE-2 REACTIVITY-0 REPRISTENCE-0	TRANSPORTATION DATA
RCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=3 REACTIVITY=0 PERSISTENCE=0 PA RATINGS (SCALE 0-4): HEALTH=1 FIRE=3 REACTIVITY=0	DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49-CFR 172.101:
COMPONENTS AND CONTAMINANTS	FLAMMABLE LIQUIO
MPONENT: 1-PROPANOL PERCENT: 100 CAS# 71-23-8	DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49-CFR 172.101 AND SUBPART E:
HER CONTAMINANTS: NONE	FLAMMABLE LIQUID DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49-CFR 173.125
POSURE LIMITS: PROPYL ALCOHOL:	EXCEPTIONS: 49-CFR 173.118
200 PPM (492 MG/M3) OSHA TWA; 250 PPM (814 MG/M3) OSHA STEL 200 PPM (492 MG/M3) ACGIH TWA (SKIN); 250 PPM (814 MG/M3) ACGIH STEL 200 PPM (492 MG/M3) NIOSH RECOMMENDED TWA (SKIN); 250 PPM (814 MG/M3) NIOSH RECOMMENDED STEL	FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90)
MEASUREMENT METHOD: CHARCOAL TUBE; 2-PROPANOL/CARBON DISULFIDE; GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION; (NIOSH VOL. III # 1401, ALCOHOLS II).	EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 09/18/91)
OSHA LIMITS ADOPTED JANUARY 19, 1989 ARE SUBJECT TO THE DECISION OF THE 11TH CIRCUIT COURT OF APPEALS (AFL-CIO V. OSHA) AS OF JULY 7, 1992.**	U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: N-PROPANOL-UN 1274
PHYSICAL DATA	U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 3 - FLAMMABLE LIQUID
ESCRIPTION: COLORLESS, LIQUID, WITH A MILD ALCOHOLIC-LIKE AND SLIGHTLY	U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG II
TUPEFYING ODOR. BOILING POINT: 207 F (97 C)	U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101
ELTING POINT: -195 F (-126 C) SPECIFIC GRAVITY: 0.8053 @ 20 C APOR PRESSURE: 15 MMHG @ 20 C EVAPORATION RATE: (BUTYL ACETATE=1) 1.3	AND SUBPART E: FLAMMABLE LIQUID
QLUBILITY IN WATER: SOLUBLE ODOR THRESHOLD: 30 PPM VAPOR DENSITY: 2.1	U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: EXCEPTIONS: 49 CFR 173-150
OLVENT SOLUBILITY: SOLUBLE IN ETHANOL, ETHYL ETHER, ACETONE, BENZENE	EXCEPTIONS: 49 CFR 173.150 NON-BULK PACKAGING: 49 CFR 173.202 BULK PACKAGING: 49 CFR 173.242
ISCOSITY: 2.256 CP AT 20 C	U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 5 L CARGO AIRCRAFT ONLY: 60 L
IRE AND EXPLOSION HAZARD: ANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.	TOXICITY
IODERATE EXPLOSION HAZARD WHEN EXPOSEO TO HEAT OR FLAME. IAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE	N-PROPYL ALCOHOL (1-PROPANOL): IRRITATION DATA: 500 MG OPEN SKIN-RABBIT MILD; 20. MG/24 HOURS SKIN-RABBIT MODERATE: 4 MG OPEN EYE-RABBIT SEVERE; 20 MG/24 HOURS EYE-RABBIT MODERATE: TYPE AND A STORE AND A TONE MOUSE LOSS SAID MG/26 HOURS
FIGNITION AND FLASH BACK.	TOXICITY DATA: 48 GM/M3 INHALATION-MOUSE LC50; 5040 MG/KG SKIN-RABBIT LD50; 5700 MG/KG ORAL-WOMAN LDLO; 1870 MG/KG ORAL-RAT LD50; 6800 MG/KG

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ORAL-MOUSE LD50; 3500 MG/KG ORAL-RABBIT LDLO; 3 GM/KG ORAL-DOG LDLO; 4 GM/KG SUBCUTANEOUS-DOG LDLO; 3 GM/KG SUBCUTANEOUS-RABBIT LDLO; 4700 MG/KG SUBCUTANEOUS-MOUSE LD50; 5 MG/KG SUBCUTANEOUS-ABBIT LDLO; 590 MG/KG INTRAVENOUS-RABT LD50; 607 MG/KG INTRAVENOUS-CAT LDLO; 2164 MG/KG INTRAVENOUS-RABBIT LD50; 4028 MG/KG INTRAVENOUS-CAT LDLO; 2164 MG/KG INTRAPERITONEAL-RAT LD50; 3125 MG/KG INTRAPERITONEAL-MOUSE LD50; 515 MG/KG INTRAPERITONEAL-RABT LD50; 1028 MG/KG INTRAPERITONEAL-GUINEA PIG LD50; 2338 MG/KG INTRAPERITONEAL-HAMSTER LD50; 4500 MG/KG UNREPORTED-RABBIT LDLO: MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS); TUMORIGENIC DATA (RTECS). CARCINOGEN STATUS: NONE. LOCAL EFFECTS: IRRITANT INHALATION, SKIN, EYE.	DELAYED. GIVE ACTIVATED CHARCOAL. IF RESPIRATION IS DEPRESSED, DO NOT ATTEMPT EMESIS; GIVE OXYGEN BY ARTIFICIAL RESPIRATION. MAINTAIN BLOOD PRESSURE. (DREISBACH, HANDBOOK OF POISONING, 11TH ED.)LAVAGE MUST BE ADMINISTERED BY QUALIFIED MEDICAL PERSONNEL.
IN HAVENUUS-FALEBIT LUSU: 4008 MC/KG INTRAVENUUS-LAT LULU: 204 MC/KG INTRAFERITONEAL-RAT LUSU: 3125 MG/KG INTRAPERITONEAL-MOUSE LUSU: 515 MG/KG INTRAPERITONEAL-RABBIT LUSU: 1208 MG/KG INTRAPERITONEAL-GUINEA PIG LUSU: 2338 MG/KG INTRAPERITONEAL-HAMSTER LUSO; 4500 MG/KG	ANTIDOTE: NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.
UNREPORTED-RABBIT LDLO: MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS); TUMORIGENIC DATA (RTECS). CARCINOGEN STATUS: NONE.	REACTIVITY
ACUTE TOXICITY LEVEL: MODERATELY TOXIC BY INHALATION, INGESTION; SLIGHTLY TOXIC BY DERMAL ABSORPTION.	REACTIVITY: STABLE UNDER NORMAL TEMPERATURES AND PRESSURES
CARCINDGEN STATUS: NONE. LOCAL EFFECTS: IRRITANT- INHALATION, SKIN, EYE. ACUTE TOXICITY LEVEL: MODERATELY TOXIC BY INHALATION, INGESTION; SLIGHTLY TOXIC BY DERMAL ABSORPTION. TARGET EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSANT. AT INCREASED RISK FROM EXPOSUBE: PERSONS WITH PRE-EXISTING SKIN DISORDERS; IMPAIRED LIVER, RENAL AND/OR PULMONARY FUNCTION. ADDITIONAL DATA: ALCOHOL MAY ENHANCE THE TOXIC EFFECTS.	INCOMPATIBILITIES: N-PROPYL ALCOHOL (1-PROPANOL): ALKALI AND ALKALINE EARTH METALS: REACTS VIOLENTLY, GENERATING HIGHLY FLAMMABLE HYDROGEN GAS. COATINGS: ATTACKED. QXIDIZERS (<u>STRONG)</u> : POSSIBLE FIRE AND EXPLOSION.
HEALTH EFFECTS AND FIRST AID INHALATION: N-PROPYL ALCOHOL (1-PROPANOL);	OXIDIZERS (STRONG): POSSIBLE FIRE AND EXPLOSION. PLASTICS: ATTACKED. POTASSIUM TERT-BUTOXIDE: VIOLENT IGNITION MAY OCCUR. RUBBER: ATTACKED. SEE ALSO ALCOHOLS.
IRRITANT/NARCOTIC. 4000 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSURE- INHALATION OF VAPORS MAY CAUSE MODERATE IRRITATION OF THE UPPER RESPIRATORY TRACT WITH COUGHING AND SHORTNESS OF BREATH EXPOSURE TO	DECOMPOSITION: THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON.
INHALATION: N-PROPYL ALCOHOL (1-PROPANOL): IRRITANT/MARCOTIC. 4000 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSURE- INHALATION OF VAPORS MAY CAUSE MODERATE IRRITATION OF THE UPPER RESPIRATORY TRACT WITH COUGHING AND SHORTNESS OF BREATH. EXPOSURE TO HIGH CONCENTRATIONS MAY CAUSE MILD CENTRAL NERVOUS SYSTEM DEPRESSION WITH DIZZINESS, DROWSINESS, ATAXIA, INCOORDINATION, HEADACHE, STUPOR AND PERSISTENT NAUSEA AND VOMITING, AREFLEXIA, HEMATEMESIS, OLIGURIA FOLLOWED BY DIURESIS, LIVER DAMAGE, DEPRESSED RESPIRATION, PROSTRATION AND UNCONSCIOUSNESS MAY OCCUR. DEATH MAY OCCUR DUE TO RESPIRATORY FAILURE. MICE EXPOSED TO VAPOR AT 3250 PPM FOR 90-120 MINUTES DEVELOPED ATAXIA; DEEP NARCOSIS OCCURRED AFTER 240 MINUTES AT 4100 PPM AND AFTER 60 MINUTES AT 24,500, PPM.	POLYMERIZATION: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.
MICE EXPOSED TO VAPOR AT 3250 PPM FOR 90-120 MINUTES DEVELOPED ATAXIA; DEEP NARCOSIS OCCURRED AFTER 240 MINUTES AT 4100 PPM AND AFTER 60 MINUTES AT 24.500 PPM.	STORAGE AND DISPOSAL
CHRONIC EXPOSURE- REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS.	OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.
FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY.	**STORAGE**
SKIN CONTACT: N-PROPYL ALCOHOL (1-PROPANOL): IRRITANT.	STORE IN ACCORDANCE WITH 29 CFR 1910.108. BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY, WHICH MAY BE IGNITED BY ELECTROSTATIC SPARKS, SHOULD BE STORED IN CONTAINERS
ACUTE EXPOSURE- CONTACT MAY CAUSE IRRITATION WITH REDNESS. ANIMAL STUDIES INDICATE SKIN ABSORPTION MAY OCCUR. CHRONIC EXPOSURE- REPEATED OR PROLONGED EXPOSURE MAY CAUSE DEFATTING OF THE SKIN RESULTING IN DRYING, CRACKING, DERMATITIS AND POSSIBLY CORROSION. IN RESULTING IN DRYING, CRACKING, DERMATITIS AND POSSIBLY CORROSION.	MAY BE IGNITED BY ELECTROSTATIC SPARKS, SHOULD BE STORED IN CONTAINERS WHICH MEET THE BONDING AND GROUNDING GUIDELINES SPECIFIED IN NFPA 77-1983, RECOMMENDED PRACTICE ON STATIC ELECTRICITY. STORE AWAY FROM INCOMPATIBLE SUBSTANCES.
SKIN RESULTING IN DRVING, CRACKING, DERMATIS AND POSSIBLY CORROSION IT IS POSSIBLE THAT PERSONS SENSITIVE TO ISOPROPLI ALCOHOL MAY HAVE A CROSS-REACTION WITH N-PROPLI ALCOHOL. APPLICATION OF 38 ML/KG PER DAY TO RABBIT SKIN FOR 30 DAYS OVER A PERIOD OF 8 WEEKS RESULTED IN DEATH OF ONE THIRD OF THE TEST ANIMALS.	**DISPOSAL**
FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY, WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.	DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 282. EPA HAZARDOUS WASTE NUMBER D001. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY.
EYE CONTACT: N-PROPYL ALCOHOL (1-PROPANOL):	**************************************
ACUTE EXPOSURE - VAPORS MAY CAUSE TRANSIENT EYE IRRITATION WITH REDNESS AND PAIN. INSTILLATION OF 0.1 ML OF 1-PROPYL ALCOHOL INTO THE CONJUNCTIVAL SAC OF RABBITS PRODUCED MARKED TO SEVERE CONJUNCTIVITIS, IRITIS, CORNEAL OPACITIES AND ULCERATIONS, DELAYED EFFECTS OF PANNUS FORMATION AND	AVOID CONTACT WITH HEAT, SPARKS, FLAMES, OR OTHER SOURCES OF IGNITION, VAPORS MAY BE EXPLOSIVE AND POISONOUS; DO NOT ALLOW UNNECESSARY PERSONNEL IN AREA. DO NOT OVERHEAT CONTAINERS; CONTAINERS MAY VIOLENTLY RUPTURE AND TRAVEL A CONSIDERABLE DISTANCE IN HEAT OF FIRE.
CHRONIC EXPOSURE- REPEATED OR PROLONGED EXPOSURE MAY CAUSE CONJUNCTIVITIS.	**************************************
FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.	OCCUPATIONAL SPILL: SHUT OFF IGNITION SOURCES. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ADSORDED AN ADDR DI ACE INTO CONTAINERS FOR JATER DISONAL FOR LARGER
INGESTION: N-PROPYL ALCOHOL (1-PROPANOL): NARCOTIC.	ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING; FLAMES OR FLARES IN HAZARD AREA. KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND DENY ENTRY.
ACUTE EXPOSURE- INGESTION MAY CAUSE GASTROINTESTINAL PAIN, PERSISTENT NAUSEA AND VOMITING, HEMATEMESIS, CRAMPS, DIARRHEA AND DECREASED BLOOD PRESSURE. CENTRAL NERVOUS SYSTEM DEPRESSION MAY OCCUR WITH DROWSINESS, STUPOR, INCOORDINATION, ATAXIA, HEADACHE, DIZZINESS, AREFLEXIA, DEPRESSED RESPIRATION, PROSTRATION AND UNCONSCIOUSNESS.	PROTECTIVE EQUIPMENT
OLIGURIA FOLLOWED BY DIURESIS AND LIVER DAMAGE MAY ALSO OCCUR. ASPIRATION PNEUMONIA IS ALSO A RISK. A HUMAN DEATH HAS BEEN REPORTED AFTER INGESTION OF 400 TO 500 ML. THE PATHOLOGICAL FINDINGS INCLUDED BRAIN AND LUNG	VENTILATION: PROVIDE LOCAL EXHAUST OR GENERAL DILUTION VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS. VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF.
EDEMA. CHRONIC EXPOSURE- PROLONGED TREATMENT OF RATS HAS BEEN REPORTED TO CAUSE SEVERE LIVER INJURY, HYPERPLASIA OF HEMATOPOIETIC TISSUE, MALIGNANT LIVER TUMORS AND LEUKEMIA.	RESPIRATOR: THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR 20 CER JULO SUBJECT
FIRST AID- GASTRIC LAVAGE WITH A PROTECTED AIRWAY MAY BE USEFUL EVEN IF	LABOR, 29 CFR 1910 SUBPART 2. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND
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PAGE: 5 DATE: 02/06/93 AECT: 146965-01 INDEX: 45930368051 CAT NO: A4141 PO NBR: N/A	
IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).	
N-PROPYL ALCOHOL:	
1000 PPM- ANY POWERED AIR-PURIFYING RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE(S). ANY CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE(S).	
2000 PPM- ANY SUPPLIED-AIR RESPIRATOR. ANY SELF-CONTAINED BREATHING APPARATUS.	
4000 PPM- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS FLOW MODE. ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE. ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE OR FRONT- OR BACK-MOUNTED ORGANIC VAPOR CANISTER. ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE.	
ESCAPE- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE OR FRONT- OR BACK-MOUNTED ORGANIC VAPOR CANISTER. ANY APPROPRIATE ESCAPE-TYPE SELF-CONTAINED BREATHING APPARATUS.	
FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:	
ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
CLOTHING: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH THIS SUBSTANCE.	
GLOVES: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.	
EYE PROTECTION: EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE.	
EMERGENCY WASH FACILITIES: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE. THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.	
AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 12/06/84 REVISION DATE: 12/30/92	
-ADDITIONAL INFORMATION- THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.	
DATE: 07/01/92 ACCT: 146955-01 INDEX: 02921820210 CAT NO: H3031 P0 NBR: 921D19 **N-HEXANE** **N-HEXANE** **N-HEXANE**	PAGE: 2 DATE: 07/01/92 ACCT: 146955-D1 PAGE: 2 INDEX: 02921820210 CAT NO: H3031 PO NBR: 921D19 FLASH POINT: -7 F (-22 C) (CC) UPPER EXPLOSIVE LIMIT: 7.5% LOWER EXPLOSIVE LIMIT: 1.1% AUTOIGNITION TEMP.: 437 F (225 C)
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MATERIAL SAFETY DATA SHEET	FLAMMABILITY CLASS(OSHA): IB
FISHER SCIENTIFIC EMERGENCY NUMBER: (201) 796-7100 CHEMICAL DIVISION CHEMTREC ASSISTANCE: (800) 424-9300 1 REAGENT LANE	FIREFIGHTING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).
FAIR LAWN NJ 07410 (201) 796-7100	FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM (1990 Emergency response guidebook, dot p 5800.5).
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SUBSTANCE IDENTIFICATION	(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 27).
CAS-NUMBER 110-54-3 SUBSTANCE: **N-HEXANE** TRADE NAMES/SYNONYMS: HEXANE; NCI-CGOS71; HEXYLHYDRIDE; NORMAL HEXANE; SKELLYSOLVE B;	EXTINGUISH ONLY IF FLOW CAN BE STOPPED; USE WATER IN FLOODING AMOUNTS AS FOG. SOLID STREAMS MAY NOT BE EFFECTIVE. COOL CONTAINERS WITH FLOODING QUANTITIES OF WATER. APPLY FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING TOXIC VAPORS; KEEP UPWIND. EVACUATE TO A RADIUS OF 1500 FEET FOR UNCONTROLLABLE FIRES. CONSIDER EVACUATION OF DOWNWIND AREA IF MATERIAL IS LEAKING.
STCC 4908183; UN 1208; H301; C6H14; ACC10950 CHEMICAL FAMILY:	WATER MAY BE INEFFECTIVE (NFPA 325M, FIRE HAZARD PROPERTIES OF FLAMMABLE LIQUIDS, GASES, AND VOLATILE SOLIDS, 1991)
HYDROCARBON, ALIPHATIC Molecular Formula: C-H3-(C-H2)4-C-H3	TRANSPORTATION DATA
MOLECULAR WEIGHT: 86.18	DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101:
CERCLA RATINGS (SCALE O-3): HEALTH=3 FIRE=3 REACTIVITY=0 PERSISTENCE=1 NFPA RATINGS (SCALE O-4): HEALTH=1 FIRE=3 REACTIVITY=0 COMPONENTS AND CONTAMINANTS	FLAMMABLE LIQUID DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND SUBPART E: FLAMMABLE LIQUID
COMPONENT: N-HEXANE PERCENT: 100.0	DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49 CFR 173.119 EXCEPTIONS: 49 CFR 173.118
OTHER CONTAMINANTS; NONE. Exposure limits; N-Hexane:	FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90)
50 PPM (180 MG/M3) OSHA TWA 50 PPM (180 MG/M3) ACGIH TWA 50 PPM (180 MG/M3) NIOSH RECOMMENDED TWA 50 PPM (180 MG/M3) DFG MAK TWA; 100 PPM (360 MG/M3) DFG MAK 30 MINUTE PEAK, AVERAGE VALUE, 4 TIMES/SHIFT	EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 10/18/91)
MEASUREMENT METHOD: CHARCOAL TUBE; CARBON DISULFIDE; GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION; (NIOSH VOL. III # 1500, HYDROCARBONS).	U.S. DEPARTHENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: HEXANES-UN 1208
	U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 3 ~ FLAMMABLE LIQUID
PHYSICAL DATA DESCRIPTION: CLEAR, COLORLESS MOBILE LIQUID WITH A MILD GASOLINE-LIKE ODOR.	U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG II
BOILING POINT: 156 F (69 C) MELTING POINT: -139 F (~95 C) Specific gravity: 0.6603 Viscosity: .32 CPS @ 25 C Volatility: 100%	U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: Flammable Liquid
VAPOR PRESSURE: 124 MMHG @ 20 C EVAPORATION RATE: (BUTYL ACETATE=1) 15.8 PH: NEUTRAL Studies In Water: 0.014% @ 20 C	U.S. DEPARIMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS; EXCEPTIONS: 49 CFR 173.150 Non-Bulk Packaging: 49 CFR 173.202 Bulk Packaging: 49 CFR 173.242
000R THRESHOLD: 54-244 PPM VAPOR DENSITY: 3.0 Solvent Solubility: Soluble in Alcohol, Chloroform, Ether, Acetone, And Other organic Solvents.	U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 5 L CARGO AIRCRAFT ONLY: 60 L
FIRE AND EXPLOSION DATA	TOXICITY
FIRE AND EXPLOSION HAZARD: DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. VAPOR-AIR MIXTURES ARE EXPLOSIVE.	N-HEXANE: IRRITATION DATA: 10 MG EYE-RABBIT MILD. TOXICITY DATA: 190 PPM/8 WEEKS INHALATION-HUMAN TCLO; 120 GM/M3 INHALATION-MOUSE LCLO; 28,710 MG/KG ORAL-RAT LDSO; 831 MG/KG INTRAVENOUS-MOUSE LDLO; 132 MG/KG INTRAVENOUS-RABBIT LDLO; 9100 MG/KG INTRAPERITONEAL-RAT LDLO; MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS).
DUE TO LOW ELECTROCONDUCTIVITY OF THE SUBSTANCE, FLOW OR AGITATION MAY GENERATE ELECTROSTATIC CHARGES RESULTING IN SPARKS WITH POSSIBLE IGNITION.	CARCINOGEN STATUS; NONE. Local Effects: Irritant- skin, eye. Acute toxicity level: Relatively Non-toxic by Ingestion. Target Effects: Central Nervous System Depressant; Neurotoxin.

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AT INCREASED RISK FROM EXPOSURE: PERSONS WITH SKIN, PULMONARY, LIVER, OR KIDNEY DISORDERS.	
ADDITIONAL DATA: ALCOHOL MAY ENHANCE THE TOXIC EFFECT, A LOW ORDER OF MYOCARDIAL SENSITIZATION TO EPINEPHRINE MAY OCCUR. ACETONE AND METHYL ETHYL KETONE MAY ENHANCE THE TOXIC EFFECTS.	REACTIVITY REACTIVITY: STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.
HEALTH EFFECTS AND FIRST AID	INCOMPATIBILITIES:
INHALATION:	N-HEXANE: CALCIUM HYPOCHLORITE: FIRE AND EXPLOSION HAZARD.
N-HEXANE: Irritant/narcotic/neurotoxin. 5000 ppm_immediately dangerous to life or health.	CHLORINE (LIQUID): FIRE AND EXPLOSION HAZARD. DINITROGEN TETRAOXIDE: POSSIBLE EXPLOSION HAZARD. OXIDIZERS (STRONG): FIRE AND EXPLOSION HAZARD.
ACUTE EXPOSURE- 880 PPM FOR 15 MINUTES HAS CAUSED UPPER RESPIRATORY TRACT	PLASTICS, RUBBER AND CONTINCE, MAY DE ATTOCKER
DIZZINESS. OTHER EFFECTS MAY INCLUDE GIDDINESS, COUGHING, NUMBNESS IN THE EXTREMITIES, DIFFICULTY WALKING, DEFECTS OF MEMORY, EXCITEMENT FOLLOWED	SODIUM HÝPOCHLORITE: FIRE AND EXPLOSION HAZARD. DECOMPOSITION:
BY DEPRESSION, AND UNCONSCIOUSNESS. ANESTHESIA OF SHORT DURATION WITHOUT SEQUELA IS POSSIBLE. PULMONARY EDEMA, CARDIAC ARRHYTHMIAS, BRAIN	THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON.
ACUTE EXPOSURE- 880 PPM FOR 15 MINUTES HAS CAUSED UPPER RESPIRATORY TRACT IRRITATION. EXPOSURE TO 1000-5000 PPM MAY PRODUCE HEADACHE, NAUSEA, AND DIZZINESS. OTHER EFFECTS MAY INCLUDE GIDDINESS, COUGHING, NUMBNESS IN THE EXTREMITIES, DIFFICULTY WALKING, DEFECTS OF MEMORY, EXCITEMENT FOLLOWED BY DEPRESSION, AND UNCONSCIOUSNESS. ANESTHESIA OF SHORT DURATION WITHOUT SEQUELA IS POSSIBLE. PULMONARY DEDMA, CARDIAC ARRHYTHMIAS, BRAIN DAMAGE, CARDIAC ARREST AND DEATH MAY RESULT. HIGH CONCENTRATIONS MAY PRODUCE ASPHYXIA. CONVULSIONS HAVE BEEN PRODUCED IN ANIMALS. CHRONIC EXPOSURE- RESULTS IN AXONAL NEUROPATHY. NEUROPATHY IS OF AN INSIDIOUS BILATERAL, SYMMETRICAL, SENSORIMOTOR, PERIPHERAL NATURE, 10D PPM DAILY MAY PRODUCE CHANGES IN MUSCLE STRENGTH. PROLONGED EXPOSURE MAY CAUSE EFFECTS AS IN ACUTE EXPOSURE AS WELLS AS MEMORY LOSS, PROGRESSIVE WEAKNESS, ACHING MUSCLES, SENSORY LOSS IN FEET AND HANDS, CALF CRAMPS, FACIAL NUMBMESS, IMPOTENCE, BLURRED VISION, COLOR VISION ABNORMALITIES, AND PARALYSIS OF MUSCLES USUALLY OF LOWER LIMBS. EXAMINATION REVEALS HYPOACTIVE DEEP KNEE REFLEXES, BILATERAL FOOTDROP, REDUCTION IN NERVE AND SENSITIVE CONDUCTION YELOCITIES, MODIFICATION OF DISTAL LATENCY, DIMINISHING OF SENSORY POTENTIAL, AND NEUROPATHY OF SKELETAL	POLYMERIZATION: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.
DAILY MAY PRODUCE CHANGES IN MUSCLE STRENGTH, PROLONGED EXPOSURE MAY CAUSE EFFECTS AS IN ACUTE EXPOSURE AS WELL AS MEMORY LOSS, PROGRESSIVE WEAKNESS, ACHING MUSCLES, SENSORY LOSS IN FEET AND LANDS CALL COMPONE	STORAGE AND DISPOSAL
FACIAL NUMBNESS, IMPOTENCE, BLURRED VISION, COLOR VISION ABNORMALITIES, AND PARALYSIS OF MUSCLES USUALLY OF LOWER LIMBS. EXAMINATION REVEALS	OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.
ANDOACTIVE DEEP KNEE REFLEXES, BILATERAL FOOTDROP, REDUCTION IN NERVE AND SENSITIVE CONDUCTION VELOCITIES, MODIFICATION OF DISTAL LATENCY, DIMINISHING OF SENSORY DOTENTIAL AND NUMBER OF DISTAL LATENCY,	ENVIRONMENTAL PROTECTION AGENCY.
ABOULL ACTION THE LITEURS HAVE BEEN REPORTED IN ANIMALS,	**STORAGE**
FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION, KEEP PERSON WARM AND AT REST.	STORE IN ACCORDANCE WITH 29 CFR 1910.106.
TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY.	BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY, WHICH MAY BE IGNITED BY ELECTROSTATIC SPARKS, SHOULD BE STORED IN CONTAINERS WHICH MEET THE BONDING AND GROUNLING GUIDELINES SPECIFIED IN NFPA 77-1983, RECOMMENDED PRATICE ON STATIC ELECTROLOGY
SKIN CONTACT: N-HEXANE:	WHICH MEET THE BONDING AND GROUNDING GUIDELINES SPECIFIED IN NEPA 77-1983, Recommended practice on static electricity.
IRRITANT. ACUTE EXPOSURE- VAPOR MAY CAUSE IRRITATION WITH REDNESS, 2 ML/KG/4 HOURS ON RABBIT SKIN RESULTED IN ATAXIA AND RESTLESSNESS. AT 5 ML/KG/4 HOURS SOME	STORE AWAY FROM INCOMPATIBLE SUBSTANCES.
DEATHS OCCURRED. CHRONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE DERMATITIS DUE TO	STORE IN CLOSED CONTAINERS IN WELL-VENTILATED, COOL, DRY, DARK PLACE.
CHRONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE DERMATITIS DUE TO DEFATIING. BLISTER FORMATION, ITCHING, ERYTHEMA, PIGMENTATION AND PAIN HAVE BEEN REPORTED. SKIN EXPOSURES MAY ENHANCE NEUROTOXIC EFFECTS FROM INHALATION EXPOSURE.	**DISPOSAL**
FIRST AID- REMOVE CONTAMINATED CLOTHING AND SUCCE INFORMATION WASHINGTONE	DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 252, EPA HAZARDOUS WASTE NUMBER DOD1.
AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.	100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY.
EYE CONTACT:	
N-HEXANE: IRRITANT.	AVOID CONTACT WITH HEAT, SPARKS, FLAMES, OR OTHER SOURCES OF IGNITION. VAPORS May be explosive. Avoid overheating of containers; containers may violently Rupture in heat of fire. Avoid contamination of Water Sources.
ACUTE EXPOSURE - CONTACT MAY CAUSE IRRITATION WITH REDNESS AND PAIN. VAPORS A 880 PPM for 15 Minutes Causeo Irritation Chronic Exposure - Repeated or Prolonged Contact with Irritants may cause	

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.	OCCUPATIONAL SPILL: Shut OFF Ignition sources, stop leak if you can do it without risk, use water
INGESTION:	SHUT OFF IGNITION SOURCES. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING, FLAMES OR FLARES IN HAZARD
N-HEXANE: NARCOTIC. ACUTE EXPOSURE- MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, HEADACHE, NAUSEA,	AREA. KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND RESTRICT ENTRY.
ABDOMINAL SWELLING AND PAIN. THE FATAL HUMAN DOSE MAY BE ADOUT TO COMME	PROTECTIVE EQUIPMENT
RESULTANT RAPID DIVITION OF ALVEOLAD AND AND VED SALL THEE WITH A	VENTILATION; PROVIDE LOCAL EXHAUST VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS.
CHRENT, WITH CONSEQUENT BRAIN DAMAGE OR CARDIAC ARREST. Chronic exposure- reproductive effects have been reported in Animals.	VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF.
FIRST AID- EXTREME CARE MUST BE USED TO PREVENT ASPIRATION. USE GASTRIC LAVAGE WITH ACTIVATED CHARCOAL AND A CUFFED ENDOTRACHEAL TUBE WITHIN 15 MINUTES IN THE ASSENCE OF DECODERATION OF DEPENDENT ACHEAL TUBE WITHIN 15	RESPIRATOR: THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL LAZABOS, NICEL ODITION AND HUMAN SERVICES, NIOSH POCKET GUIDE TO
REFLEX, IPECAC EMESIS CAN BE DONE, WHEN VOMITING BEGINS, KEEP HEAD LOWER	I APOP THE CERTS IN A REPORT OF THE U.S. DEPARTMENT OF
BLOOD PRESSURE AND DESCRIPTION (DESCRIPTION OF THE AND A STATES)	THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND
ED.) TREATMENT MUST BE ADMINISTERED BY QUALIFIED MEDICAL PERSONNEL, GET MEDICAL ATTENTION.	BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).
ANTIDOTE: No specific antidote. Treat symptomatically and supportively.	N-HEXANE: 500 PPM- ANY SUPPLIED-AIR RESPIRATOR.
STATES STATES AND STATES AND SUPPORTIVELY.	ANY SELF-CONTAINED BREATHING APPARATUS.

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1250 PPM- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS FLOW MODE.	
2500 PPM- ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE. ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE. ANY SUPPLIED-AIR RESPIRATOR THAT HAS A TIGHT-FITTING FACEPIECE AND IS OPERATED IN A CONTINUOUS-FLOW MODE.	
5000 PPM- ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
ESCAPE- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS-MASK) WITH A CHIN-STYLE OR FRONT- OR BACK-MOUNTED ORGANIC VAPOR CANISTER. ANY APPROPRIATE ESCAPE-TYPE SELF-CONTAINED BREATHING APPARATUS.	
FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:	
ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
CLOTHING: Employee must wear appropriate protective (impervious) clothing and equipment To prevent repeated or prolonged skin contact with this substance.	
GLOVES: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.	
EYE PROTECTION: Employee must wear splash-proof or dust-resistant safety goggles to prevent Eye contact with this substance.	
EMERGENCY EYE WASH: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.	
AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 01/29/85 REVISION DATE: 02/25/92	
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HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE DEPORTATION FOR THE PARTY OF THE MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO ÎT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 60). USERS EXTINGUISH USING AGENTS INDICATED; DO NOT USE WATER DIRECTLY ON MATERIAL. IF LARGE AMOUNTS OF COMBUSTIBLE MATERIALS ARE INVOLVED, USE WATER SPRAY OR FOG IN FLOODING AMOUNTS. USE WATER SPRAY TO ABSORB CORROSIVE VAPORS. COOL CONTAINERS WITH FLOODING AMOUNTS OF WATER FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING CORROSIVE VAPORS; KEEP UPWIND. INFORMATION FOR THEIR PARTICULAR PURPOSES. SUBSTANCE IDENTIFICATION SUBSTANCE: **NICKEL REFERENCE STANDARD SOLUTION 1000 PPM NI** -----TRADE NAMES/SYNONYMS: TRANSPORTATION DATA SN70; ACC40127 DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49-CFR 172.101: CORROSIVE MATERIAL CHEMICAL FAMILY: MIXTURE, AQUEOUS DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49-CFR 172.101 AND CERCLA RATINGS (SCALE 0-3); HEALTH=3 FIRE=0 REACTIVITY=0 PERSISTENCE=0 NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=0 SUBPART E: COMPONENTS AND CONTAMINANTS DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49-CFR 173.245 AND 49-CFR 173.245A EXCEPTIONS: 49-CFR 173.244 COMPONENT: NICKEL NITRATE HEXAHYDRATE PERCENT: 0.5 CAS# 13478-00-7 COMPONENT: NITRIC ACID CAS# 7697-37-2 PERCENT: 2.0 TOXICITY TOXICITY NICKEL NITRATE: TOXICITY DATA: ANHYDROUS: 9 MG/KG INTRAVENOUS-MOUSE LDLO; MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS). HEXAHYDRATE: 1620 MG/KG ORAL-RAT LDSO. CARCINOGEN STATUS: HUMAN SUFFICIENT EVIDENCE, ANIMAL LIMITED EVIDENCE (IARC GROUP-1 FOR NICKEL COMPOUNDS). AN INCREASED INCIDENCE OF LUNG AND NASAL CANCER HAS BEEN REPORTED IN WOKKERS IN THE NICKEL REFINIG INDUSTRY. THE WORKING GROUP MADE THE OVERALL EVALUATION ON NICKEL REFINIG INDUSTRY. THE WORKING GROUP MADE THE OVERALL EVALUATION ON NICKEL REFINIG INDUSTRY. THE WORKING GROUP MADE THE OVERALL EVALUATION ON NICKEL COMPOUNDS AS A GROUP ON THE BASIS OF THE COMBINED RESULTS OF EPIDEMIOLOGICAL STUDIES, CARCINOGENICITY STUDIES IN EXPERIMENTAL ANIMALS, AND SEVERAL TYPES OF OTHER RELEVANT DATA, SUPPORTED BY THE UNDERLYING CONCEPT THAT NICKEL COMPOUNDS CAN GENERATE NICKEL IONS AT CRITICAL SITES IN THEIR TARGET CELLS. LOCAL EFFECTS: IRRITANT- INHALATION, SKIN, EYE. ACUTE TOXICITY LEVEL: MODERATELY TOXIC BY INGESTION. TARGET EFFECTS: SENSITIZER- RESPIRATORY, DERMAL. POISONING MAY AFFECT HEMATOLOGIC, HEMATOPOIETIC, IMMUNE AND CENTRAL NERVOUS SYSTEMS AND KIDNEYS. AT INCREASED RISK FROM EXPOSURE: PERSONS WITH A HISTORY OF ASTHMA, ALLERGIES, IMPAIRED PULMONARY FUNCTION OR KNOWN SENSITIZATION TO NICKEL. ADDITIONAL DATA: MAY BE EXCRETED IN BREAST MILK. MAY CROSS THE PLACENTA. CROSS SENSITIZATION MAY OCCUR WITH COPPER.* COMPONENT: WATER PERCENT: 97.5 OTHER CONTAMINANTS . NONE EXPOSURE LIMITS: NICKEL, SDLUBLE COMPOUNDS (AS NI): O.1 MG/M3 OSHA TWA O.1 MG/M3 ACGIH TWA_(NOTICE_OF_INTENDED CHANGES 1990-1991) 0.015 MG/M3 NIOSH RECOMMENDED TWA MEASUREMENT METHOD: PARTICULATE FILTER; ACID; INDUCTIVELY COUPLED PLASMA; (NIOSH VOL. III # 7300, ELEMENTS). SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING Subject to california proposition 65 cancer and/or reproductive toxicity warning and release requirements- (october 1, 1989) (NICKEL AND CERTAIN NICKEL COMPOUNDS) NITRIC ACID: 2 PPM (5 MG/M3) OSHA TWA: 4 PPM (10 MG/M3) OSHA STEL 2 PPM (5 MG/M3) ACGIH TWA: 4 PPM (10 MG/M3) ACGIH STEL 2 PPM (5 MG/M3) NIOSH RECOMMENDED TWA: * MAY BE BASED ON GENERAL INFORMATION ON NICKEL COMPOUNDS. 2 FFM (JOG/MJ) NIOST RECOMMENDED STEL 4 FPM (JOG/MG/MJ) DFG MAK TWA; 20 FPM (25 MG/MJ) DFG MAK 5 WINUTE PEAK, MOMENTARY VALUE, B TIMES/SHIFT NITRIC ACID: TOXICITY DATA: ANHYGROUS: 49 PPM/4 HOURS INHALATION-RAT LC50 (VAN WATER & ROGERS, INC MSDS); 2500 PPM/1 HOUR INHALATION-RAT LC50 (DUPONT MSDS); 430 MG/KG ORAL-HUMAN LDLO; 50-500 MG/KG ORAL-UNSPECIFIED SPECIES LD50 (DUPONT MSDS); 110 MG/KG UNREPORTED-MAN LDLO; REPRODUCTIVE EFFECTS DATA (RTECS). MEASUREMENT METHOD: SILICA GEL TUBE; SODIUM BICARBONATE/SODIUM CARBONATE; ION CHROMATOGRAPHY; (NIOSH VOL, III # 7903, INORGANIC ACIDS). 1000 POUNDS SARA SECTION 302 THRESHOLD PLANNING QUANTITY 1000 POUNDS SARA SECTION 304 REPORTABLE QUANTITY 1000 POUNDS CERCLA SECTION 103 REPORTABLE QUANTITY MONOHYDRATE: NO DATA AVAILABLE, TRIHYDRATE: NO DATA AVAILABLE. CARCINOGEN STATUS: NONE. CARCINDEEN STATUS: NOME. LOCAL EFFECTS: CORROSIVE- INHALATION, SKIN, EYES, INGESTION. ACUTE TOXICITY LEVEL: HIGHLY TOXIC BY INHALATION; TOXIC BY INGESTION. TARGET EFFECTS: NO DATA AVAILABLE. AT INCREASED RISK FROM EXPOSURE: PERSONS WITH IMPAIRED PULMONARY FUNCTION, PRE-EXISTING EYE AND SKIN DISORDERS. SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING PHYSICAL DATA DESCRIPTION: BLUISH-GREEN LIQUID. BOILING POINT: >212 F (>100 C) SPECIFIC GRAVITY: >1.0 VAPOR PRESSURE: 14 MMHG @ 20 C HEALTH EFFECTS AND FIRST AID EVAPORATION RATE: (ETHER = 1) >1 SOLUBILITY IN WATER: COMPLETE INHALATION: NITRIC ACID: NITRIC ACLD: CORROSIVE/HIGHLY TOXIC. 100 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSURE- INHALATION OF ACIDIC SUBSTANCES MAY CAUSE SEVERE RESPIRATORY IRRITATION WITH COUGHING, CHOKING, AND POSSIBLY YELLOWISH BURNS OF THE MUCOUS MEMBRANES. OTHER INITIAL SYMPTOMS MAY INCLUDE DIZZINESS, HEADACHE, NAUSEA, AND WEAKNESS, PULMONARY EDEMA MAY BE IMMEDIATE IN THE MOST SEVERE VAPOR DENSITY: 0 7 FIRE AND EXPLOSION DATA

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UAIE: 07/25/92 ACCT: 146965-01 INDEX: 02922060517 CAT NO: SN70100 PO NBR: 1217	DATE: 07/25/92 ACCT: 146965-01 PAGE: 4 INDEX: 02922060517 CAT NO: SN70100 PO NPD: 1017
EXPOSURES, BUT MORE LIKELY WILL OCCUR AFTER A LATENT PERIOD OF 5-72 HOURS. THE SYMPTOMS MAY INCLUDE TIGHTNESS IN THE CHEST, DYSPNEA, DIZZINESS, FROTHY SPUTUM, AND CYANDSIS. PHYSICAL FINDINGS MAY INCLUDE HYPOTENSION, WEAK, RAPID PULSE, MOIST RALES, AND HEMOCONCENTRATION. IN NON-FATAL CASES, COMPLETE RECOVERY MAY OCCUR WITHIN A FEW DAYS OR WEEKS OR, CONVALESCENCE MAY BE PROLONGED WITH FREQUENT RELAPSES AND CONTINUED DYSPNEA AND OTHER SIGNS AND SYMPTOMS OF PULMONARY INSUFFICIENCY. IN SEVERE EXPOSURES, DEATH DUE TO ANOXIA MAY OCCUR WITHIN A FEW HOURS AFTER ONSET OF THE SYMPTOMS OF PULMONARY EDEMA OR FOLLOWING A RELAPSE. CHRONIC EXPOSURE. DEPENDING ON THE CONCENTRATION AND DURATION OF EXPOSURE, REPEATED OR PROLONGED EXPOSURE TO AN ACIDIC SUBSTANCE MAY CAUSE EROSION OF THE TEITH, INFLAMMATORY AND ULCERATIVE CHANGES IN THE MOUTH, AND POSSIBLY JAW NECROSIS. BRONCHIAL IRRITATION WITH COUGH AND FREQUENT ATTACKS OF BRONCHIAL PNELMONIA MAY OCCUR, GASTROINTESTINAL DISTURBANCES ARE ALSO	INUEX: 02922060517 CAT NO: SN70100 PO NBR: 1217 FIRST AID: TREAT SYMPTOMATICALLY AND SUPPORTIVELY. IF PERSON IS CONSCIOUS AND ABLE TO SWALLOW, GIVE LARGE AMOUNTS OF WATER OR MILK TO DILUTE SUBSTANCE. GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD BELOW HIPS TO HELP PREVENT ASPIRATION. REACTIVITY REACTIVITY: STABLE UNDER NORMAL TEMPERATURES AND PRESSURES. INCOMPATIBILITIES: NITRIC ACID: MAY REACT EXPLOSIVELY.
FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY, IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION, MAINTAIN AIRWAY AND BLOOD PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE, KEEP AFFECTED PERSON WARM AND AT REST, TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRATION OF OXYGEN SHOULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION IMMEDIATELY.	ACEIIC ANHYDRIDE: EXPLOSIVE REACTION BY FRICTION OR IMPACT.
SKIN CONTACT: NITRIC ACID: CORROSIVE. ACUTE EXPOSURE- DIRECT CONTACT WITH LIQUID OR VAPOR MAY CAUSE SEVERE PAIN, BURNS AND POSSIBLY YELLOWISH STAINS. BURNS MAY BE DEEP WITH SHARP EDEES AND HEAL SLOWLY WITH SCAR TISSUE FORMATION. DILUTE SOLUTIONS OF NITRIC ACID MAY PRODUCE MILD IRRITATION AND HADEEN THE EPIDERMIS WITHOUT DESTROYING IT. CONCENTRATED ACID SOLUTIONS APPLIED TO OVER 25% OF THE SKIN AREA IN RATS PRODUCED ELEVATED METHEMOGLOBIN AND BLOOD NITRATE LEVELS. CHRONIC EXPOSURE- EFFECTS DEPEND ON THE CONCENTRATION AND DURATION OF EXPOSURE. REPEATED OR PROLONGED CONTACT WITH ACIDIC SUBSTANCES MAY RESULT IN DERMATITIS OR EFFECTS SIMILAR TO ACUTE EXPOSURE. FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF CHEMICAL BURNS, COVER AREA WITH STERIEL, DRY DRESSING. BANDAGE SECURELY, BUT NOT TOO TIGHTLY. GET MEDICAL ATTENTION IMMEDIATELY.	ACETONITALLE: EXPLOSIVE MIXTURE: 4-ACETOXY-3-METHOXYBENZALDEHYDE: EXOTHERMIC REACTION. ACROLEIN: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ACRYLONITRILE: EXPLOSIVE REACTION AT 90 C. ACRYLONITRILE: METHACRYLATE COPOLYMER: INCOMPATIBLE. ALCOHOLS: POSSIBLE VIOLENT REACTION OR EXPLOSION; FORMATION OF EXPLOSIVE COMPOUND IN THE PRESSENCE OF HEAVY METALS. ALKANETHIOLS: EXOTHERMIC REACTION WITH POSSIBLE IGNITION. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL STANDETHANOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. 2-AMINOTHIAZOLE: EXPLOSIVE REACTION. AMMONIA (GAS) BURNS IN AN ATMOSPHERE OF NITRIC ACID VAPOR. AMMONIAM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM NITRATE: FORMS EXPLOSIVE MIXTURE. ANILINE: IGNITES ON CONTACT. ANILINE: IGNITES ON CONTACT. ANILINE: IGNITES ON CONTACT. ANILINE: IGNITES ON CONTACT. ANILINE: EXPLOSIVE REACTION. ARSINE EXPLOSIVE REACTION. ARSINE EXPLOSIVE REACTION. ARSINE EXPLOSIVE REACTION. ARSINE HEORON TRIBROMIDE: VIOLENT OXIDATION, BASES; REACTS. BENZENE: EXPLOSIVE REACTION. BENZENE: BONTABEOMIDE: VIOLENT OXIDATION, BENZENE: EXPLOSIVE REACTION. BENZENE: EXPLOSIVE REACTION.
EVE CONTACT: MITRIC ACID: CORROSIVE. ACUTE EXPOSURE- DIRECT CONTACT WITH ACIDIC SUBSTANCES MAY CAUSE PAIN AND LACRIMATION, PHOTOPHOBIA, AND BURNS, POSSIBLY SEVERE. THE DEGREE OF INJURY DEPENDS ON THE CONCENTRATION AND DURATION OF CONTACT. IN MILD BURNS, THE EPITHELIUM REGENERATES RAPIOLY AND THE EYE RECOVERS COMPLETELY. IN SEVERE CASES, THE EXTENT OF INJURY MAY NOT BE FULLY APPARENT FOR SEVERAL WEEKS. ULTIMATELY, THE WHOLE CORNEA MAY BECOME DEEPLY VASCULARIZED AND OPAQUE RESULTING IN BLINDNESS. IN THE WORST CASES, THE EYE MAY BE TOTALLY DESTROYED. CONCENTRATED NITRIC ACID MAY IMPART A YELLOW COLOR TO THE EYE UPON CONTACT. CHRONIC EXPOSURE- EFFECTS DEPEND ON THE CONCENTRATION AND DURATION OF EXPOSURE. REPEATED OR PROLONGED EXPOSURE. TO ACIDIC SUBSTANCES MAY CAUSE CONJUNCTIVITIS OR EFFECTS AS IN ACUTE EXPOSURE. FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). CONTINUE IRRIGATING WITH NORMAL SALINE UNTIL THE PH HAS RETURNED TO NORMAL (30-60 MINUTES). COVER WITH STERILE BANDAGES. GET	BENZIDINE: SPORTANEOUS IGNITION. BENZONITRILE: POSSIBLE EXPLOSION. BENZONITRILE: POSSIBLE EXPLOSION. BENZONITRILE: POSSIBLE EXPLOSION. N-BENZYL-N-ETHYLANILINE: VIGOROUS DECOMPOSITION. 1,4-BIS(METHOXYMETHYL)2;3,5,6-TETRAMETHYLBENZENE: GAS EVOLUTION. BISMUTH: INTENSE EXOTHERMIC REACTION OR EXPLOSION. 1,3-BIS(TRIFLUOROMETHYL)2;3,5,6-TETRAMETHYLBENZENE: GAS EVOLUTION. BISMUTH: INTENSE EXOTHERMIC REACTION OR EXPLOSION. 1,3-BIS(TRIFLUOROMETHYL)BENZENE: POSSIBLE EXPLOSION. BORON VIOLENT REACTION WITH INCANDESCENCE. BORON DECAHYORIDE: EXPLOSIVE REACTION. BORON PHOSPHIDE: IGNITION REACTION. N-BUTYRALDEHYDE: IGNITION REACTION. N-BUTYRALDEHYDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CALCIUM HYPOPHOSPHITE: IGNITION REACTION. CARBON (PUVERIZED): VIOLENT REACTION. CHLOROBENZENE: REACTS. CHLORINE: INCOMPATIBLE. CHLORATES: REACTS. CHLORINE: INFLUORIDE: VIOLENT REACTION. CHLOROBONZENE: POSSIBLE EXPLOSIVE COMPOUND. CHLOROBONZENE: POSSIBLE EXPLOSIVE, COMPOUND.
INGESTION: NITRIC ACID: CORROSIVE/TOXIC. ACUTE EXPOSURE- ACIDIC SUBSTANCES MAY CAUSE CIRCUMORAL BURNS WITH YELLOW DISCOLORATION AND CORROSION OF THE MUCOUS MEMBRANES OF THE MOUTH, THROAT AND ESOPHAGUS. THERE MAY BE IMMEDIATE PAIN AND DIFFICULTY OR INABILITY TO SWALLOW OR SPEAK. EPIGLOTTAL EDEMA MAY RESULT IN RESPIRATORY DISTRESS AND POSSIBLY ASPHYLIA. MARKED THIRST, EPIGASTRIC PAIN, MAUSEA, VOMITING AND DIARRHEA MAY OCCUR. DEPENDING ON THE DEGREE OF ESPOHAGEAL, AND MITING AND DIARRHEA MAY OCCUR. DEPENDING ON THE DEGREE OF ESPOHAGEAL, AND MITING AND DIARRHEA MAY OCCUR. DEPENDING ON THE DEGREE OF ESPOHAGEAL, AND DATAN LARGE SHREDS OF MUCOSA. SHOCK WITH MARKED HYDORENSION, WEAK, RAPID PULSE, SHALLOW RESPIRATION, AND CLAMMY SKIN MAY COCUR. CIRCULATORY COLLAPSE MAY ENSUE AND IF UNCORRECTED, LEAD TO REAL FAILURE. IN SEVERE CASES, GASTRIC, AND TO A LESSER DEGREE E SOPHAGEAL PERFORATION AND SUBSEQUENT PERITONITIS GASTRIC ANC PYLDRIC STRICTURE MAY OCCUR WITHIN A FEW WEEKS, BUT MAY BE DELAYED FOR MOTHS OR EVEN YEARS. DEATH MAY RESULT WITHIN A SHORT TIME FROM ASPHYXIA, CIRCULATORY COLLAPSE OR ASPIRATION OF EVEN MINUTE AMOUNTS. LATER DEATH MAY BE DUE TO PERITONITIS, SEVERE NEPHRITIS OR PNEUMONIA. COMA AND CONVULSIONS SOMETIMES OCCUR TERMINALLY. CHRONIC EXPOSURE- DEPENDING ON THE CONCENTRATION, REPEATED INGESTION OF ACIDIC SUBSTANCES MAY RESULT IN INFLAMMATORY AND ULCERATIVE CHANGES IN THE MUCOUS MEMBRANES OF THE MOUTH AND OTHER EFFECTS AS IN ACUTE INGESTION. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS.	CHLOROSULFONIC ACID: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. COAL: EXPLOSIVE MIXTURE. COATINGS: MAY BE ATTACKED. CRESOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CRESOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CRUDNALDEHYDE: VIOLENT DECOMPOSITION WITH IGNITION. CUMENE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CUPROUS NITRIDE: VIOLENT REACTION. CYPROUS NITRIDE: VIOLENT REACTION. CYCLOHEXANONE: VIOLENT REACTION. CYCLOHEXANONE: VIOLENT REACTION. CYCLOHEXANONE: VIOLENT REACTION. CYCLOHEXANONE: SPOLOSIVE COMPOUND. CYCLOHEXYLAMINE: FORMS EXPLOSIVE COMPOUND. CYCLOHEXYLAMINE: FORMS EXPLOSIVE COMPOSITION REACTION. DIBORANE: SPONTANEOUS IGNITION. DI-2-BUTOXYETHYL ETHER: VIOLENT DECOMPOSITION REACTION. DICHLOROETHANEBIS(TRIMETHYLGOLD): EXPLOSIVE COMPOUND. DICHLOROETHANE: FORMS ENDCK AND HEAT SENSITIVE COMPOUND. DICHLOROETHANE: FORMS ENDCK AND HEAT SENSITIVE COMPOUND. DICHLOROETHANE: FORMS ENDCK AND HEAT SENSITIVE COMPOUND. DICHLOROETHANE: SPONTANEOUS IGNITION. DICHLOROETHANE: FORMS EXPLOSIVE COMPOUND. DICHLOROETHANE: FORMS EXPLOSIVE SOLUTION. DICHLOROETHANE: FORMS EXPLOSIVE SOLUTION. DICHLOROETHANCE: SPONTANEOUS IGNITION. DICHLOROETHANCE: FORMS EXPLOSIVE SOLUTION. DICHLOROETHANCE: FORMS EXPLOSIVE SOLUTION. DICHLOROETHANCE: FORMS EXPLOSIVE SOLUTION. DICHLOROETHANCE: POSSIBLE EXPLOSION. DIETHYLAMINO ETHANOL: POSSIBLE EXPLOSION. DIETHYLAMINO ETHANOL: POSSIBLE EXPLOSION. DIETHYLAMINO ETHANOL: POSSIBLE EXPLOSION. DIETHYLAMINO ETHANCE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. DIMETHYLAMINOMETHYLFERROCENE: VIOLENT DECOMPOSITION IF HEATED.

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DISPOSAL

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262. EPA HAZARDOUS WASTE NUMBER DOO2. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY.

CONDITIONS TO AVOID

MAY BURN BUT DOES NOT IGNITE READILY. FLAMMABLE, POISONOUS GASES MAY Accumulate in tanks and hopper cars. May ignite combustibles (wood, paper, OIL, ETC.).

SPILL AND LEAK PROCEDURES

WATER SPILL WATER SPILL: THE CALLFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65) PROHIBITS CONTAMINATING ANY KNOWN SOURCE OF ORINKING WATER WITH SUBSTANCES KNOWN TO CAUSE CANCER AND/OR REPRODUCTIVE TOXICITY.

OCCUPATIONAL SPILL: DO NOT TOUCH SPILLED MATERIAL, STOP LEAK IF YOU CAN DO IT WITHOUT RISK. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR SMALL DRY SPILLS, WITH CLEAN SHOVEL PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER. MOVE CONTAINERS FROM SPILL AREA. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY.

PROTECTIVE EQUIPMENT

VENTILATION

PROVIDE LOCAL EXHAUST VENTILATION SYSTEM TO MEET PUBLISHED EXPOSURE LIMITS. RESPIRATOR

RESPIRATOR: THE FOLLOWING RESPIRATORS ARE RECOMMENDED BASED ON INFORMATION FOUND IN THE PHYSICAL DATA, TOXICITY AND HEALTH EFFECTS SECTIONS. THEY ARE RANKED IN ORDER FROM MINIMUM TO MAXIMUM RESPIRATORY PROTECTION. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST BE BASED ON THE SPECIFIC OPERATION, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND MUST BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).

ANY CHEMICAL CARTRIDGE RESPIRATOR WITH FULL FACEPIECE.

ANY TYPE 'C' SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE OR WITH A FULL FACEPIECE, HELMET OR HOOD OPERATED IN CONTINUOUS-FLOW MODE.

ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

CLOTHING:

EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT ANY POSSIBILITY OF SKIN CONTACT WITH THIS SUBSTANCE.

GLOVES

EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

EYE PROTECTION: EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE.

EMERGENCY WASH FACILITIES: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

> AUTHORIZED - FISHER SCIENTIFIC, INC. FION DATE: 07/10/85 REVISION DATE: 06/04/92 CREATION DATE: 07/10/85

-ADDITIONAL INFORMATION-THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST

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FREDAL 113	-
PAGE: 1	FIRE AND EXPLOSION DATA
DATE: 08/31/91 ACCT: 146965-01 INDEX: 02912420177 CAT NO: T1804 PO NBR: VERBAL MIKE 08-30-91 AIR	FIRE AND EXPLOSION HAZARD: NEGLIGIBLE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE **1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE**	AUTOIGNITION TEMP. ; 1256 F (680 C)
1.1.2-TRICHLOR0-1.2.2-TRIFLUOROETHANE	FIREFIGHTING MEDIA:
MATERIAL SAFETY DATA SHEET	DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM (1990 Emergency response guidebook, dot p 5800.5).
FISHER SCIENTIFIC EMERGENCY NUMBER: (201) 795-7100 CHEMICAL DIVISION CHEMTREC ASSISTANCE: (800) 424-9300 1 REAGENT LANE FAIR LAWN NJ 07410 (201) 796-7100 COL COL COL	FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM (1990 Emergency response guidebook, dot p 5800.5).
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SUBSTANCE IDENTIFICATION	
CAS-NUMBER 76-13-1	
SUBSTANCE: **1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE** TRADE NAMES/SYNONYMS:	
REFRIGERANT 113; TTE; UCON 113; FREON 113; FREON 113 TR-T; TRICHLOROTRIFLUOROETHANE; 1,1,2-TRIFLUORO-1,2,2-TRICHLOROETHANE; UCON FLUOROCARBON 113; T180; T178; C2CL3F3; ACC26370	
CHEMICAL FAMILY: HALDGEN COMPOUND, ALIPHATIC	
MOLECULAR FORMULA: C2-CL3-F3	
MOLECULAR WEIGHT: 187.37	
CERCLA RATINGS (SCALE 0-3): HEALTH=1 FIRE=0 REACTIVITY=0 PERSISTENCE=3 NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=0 REACTIVITY=0	
COMPONENTS AND CONTAMINANTS	
COMPONENT: 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE PERCENT: 10D	
CA5# 76-13-1 OTHER CONTAMINANTS: NONE	
EXPOSURE LIMITS:	
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE (FREON TF): 1000 PPM (7670 MG/M3) OSHA TWA; 1250 PPM (9590 MG/M3) OSHA STEL 1000 PPM (7670 MG/M3) ACGIH TWA; 1250 PPM (9590 MG/M3) ACGIH STEL 1000 PPM (7670 MG/M3) NIOSH RECOMMENDED TWA; 1250 PPM (9590 MG/M3) NIOSH RECOMMENDED STEL 500 PPM (3832 MG/M3) DFG MAK TWA; 1000 PPM (7670 MG/M3) DFG MAK TWA;	
MEASUREMENT METHOD: CHARCOAL TUBE; CARBON DISULFIDE; GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION; (NIOSH VOL. III # 1020).	
SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING.	
PHYSICAL DATA	
DESCRIPTION: COLORLESS LIQUID WITH AN ODOR LIKE AMMONIA AT HIGH	
CONCENTRATIONS. BOILING POINT: 114.4 F (45.8 C)	
MELTING POINT: 55.8 F (13.2 C) SPECIFIC GRAVITY: 1.6 @ 77 F	
VAPOR PRESSURE: 284 MM HG @ 20 C EVAPORATION RATE: (ACETONE=1) 0.45	
SOLUBILITY IN WATER: 0.028% VAPOR DENSITY: APPROX 6	
,	

	DA: D8/31/91 ACCT: 145965-01 PAGE: 2 INDL 02912420177 CAT NO: T1804 PO NBR: VERBAL MIKE 08-30-91 AIR	E 1
	FIREFIGHTING: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. DO NOT SCATTER SPILLED MATERIAL WITH HIGH-PRESSURE WATER STREAMS, DIKE FIRE-CONTROL WATER FOR LATER DISPOSAL (1990 EMERGENCY RESPONSE GUIDEROOK, DOT B. 5000 E. CUIDER AND B. STREAMS AND	
	USE AGENTS SUITABLE FOR TYPE OF SURPOUNDING FIRE AVOID REFATIVING WATAPPOUR	F
		I 1 N
	TOXICITY 1, 1, 2-TRICHLORO-1, 2, 2-TRIFLUORDETHANE_(FREON TF):	
	IRRITATION DATA: 500 MG OPEN SKIN-RABBIT MILD; 500 MG/24 HOURS SKIN-RABBIT MILD. TOXICITY DATA: 87,000 PPM/6 HOURS INHALATION-RAT LCLO; 25 PPH/90 SECONDS	
	CAPCINGEN STATUS, NONE	
	ACUTE TOXICITY LEVEL: RELATIVELY NON-TOXIC BY INGESTION. TARGET EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSANT; SIMPLE ASPHYXIANT. POISONING MAY ALSO AFFECT THE LIVER AND KIDNEYS. AT INCREASED RISK FROM EXPOSURE: PERSONS WITH PRE-EXISTING SKIN DISORDERS, IMPAIRED CARDIOVASCULAR FUNCTION, PARTICULARLY CARDIAC ARRYTHMIAS OR	
	IMPAIRED RESPIRATORY FUNCTION, PARTICULARLY CARDIAC ARRYTHMIAS OR ADDITIONAL DATA: STIMULANTS SUCH AS EPINEPHRINE MAY INDUCE VENTRICULAR FIBRILATION.	
	HEALTH EFFECTS AND FIRST AID	
	INHALATION: 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE (FREON TE):	
	NARCUTIC/SIMPLE ASPHYXIANT.	
	ACUTE EXPOSURE- MAY CAUSE MILD IRRITATION OF THE MUCOUS MEMBRANES OF THE UPPER RESPIRATORY TRACT. MAY BE ANESTHETIC AND CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION WITH DROWSINESS AND ARENYTHMIAS. HUMANS EXPOSED TO 2500 TO 4500 PPM FOR 30-100 MINUTES SHOWED SIGNIFICANT IMPAIRMENT OF	
	HEAVINESS IN THE HEAD, WHICH DISAPPEARED 15 MINUTES AFTER THE EXPOSURE	
	MAY CAUSE SUDDEN DEATH FROM VENTICULAR FIBRILLATION UNDER PHYSICAL OR EMOTIONAL STRESS, DOGS EXPOSED TO 11,000-13,000 PPM FOR 6 HOURS	
	EXPERIENCED VOMITING, LETHARGY, NERVOUSNES, AND TREMORS. ALL SYMPTOMS WERE REVERSIBLE WITHIN 15 MINUTES. IN EXPERIMENTAL ANIMALS, VARIABLE DEGREES OF CARDIDDYNAMIC EFFECTS THAT INCLUDED TACHYCARDIA, MYCCARDIAL	
	EXPERIENCED VOMITING, LETHARGY, NERVOUSNESS, AND TREMORS, ALL SYMPTOMS WERE REVERSIBLE WITHIN 15 MINUTES. IN EXPERIMENTAL ANIMALS, VARIABLE DEGREES OF CARDIODYNAMIC EFFECTS THAT INCLUDED TACHYCARDIA, MYOCARDIAL DEPRESSION, AND HYPOTENSION HAVE BEEN REPORTED. PULMONARY EDEMA AND SEVERE VENTRICULAR DYSRHYTHMIA MAY RESULT FROM THE INHALATION OF FREONS. CHRONIC EXPOSURE- PROLONGED HUMAN EXPOSURES FOR 2 WEEKS AT CONCENTRATIONS OF APPROXIMATELY SOO ANO 1000 PPM CAUSED MILD THROAT IRRITATION ON THE FIRST DAY, BUT NO DECREMENT IN PERFORMANCE OF COMPLEX MENTAL TASKS	
	PATHOLOGIC FINDINGS IN BATS INCLUDED VERY SLICHT DISCUSS DESENTED	
	FATTY INFILTRATION OF THE LIVER. NO CHANGES WERE PRODUCED IN THE OFFSPRING OF PREGNANT RABBITS EXPOSED TO 9 DAILY 2 HOUR EXPOSURES AT LEVELS AS HIGH AS 20,000 PPM.	
	FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION, KEEP PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY.	
	SKIN CONTACT: 1,1,2,1RICHLORO-1,2,2,TRIFLUOROETHANE (FREON TF):	
	ACUTE EAPOSURE- CONTACT MAY CAUSE IRRITATION.	
	DRYING AND CRACKING. NO EFFECTS WERE NOTED IN RABBITS AFTER 20 WERES OF APPLICATION TO UNCOVERED SKIN. HOWEVER, OCCLUDED CONTACT OF 5 GM/KG WITH RABBIT SKIN FOR 5 SUCCESSIVE DAYS RESULTED IN LOCAL NECROSIS AND SLOUGHING PLUS CONSPICUOUS ENLARGEMENT OF LIVER CELLS.	
	FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED	
	EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.	
~		

EYE CONTACT: 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE (FREON TF): ACUTE EXPOSURE- MAY CAUSE IRRITATION. APPLICATION OF 0.1 ML TO RABLE EYES IS REPORTED TO HAVE PRODUCED ONLY MILD CONJUNCTIVITIS AND MINIMAL CORNEAL DULLNESS AT 24 HOURS. ALL EYES RETURNED TO NORMAL WITHIN 48 HOURS. CHRONIC EXPOSURE- NO DATA AVAILABLE.

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION: 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE (FREON TF): NARCOTIC.

OR UTHER ABSORBENT MATERIAL AND PLACE INTO LLEAN, DRY CONTAINERS FOR LATER DISPOSAL, KEEP UNNECESSARY PEOPLE AWAY, ISOLATE HAZARD AREA AND DENY ENTRY. PAGE: 3 DATE: 08/31/91 ACCT: 146965-01 INDEX: 02912420177 CAT NO: T1804 PO NBR: VERBAL MIKE 08-30-91 AIR PROTECTIVE EQUIPMENT ACUTE EXPOSURE- ONE HUMAN ACCIDENTALLY RECEIVED 1 LITER OF 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE IN THE STOMACH WHILE UNDER ANESTHESIA. THIS PRODUCED IMMEDIATE BUT TRANSIENT CYANOSIS. THE INDIVIDUAL SURVIVED AND REPORTED ONLY SEVERE RECTAL IRRITATION AND DIARRHEA FOR 3 DAYS THEREAFTER. IF SUFFICIENT AMOUNTS ARE INGESTED. SYSTEMIC TOXICITY MAY OCCUR AS DETAILED IN ACUTE INHALATION. INGESTION VENTILATION PROVIDE GENERAL DILUTION VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS. RESPIRATOR THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIDSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF OF HYDROCARBONS IS ASSOCIATED WITH PNEUMONITIS, CENTRAL NERVOUS SYSTEM DEPRESSION AND ARRHYTMMIAS. CHRONIC EXPOSURE- NO CHANGES WERE PRODUCED IN THE OFFSPRING OF PREGNANT RABBITS EXPOSED ORALLY. LABOR, 29 CFR 1910 SUBPART Z. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND FIRST AID- TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD LOWER THAN HIPS TO PREVENT ASPIRATION. NO SPECIFIC ANTIDOTE, TREAT SYMPTOMATICALLY AND SUPPORTIVELY. _____ REACTIVITY REACTIVITY: STABLE UNDER NORMAL TEMPERATURES AND PRESSURES. INCOMPATIBILITIES: 1.1.2-TRICHLORO-1.2.2-TRIFLUOROETHANE: ALKALI METALS: VIOLENT REACTION POSSIBLE. ALUMINUM (POWDERED): FORMS SHOCK-SENSITIVE MIXTURE. BARIUM (POWDERED): FORMS EXPLOSIVE MIXTURE. BERYLLIUM: VIOLENT REACTION POSSIBLE. CALCIUM: VIOLENT REACTION POSSIBLE. LITHIUM (POWDERED): FORMS EXPLOSIVE MIXTURE. MAGNESIUM: VIOLENT REACTION POSSIBLE. PLASTICS, RUBBER, COATINGS: MAY BE ATTACKED. POTASSIUM: FORMS IGNITABLE COMPOUND. SAMARIUM: EXPLODES ON FRICTION. SODIUM: FORMS IGNITABLE COMPOUND. SODIUM: FORMS IGNICA FORMS INCOMPATIBILITIES: DECOMPOSITION: THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC AND CORROSIVE FUMES OF CHLORIDES AND FLUORIDES, AND TOXIC OXIDES OF CARBON. POLYMERIZATION HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES. _____ STORAGE AND DISPOSAL OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY. **STORAGE** STORE AWAY FROM INCOMPATIBLE SUBSTANCES. KEEP IN A TIGHTLY CLOSED CONTAINER. STORE IN A COOL, DRY, VENTILATED AREA. CONDITIONS TO AVOID MAY BURN BUT DOES NOT IGNITE READILY. AVOID CONTACT WITH STRONG OXIDIZERS, EXCESSIVE HEAT, SPARKS, OR OPEN FLAME. SPILL AND LEAK PROCEDURES OCCUPATIONAL SPILL: STOP LEAK IF YOU CAN DO IT WITHOUT RISK. FOR SMALL SPILLS, TAKE UP WITH SAND

DA: 38/31/91 ACCT: 146965-01 PAGE: 4 IND _E 02912420177 CAT NO: T1804 PO NBR: VERBAL MIKE OB-30-91 AI;	
IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).	
1, 1, 2-TRICHLORO-1, 2, 2-TRIFLUOROETHANE;	
4500 PPM- ANY SUPPLIED-AIR RESPIRATOR. ANY SELF-CONTAINED BREATHING APPARATUS.	
ESCAPE- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE OR FRONT OR BACK-MOUNTED ORGANIC VAPOR CANISTER. ANY APPROPRIATE ESCAPE-TYPE SELF-CONTANINED BREATHING APPARATUS.	
FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:	
ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
CLOTHING: Employee must wear appropriate protective (impervious) clothing and equipment To prevent repeated or prolonged skin contact with this substance.	
GLOVES: PROTECTIVE GLOVES ARE NOT REQUIRED BUT RECOMMENDED.	
EYE PROTECTION: Employee must wear splash-proof or dust-resistant safety goggles and a Faceshield to prevent contact with this substance.	
EMERGENCY WASH FACILITIES: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.	
AUTHORIŻED - FISHER SCIENTIFIC, INC. CREATION DATE: 01/15/85 REVISION DATE: 05/03/91	
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DATE: 11/15/94 ACCT: 146965001 INDEX: 943187833 CAT NO: \$\$2551 PO NBR: 3301	DATE: 11/15/94 ACCT: 146965001 INDEX: 943187833 CAT NO: SS2551 PO NBR: 3301	
SODIUM HYDROXIDE, SOLUTIONS, 10N AND CO2 ABSORPTION **SODIUM HYDROXIDE, SOLUTIONS, 10N AND CO2 ABSORPTION** **SODIUM HYDROXIDE, SOLUTIONS, 10N AND CO2 ABSORPTION** MATERIAL SAFETY DATA SHEET	Use agent suitable for type of fire; use flooding quantities of water as fog. apply from as far a distance as possible. Avoid breathing corrosive vapors, keep upwind.	
	TRANSPORTATION DATA	
FISHER SCIENTIFIC EMERGENCY NUMBER: (201) 796-7100 CHEMICAL DIVISION CHEMTREC ASSISTANCE: (800) 424-9300 1 REAGENT LANE	U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: Sodium hydroxide, solutions-UN 1824	
FAIR LAWN NJ 07410 (201) 796-7100	U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 8 - Corrosive material	
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	U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: EXCEPTIONS: 49 CFR 173.154	
CAS-NUMBER 1310-73-2	NON-BULK PACKAGING: 49 CFR 173.202 BULK PACKAGING: 49 CFR 173.242	
SUBSTANCE: **SODIUM HYDROXIDE, SOLUTIONS, 10N AND CO2 ABSORPTION** TRADE NAMES/SYNONYMS: CAUSTIC SODA SOLUTION: LYE SOLUTION; SODA LYE; SODIUM HYDROXIDE SOLUTION; SODIUM HYDROXIDE LIQUID; WHITE CAUSTIC SOLUTION; SS255; SS267; UN 1824;	U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 1 L CARGO AIRCRAFT ONLY: 30 L	
ACC40175	TOXICITY	
CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=0 REACTIVITY=1 PERSISTENCE=0 NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=1 COMPONENTS AND CONTAMINANTS	SODIUM HYDROXIDE: IRRITATION DATA: 500 mg/24 hours skin-rabbit severe; 1% eye-rabbit severe; 50 ug/24 hours eye-rabbit severe; 1 mg/24 hours eye-rabbit severe; 400 ug eye-rabbit mild; 1 mg/30 seconds rinsed eye-rabbit severe; 1%/24 hours	
COMPONENT: SODIUM HYDROXIDE PERCENT: 26.7-30.6 CAS# 1310-73-2	eye-rabbit mild; 1 mg/30 seconds rinsed eye-rabbit severe; 1%/24 hours eye-monkey severe. TOXICITY DATA: 1350 mg/kg skin-rabbit LD50 (Van Waters & Rogers Inc. MSDS); 500 mg/kg orai-rabbit LDLo; 104-340 mg/kg orai-rat LD50 (Van Waters & Rogers Inc. MSDS); 40 mg/kg intraperitoneal-mouse LD50; mutagenic data (RTECS). CARCINDGEN STATUS: None.	
COMPONENT: WATER PERCENT: 69.4-73.3	Inc. MSDS); 40 mg/kg intraperitoneal-mouse LD50; mutagenic data (RTECS). CARCINOGEN STATUS: None.	
	ACULE TOXICITY LEVEL: Toxic by ingestion, moderately toxic by dermal	
EXPOSURE LIMITS: SODIUM HYDROXIDE: 2 mg/m3 OSHA ceiling 2 mg/m3 ACGH ceiling 2 mg/m3 NIOSH recommended ceiling 2 mg/m3 DFG MAK TWA (total dust); 4 mg/m3 DFG MAK 5 minute peak, momentary value, 8 times/shift	absorption. TARGET EFFECTS: No data aveilable. AT INCREASED RISK FROM EXPOSURE: Persons with pre-existing skin and eye conditions. HEALTH EFFECTS AND FIRST AID	
Measurement method: Particulate filter; hydrochloric acid; titretion; (NIOSH Vol. III # 7401, Alkaline Dusts).	INHALATION: SODIUM HYDROXIDE:	
1000 pounds CERCLA Section 103 Reportable Quantity	CORROSIVE, 250 mg/m3 immediately Dangerous to Life or Health. ACUTE EXPOSURE- Effects due to inhalation of dusts or mist may vary from	
OSHA revoked the final rule limits of January 19, 1989 in response to the 1)th Circuit Court of Appeals decision (AFL-CIO V. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338)	CORROSIVE, 250 mg/m3 Immediately Dangerous to Life or Health. CORROSIVE, 250 mg/m3 Immediately Dangerous to Life or Health. ACUTE EXPOSURE- Effects due to Inhalation of dusts or mist may vary from mild irritation of the nose at 2 mg/m3 to severe pneumonitis depending on the severity of exposure. Low concentrations may cause mucous membrane irritation with sore throat, coughing, and dyspnea. Intense exposures may result in destruction of mucous membranes and delayed pulmonary edema or non-unonitis. Shock may occur.	
PHYSICAL DATA	result in destruction of mucous membranes and delayed pulmonary edema or pneumonitis. Shock may occur. CHRONIC EXPOSURE- Prolonged exposures to high concentrations of dusts or mists may cause discomfort and ulceration of the nasal passages. Repeated exposures of 5000 mg/L were harmless to rats, but 10,000 mg/L led to nervousness, sore eyes, diarrhea and retarded growth. Rats exposed 30 minutes/day to unmeasured concentrations of sodium hydroxide aerosols suffered pulmonary damege after 2-3 months. Death occurred in 2 of 10 rats exposed to an aerosol of 40% auguous sodium hydroxide for 30 minutes, twice a week for 3 weeks. Histopathological examination showed mostly normal lung tissue with foci of enlarged alveolar septae, emphysema, bronchial ulceration, and enlarged lymph adenoidal tissues. An epidemiologic study of 291 workers chronically exposed to caustic dusts for 30 years or more found no significant increase in mortality in	
DESCRIPTION: Clear liquid. BOILING POINT: 234 F (112 C)	exposures of 5000 mg/L were harmless to rats, but 10,000 mg/L led to nervousness, sore eyes, diarrhea and retarded growth. Rats exposed 20 minutes (day to unexerved concentrations of codium budgetide ascende	
MELTING POINT: 5 F (-15 C) SPECIFIC GRAVITY: 1.3 PH: alkaline	suffered pulmonary demage after 2-3 months. Death occurred in 2 of 10 rats exposed to an aerosol of 40% aqueous sodium hydroxide for 30 minutes,	
SOLUBILITY IN WATER: complete	twice a week for 3 weeks. Histopathological examination showed mostly normal lung tissue with foci of enlarged alveolar septae, emphysema,	
FIRE AND EXPLOSION DATA	epidemiologic study of 291 workers chronically exposed to caustic dusts for 30 years or more found no significant increase in mortality in	
FIRE AND EXPLOSION HAZARD: Negligible fire hazard when exposed to heat or flame.	relation to duration or intensity of such exposures.	
FIREFIGHTING MEDIA: Dry_chemical, carbon dioxide, weter spray or regular toem	FIRST AID- Remove from exposure area to fresh eir immediately. Perform artificial respiration if necessary. Maintain airway, blood pressure and respiration. Keep warm and at rest. Treat symptomatically and supportively. Get medical attention immediately. Qualified medical personnel should consider administering oxygan.	
(1993 Emergency Response Guidebook, RSPA P 5800.8). For larger fires, use weter spray, fog or regular foam		
(1993 Emergency Response Guidebook, RSPA P 5800.6).	CORROSIVE. ACUTE EXPOSURE- Upon contact with the skin, damage including redness	
FIREFIGHTING; Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks (1993 Emergency Response Guidebook, RSPA P 5800.6, Guide Page 60).	cutaneous burns, skin fissures and white eschars may occur without immediate pain. Exposure to solutions as weak as 0.03 N (0.12%) for 1 hour has caused injury to healthy skin. With solutions of 0.4-4%, irritation does not occur until after several hours. Solutions of 25-50% caused no sensation of irritation within 3 minutes in human subjects. Skin biopsies from human subjects having 1 N sodium hydroxide applied to	

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PAGE: 5 DATE: 11/15/94 ACCT : 146965001 INDEX: 943187833 CAT NO: 552551 PO NBR: 3301 Observe all federal, state and local regulations when storing or disposing of this substance ****** CONDITIONS TO AVOID Avoid contact with or storage with water, acids, and other incompatibilities. Flammable, poisonous gases may accumulate in tanks and hopper cars. SPILL ANO LEAK PROCEDURES SOIL SPILL Dig holding area such as lagoon, pond or pit for containment. Use soil, sand bags, foamed polyurethane, or foamed concrete to dike surface Use fly ash or cement powder to absorb bulk liquid. Use vinegar or other dilute acid to neutralize WATER SPILL: Add suitable agent to neutralize spilled material to pH-7. OCCUPATIONAL SPILL: Do not touch spilled material. Stop leak if you can do it without risk. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For small dry spills, with clean shovel place area. For larger spills, dike far ahead of spill for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry. Reportable Quantity (RQ): 1000 pounds The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the National Response Center must be notified immediately at (800) 424-8802 or (202) 426-2675 in the metropolitan Washington, D.C. area (40 CFR 302.8). -----PROTECTIVE EQUIPMENT VENTILATION: Provide local exhaust or process enclosure ventilation to meet published exposure limits RESPIRATOR The following respirators and maximum use concentrations are recommendations by the U.S. Department of Health and Human Services, NIOSH Pocket Guide to Chemical Hazards; NIOSH criteria documents or by the U.S. Department of Labor. 29 CFR 1910 Subpart Z. The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA). SODIUM HYDROXIDE: 50 mg/m3- Any powered air-purifying respirator with a dust and mist filter. Any supplied-air respirator operated in a continuous flow mode. 100 mg/m3- Any self-contained breathing apparatus with a full facepiece. Any supplied-air respirator with a full facepiece. Any air-purifying full facepiece respirator with a high efficiency particulate filter 250 mg/m3- Any supplied-air respirator with a full facepiece and operated in a pressure-demand or other positive pressure mode. Escape- Any air-purifying full facepiece respirator with a high efficiency particulate filter. Any appropriate escape-type self-contained breathing apparatus. FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS: Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode

CLOTHING:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent any possibility of skin contact with this substance.

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GLOVES:

Employee must wear appropriate protective gloves to prevent contact with this substance.

EYE PROTECTION: Employee must wear splash-proof or dust-resistant safety goggles and a faceshield to prevent contact with this substance.

Emergency wash facilities: Where there is any possibility that an employee's eyes and/or skin may be exposed to this substance, the employer should provide an eye wash fountain and quick drench shower within the immediate work area for emergency use.

AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 07/19/85 REVISION DATE: 06/30/94

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DATE: 07/25/92 ACCT: 145965-01 PAGE: 1 INDEX: 02922060518 CAT NO: A507-500 PO NBR: 1217 AIR **ACETIC ACID, GLACIAL** **ACETIC ACID, GLACIAL** **ACETIC ACID, GLACIAL** MATERIAL SAFETY DATA SHEET	DATE: 07/25/92 ACCT: 146965-01 PAGE: 2 INDEX: 02922060518 CAT NO: A507-500 P0 NBR: 1217 AIR FIRE AND EXPLOSION HAZARD: MODERATE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.
FISHER SCIENTIFIC EMERGENCY NUMBER: (201) 795-7100 CHEMICAL DIVISION CHEMITREC ASSISTANCE: (800) 424-9300 1 REAGENT LANE FAIR LAWN NJ 07410 (201) 796-7100	VAPOR-AIR MIXTURES ARE EXPLOSIVE ABOVE FLASH POINT. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. FLASH POINT: 103 F (39 C) (CC) UPPER EXPLOSIVE LIMIT: 16.0% @ 92 C
THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.	LOWER EXPLOSIVE LIMIT: 4.0% @ 59 C AUTOIGNITION TEMP.: 857 F (454 C) FLAMMABILITY CLASS(OSHA): JI FIREFIGHTING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).
SUBSTANCE IDENTIFICATION	FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM (1990 Emergency Response Guidebook, dot P 5800.5).
SUBSTANCE: **ACETIC ACID, GLACIAL** CAS-NUMBER 54-19-7	ALCOHOL FOAM (NFPA 325M, FIRE HAZARD PROPERTIES OF FLAMMABLE LIQUIDS, GASES, AND VOLATILE Solids, 1991).
TRADE NAMES/SYNONYMS: ACETIC ACID; GLACIAL ACETIC ACID; ETHANDIC ACID; VINEGAR ACID; ETHYLIC ACID; PYPALIGNEUS ACID; METHANECARBOXYLIC ACID; ACETIC ACID, HPLC GRADE; STCC 4931303; UN 2789; A37; A38; A38C; A38P; A38SI; A38S; A507; A465; A35; A38FP; BP1185; C2H402; ACC00120	FIREFIGHTING: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. DO NOT GET WATER INSIDE CONTAINER. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT, STAY AWAY FROM ENDS OF TANKS. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE ISDATE FOR I/2 MILE IN ALL DIRECTIONS IF
CHEMICAL FAMILY: CARBGXYLIC ACID, ALIPHATIC	GUIDEBOOK, DOT P 5800,5, GUIDE PAGE 29).
MOLECULAR FORMULA: C-H3-C-02-H	USE FLOODING AMOUNTS OF WATER AS A FOG; SOLID STREAMS MAY BE INEFFECTIVE. COOL CONTAINERS WITH FLOODING AMOUNTS OF WATER FROM AS FAR A DISTANCE AS POSSIBLE. USE WATER SPRAY TO ABSORE CODESSIVE VARIABLE ADDISTANCE AS
MOLECULAR WEIGHT: 60.05	POSSIBLE. USE WATER SPRAY TO ABSORD CORROSIVE VAPORS. AVOID BREATHING CORROSIVE VAPORS; KEEP UPWIND.
CERCLA PATINGS (SCALE 0-3): HEALTH=2 FIRE=2 REACTIVITY=0 PERSISTENCE=0 NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=2 REACTIVITY=0 COMPONENTS AND CONTAMINANTS	FIRE FIGHTING PHASES: USE WATER SPRAY, DRY CHEMICAL, ALCOHOL FOAM, OR CARBON DIOXIDE. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL. IF A LEAK OR SPILL HAS NOT IGNITED, USE WATER SPRAY TO DISPERSE THE VAPORS AND TO PROTECT THE MEN ATTEMPTING TO STOP A LEAK, WATER SPRAY MAY BE USED TO FLUSH SPILLS AWAY FROM EXPOSURES AND TO DILUTE FOUNDER AND NOT THE MEN
COMPONENT: ACETIC ACID CAS# 64-19-7 PERCENT: 80.0-100.0	EXPOSURES AND TO DILUTE SPILLS TO NONFLAMMABLE MIXTURES (NEPA 49, HAZARDOUS CHEMICALS DATA, 1975).
COMPONENT: WATER PERCENT: 0-20.0	TRANSPORTATION DATA
OTHER CONTAMINANTS: NONE EXPOSURE LIMITS:	DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49-CFR 172.101: CORROSIVE MATERIAL
ACETIC ACID, GLACIAL; 10 PPM (25 MG/M3) OSHA TWA 10 PPM (25 MG/M3) ACGIH TWA; 15 PPM (37 MG/M3) ACGIH STEL 10 PPM (25 MG/M3) NIOSH RECOMMENDED TWA; 15 PPM (37 MG/M3) NIOSH STEL 10 PPM (25 MG/M3) DEG MAX TWA.	DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49-CFR 172.101 AND SUBPART E: CORROSIVE
20 PPM (50 MG/M3) DFG MAK 5 MINUTE PEAK, MOMENTARY VALUE, 8 TIMES/SHIFT	DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49-CFR 173.245 EXCEPTIONS: 49-CFR 173.244
MEASUREMENT METHOD: CHARCOAL TUBE; FORMIC ACID; GAS CHROMATOGRAPHY WITH Flame Ionization Detection; (NIOSH Vol. III # 1603). 5000 PCUNDS CERCLA SECTION 103 REPORTABLE QUANTITY	FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90)
PHYSICAL DATA DESCRIPTION: CLEAR, COLORLESS LIQUID WITH A STRONG, PUNGENT, CHARACTERISTIC	EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 09/18/91)
ODOR OF VINEGAR AND WHEN WELL DILUTED WITH WATER, AN ACID TASTE.	U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: ACETIC ACID, GLACIAL-UN 2789
BOILING POINT: 244 F (118 C) MELTING POINT: 62 F (17 C) SPECIFIC GRAVITY: 1.0492 VAPOR PRESSURE: 11.8 MMHG @ 20 C	U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 8 - CORROSIVE MATERIAL
SPECIFIC GRAVITY: 1.0492 VAPOR PRESSURE: 11.8 MMHG @ 20 C EVAPORATION RATE: (BUTYL ACETATE=1) 0.97 PH: 2.4 (1.0 M SOL.)	U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP 48 CED 172 101.
SOLUBILITY IN WATER: VERY SOLUBLE ODOR THRESHOLD: 1.0 PPM VAPOR DENSITY: 2.07	PG II U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: CORROSIVE
SOLVENT SOLUBILITY; SOLUBLE IN ETHANOL, GLYCEROL, ETHER, ACETONE, BENZENE, CARBON TETRACHLORIDE; INSOLUBLE IN CARBON DISULFIDE, CHLOROFORM, DIMETHYL SULFOXIDE	U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS; EXCEPTIONS: 49 CFR 173.154 NON-BULK PACKAGING: 49 CFR 173.202
VISCOSITY: 1.22 CPS @ 20 C	BULK PACKAGING: 49 CFR 173.242
FIRE AND EXPLOSION DATA	U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: Passenger Aircraft or Railcar: 1 L Cargo Aircraft Only: 30 L

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TOXICITY ACETIC ACID, GLACIAL: IRRITATION DATA: 50 MG/24 HOURS SKIN-HUMAN MILD: 525 MG OPEN SKIN-RABBIT SEVERE; 50 MG/24 HOURS SKIN-RABBIT MILD; 20 MG/24 HOURS SKIN-RABBIT MODERATE; 50 UG OPEN EYE-RABBIT SEVERE; 5 MG/30 SECONDS RINSED EYE-RABBIT MILD: TOXICITY DATA: 815 PPM/3 MINUTES INHALATION-HUMAN TCLO; 16,000 PPM/4 HOURS INHALATION-RAT LCLO; 5620 PM/1 HOUR INHALATION-MOUSE LC50; 1060 MG/KG SKIN-RABBIT LD50; 1470 UG/KG ORAL-HUMAN TDLO; 3310 MG/KG ORAL-RAT LD50; 600 MG/KG ORAL-RABBIT LDLO; 600 MG/KG SUBCUTANEOUS-RABBIT LDLO; 525 MG/KG INTRAVENOUS-MOUSE LD50; 600 MG/KG RECTAL-RABBIT LDLO; 308 MG/KG UNREPORTED-MAN LDLO; MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS). CARCINGGEN STATUS: NOME. LOCAL EFFECTS: CORROSIVE- INHALATION, SKIN, EYE, INGESTION. ACUTE TOXICITY LEVEL: MODERATELY TOXIC BY INHALATION, DERMAL ABSORPTION, INGESTION. TARGET EFFECTS: POISONING MAY AFFECT THE LIVER, KIDNEYS, AND CARDIOVASCULAR SYSTEM. AT INCREASED RISK FROM EXPOSURE: PERSONS WITH A HISTORY OF RESPIRATORY, SKIN OR EYE DISEASE.	ACUTE EXPOSURE- IN CASES OF ACCIDENTAL INGESTION, SEVERE ULCERONECROTIC LESIONS OF THE UPPER DIGESTIVE TRACT, STRICTURE OF THE ESOPHAGUS, AND PERFORATION OF THE ESOPHAGUS AND PYLORUS HAVE BEEN OBSERVED WITH HEMATEMESTS, DIARRHEA, SHOCK, HEMOGLOBINURIA FOLLOWED BY ANURIA AND UREMIA. OTHER SYMPTOMS MAY INCLUDE VOMITING, ABDOMINAL SPASMS, THIRST, DIFFICULTY IN SWALLOWING, HYPOTHERMIA, RAPID AND WEAK PULSE, SLOW AND SHALLOW BREATHING, LARVNGITIS, BRONCHITIS, PULMONARY EDEMA, PNEUMONIA, HEMOLYSIS, ALBUMINURIA, HEMATURIA, TWITCHING, CONVULSIONS, CARDIOVASCULAR COLLAPSE, SHOCK AND DEATH. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. CHRONIC EXPOSURE- NO DATA AVAILABLE. FIRST AID- DO NOT USE GASTRIC LAVAGE OR EMESIS. DILUTE THE ACID IMMEDIATELY BY DRINKING LARGE QUANTITIES OF WATER OR MILK. IF VOMITING PERSISTS, AOMINISTER FLUIDS REPEATEDLY, INGESTED ACID MUST BE DILUTED APPROXIMATELY 100 FOLD TO RENDER IT HARMLESS TO TISSUES. MAINTAIN AIRWAY AND TREAT SHOCK (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD BELOW HIPS TO HELP PREVENT ASPIRATION. ANTIDOTE: NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.
HEALTH EFFECTS AND FIRST AID	REACTIVITY:
INHALATION: ACETIC ACID, GLACIAL: 1000 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. CORROSIVE. ACUTE EXPOSURE- MAY CAUSE SEVERE IRRITATION OF THE RESPIRATORY TRACT. SO PPM OR MORE IS INTOLERABLE TO MOST PERSONS AND RESULTS IN PHARYNGEAL EDEMA AND CHRONIC BRONCHITIS. OTHER SYMPTOMS MAY INCLUDE COUGHING, DYSPNEA, SHORTNESS OF BREATH, LARYNGITIS, PULMONARY EDEMA, BRONCHOPNEUMONIA AND HYPOTENSION. CHRONIC EXPOSURE- WORKERS REPEATEDLY EXPOSED TO CONCENTRATIONS UP TO 200 PPM HAVE BEEN FOUND TO SUFFER FROM PALPEBRAL EDEMA WITH HYPERTROPHY OF THE LYMPH NODES, CHRONIC PHARYNGITIS, CHRONIC BRONCHITIS AND IN SOME CASES, ASTIMATIC BRONCHITIS AND TRACES OF EROSION OF THE TECH. COMPLAINTS OF DIGESTIVE DISORDERS WITH PYROSIS AND CONSTIPATION HAVE ALSO BEEN REPORTED. FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE, KEEP AFFECTED PERSON WARM AND AT REST. TRAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRIION OF OXYGEN SHOULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION IMMEDIATELY.	<pre>STABLE UNDER NORMAL TEMPERATURES AND PRESSURES. INCOMPATIBILITIES: ACETIC ACID, GLACIAL: ACETIC ANHYDRIDE + WATER: VIOLENT, EXOTHERMIC REACTION. ACETIC ANHYDRIDE + WATER: VIOLENT, EXOTHERMIC REACTION. 2-AMINOETHANOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM NITRATE: IGNITES ON WARMING, ESPECIALLY IF CONCENTRATED. 5-AZIDOTETRAZOLE: POSSIBLE EXPLOSIVE REACTION. BASES: EXOTHERMIC REACTION. BASES: EXOTHERMIC REACTION. BASES: INCOMPATIBLE. CHRONNE PENTAFLUORIDE: FIRE AND EXPLOSIVE REACTION. CHRONNE TRIFLUORIDE: VIOLENT, POSSIBLY EXPLOSIVE REACTION. CHLOROSULFONIC ACID: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CHROMIC ACID: EXPLOSIVE REACTION IF NOT KEPT COLD. CHROMIUM TRIOXIDE: POSSIBLE FIRE AND EXPLOSIVE REACTION. DIALLYL METHYL CARBINOL AND 020NE: EXPLOSIVE REACTION. ETHYLENE DIAMINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ETHYLENE DIAMINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ETHYLENE DIAMINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ETHYLENE DIAMINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. HYDROGEN PEROXIDE: AND PRESSURE INCREASE IN CLOSED CONTAINER. ETHYLENETMINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. HYDROGEN PEROXIDE: EXPLOSIVE REACTION ON HEATING WITH THE PRODUCTION OF PERACETIC ACID WHICH WILL EXPLODE AT 110 C. HYDROKIDES: INCOMPATIBLE. LEAD: CORRODES. METALS: ATTACKS MOST METALS, INCLUDING ZINC. NITRIG ACID: EXPLOSIVE REACTION IF NOT KEPT COLD. NITRIG ACID: EXPLOSIVE REACTION IF NOT KEPT COLD.</pre>
<pre>Skin contact: ACETIC ACID, GLACIAL: CORROSIVE. ACUTE EXPOSURE- DIRECT CONTACT MAY CAUSE SEVERE IRRITATION WITH PAIN, ACUTE EXPOSURE- DIRECT CONTACT MAY CAUSE SEVERE IRRITATION WITH PAIN, ERYTHEMA, BLISTERS, BURNS AND SUPERFICIAL DESTRUCTION OF THE SKIN WITH SLOW HEALING. THE SKIN MAY BECOME BLACKENED, HYPERKERATOTIC AND FISSURED. READILY ABSORBED THROUGH THE SKIN. CHRONIC EXPOSURE- REPEATED AND PROLONGED CONTACT MAY CAUSE DARKENING OF THE SKIN, IRRITATION AND DERMATITIS. FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF CHEMICAL BURNS, COVER AREA WITH STERLE, DRY DRESSING. BANDAGE SECURELY, BUT NOT TOO TIGHTLY. GET MEDICAL ATTENTION IMMEDIATELY. EYE CONTACT: ACETIC ACID, GLACIAL:</pre>	NITRIC ACID AND ACETONE: EXPLOSIVE REACTION (DELAYED) IN CLOSED CONTAINER. OLEUM: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. OXIDIZERS: FIRE AND EXPLOSION HAZARD. PERCHLORIC ACID: EXPLOSIVE REACTION. PERMANGENATES: EXPLOSIVE REACTION IF NOT KEPT COLD. PHOSPHORUS ISOCYANATE: VIOLENT REACTION. PHOSPHORUS ISOCYANATE: VIOLENT REACTION. PHOSPHORUS ISOCYANATE: VIOLENT REACTION. POTASSIUM HYDROXIDE: VIOLENT REACTION. POTASSIUM PERMANGANATE: POSSIBLE EXPLOSION IF INADEQUATELY COOLED. POTASSIUM PERMANGANATE: POSSIBLE EXPLOSION IF INADEQUATELY COOLED. POTASSIUM TERT-BUTOXIDE: IGNITION REACTION. SODIUM HYDROXIDE: YEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. SODIUM HYDROXIDE: EXPLOSIVE REACTION IF NOT KEPT COLD. XVLENE: MAY FORM DETONABLE MIXTURES DURING TERPHTALIC ACID PRODUCTION, THE PRESENCE OF WATER MAY DECREASE THE HAZARD. DECOMPOSITION: THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON.
CORROSIVE.	
ACUTE EXPOSURE- DIRECT CONTACT CAUSES SEVERE IRRITATION, LACRIMATION, CORNEAL EROSION, OPACIFICATION, IRITIS AND POSSIBLY LOSS OF SIGHT IN HUMANS. REGENERATION OF THE EPITHELIUM MAY TAKE MANY MONTHS, BUT CORNEAL ANESTHESIA AND OPACITY WILL USUALLY BE PERMANENT. IN LESS SEVERE CASES, CONJUNCTIVITIS, PHOTOPHOBIA AND HYPEREMIA OF THE CONJUNCTIVA OCCURED. THE VAPOR AND DILUTE SOLUTIONS MAY CAUSE CONJUNCTIVAL HYPEREMIA AND SOMETIMES INJURY TO THE CORNEAL EPITHELIUM. CHRONIC EXPOSURE- DEPENDING ON THE CONCENTRATION AND DURATION OF EXPOSURE, EFFECTS SIMILAR TO ACUTE EXPOSURE MAY OCCUR.	POLYMERIZATION: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES. STORAGE AND DISPOSAL OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.
FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT	
LEAST 15-20 MINUTES). CONTINUE IRRIGATING WITH NORMAL SALINE UNTIL THE PH HAS RETURNED TO NORMAL (30-60 MINUTES). COVER WITH STERILE BANDAGES. GET	**STDRAGE**
MEDICAL ATTENTION IMMEDIATELY, Ingestion: ACETIC ACID, glacial: Corrosive,	PROTECT AGAINST PHYSICAL DAMAGE. DETACHED STORAGE IS PREFERRED. SEPARATE FROM OXIDIZING MATERIALS AND AVOID STORAGE NEAR COMBUSTIBLE MATERIALS. KEEP ABOVE ITS FREEZING POINT (62 F) TO AVOID RUPTURE OF CARBOYS AND GLASS CONTAINERS (NFPA 49, HAZARDOUS CHEMICALS DATA, 1975).

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BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY, WHICH MAY BE IGNITED BY ELECTROSTATIC SPARKS, SHOULD BE STORED IN CONTAINERS WHICH MEET THE BONDING AND GROUNDING GUIDELINES SPECIFIED IN NFPA 77-1983, RECOMMENDED PRACTICE ON STATIC ELECTRICITY.

STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

STORE IN ACCORDANCE WITH 29 CER 1910, 106.

**DISP05AI **

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 252. EPA HAZARDOUS WASTE NUMBER DOO2. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY.

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262. EPA HAZARDOUS WASTE NUMBER DOO1. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY.

CONDITIONS TO AVOID

AVOID CONTACT WITH HEAT, SPARKS, FLAMES OR OTHER IGNITION SOURCES. VAPORS MAY BE EXPLOSIVE. MATERIAL IS CORROSIVE; AVOID CONTACT WITH SKIN OR EYES, OO NOT ALLOW CONTAMINATION OF WATER SOURCES.

USUAL SHIPPING CONTAINERS: GLASS AND POLYETHYLENE CARBOYS AND POLYETHYLENE-LINED DRUMS, TANK BARGES (NFPA 49, HAZARDOUS CHEMICALS DATA, 1975).

SPILL AND LEAK PROCEDURES

SOIL SPILL

JUG A HOLDING AREA SUCH AS A PIT, PONO OR LAGOON TO CONTAIN SPILL AND DIKE SURFACE FLOW USING BARRIER OF SOIL, SANDBAGS, FOAMED POLYURETHANE OR FOAMED CONCRETE. ABSORB LIQUID MASS WITH FLY ASH OR CEMENT POWDER.

NEUTRALIZE WITH CAUSTIC SODA (NAOH) OR SODA ASH (NA2CO3)

AIR SPILL:

KNOCK DOWN VAPORS WITH WATER SPRAY, KEEP UPWIND.

WATER USED TO KNOCK DOWN VAPORS MAY BECOME CORROSIVE OR TOXIC AND SHOULD BE CONTAINED PROPERLY FOR LATER DISPOSAL.

WATER SPILL: NEUTRALIZE WITH CAUSTIC SODA.

OCCUPATIONAL SPILL:

OCCUPATIONAL SPILL: SHUT OFF IGNITION SOURCES. DO NOT TOUCH SPILLED MATERIAL, STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. DO NOT GET WATER INSIDE CONTAINER. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL, FOR LARGER SPILLS, DIKE FAR AHEAO OF SPILL FOR LATER DISPOSAL. NO SMOKING, FLAMES OR FLARES IN HAZARD AREA. KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND DENY ENTRY.

REPORTABLE QUANTITY (RQ): 5000 POUNDS THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).

PROTECTIVE EQUIPMENT

VENTILATION:

PROVIDE LOCAL EXHAUST VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS. VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF.

- RESPIRATOR: THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1910 SUBPART Z. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).

ACETIC ACID, GLACIAL:

250 PPM- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN CONTINUOUS FLOW MODE. ANY POWERED AIR-PURIFYING RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE(S).

500 PPM- ANY CHEMICAL CARTRIDGE RESPIRATOR WITH FULL FACEPIECE AND ORGANIC

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> VAPOR CARTRIDGE(S) ANY SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE.

ANY SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH

CHIN-STVLE, FRONT- OR BACK-MOUNTED ORGANIC VAPOR CANISTER. ANY POWERED AIR-PURIFYING RESPIRATOR WITH A TIGHT-FITTING FACEPIECE AND ORGANIC VAPOR CARTRIDGE(S).

1000 PPM- ANY SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

ESCAPE- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH CHIN-STYLE, FRONT- OR BACK-MOUNTED ORGANIC CANISTER. ANY APPOPRIATE, ESCAPE-TYPE SELF-CONTAINED BREATHING APPARATUS.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELETCONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

CLOTHING

EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT ANY POSSIBILITY OF SKIN CONTACT WITH THIS SUBSTANCE.

GLOVES.

EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

EYE PROTECTION:

EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE.

EMERGENCY WASH FACILITIES

WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

AUTHORIZED - FISHER SCIENTIFIC, INC. Iton Date: 09/06/84 Revision Date: 06/23/92 CREATION DATE: 09/06/84

-ADDITIONAL INFORMATION-

-ADDITIONAL INFORMATION-THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.

DATE: 05/28/92 ACCT: 146965-01 PAGE: 2 INDEX: 02921490654 CAT NO: A509-212 PO NBR: 527 CONTACT WITH EASILY OXIDIZABLE, ORGANIC, OR OTHER COMBUSTIBLE MATERIALS MAY RESULT IN IGNITION, VIOLENT COMBUSTION OR EXPLOSION.
FIREFIGHTING MEDIA: WATER, DRY CHEMICAL OR SODA ASH (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).
FOR LARGER FIRES, FLOOD AREA WITH WATER FROM A DISTANCE (1990 Emergency response guidebook, dot p 5800.5).
FIREFIGHTING: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT, STAY AWAY FROM ENDS OF TANKS, FOR MASSIVE FIRE IN CARGO AREA, USE UNMANNED HOSE HOLDER OR MONITOR NOZZLES; IF THIS IS IMPOSSIBLE, WITHDRAW FROM AREA AND LET FIRE BURN (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 44).
USE FLOODING AMOUNTS OF WATER AS FOG. COOL CONTAINERS WITH FLOODING AMOUNTS OF WATER, APPLY FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING CORROSIVE VAPORS, KEEP UPWIND. CONSIDER EVACUATION OF DOWNWIND AREA IF MATERIAL IS LEAKING.
TRANSPORTATION DATA
DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101: OXIDIZER
DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND SUBPART E: OXIDIZER AND CORROSIVE
DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49 CFR 173.268
EXCELLIONS. NORE
FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90)
EXCEPT FOR EXPLOSIVES INHALATION HAZARDS AND INFORTIONS OF AND
EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 10/18/91)
U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: NITRIC ACID-UN 2031
U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 8 ~ CORROSIVE MATERIAL U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG I
U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: CORROSIVE
U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: EXCEPTIONS: NONE NON-BULK PACKAGING: 49 CFR 173,158 BULK PACKAGING: 49 CFR 173,243
U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: FORBIDDEN CARGO AIRCRAFT ONLY: 2.5 L
TOXICITY
NITRIC ACID: Toxicity data:
ANHYDROUS: 49 PPM/4 HOURS INHALATION-RAT LC50 (VAN WATER & ROGERS, INC MSDS); 2500 PPM/1 HOUR INHALATION-RAT LC50 (DUPONT MSDS); 430 MG/KG ORAL-HUMAN LDL0; 50-500 MG/KG ORAL-UNSPECIFIED SPECIES LD50 (DUPONT MSDS); 110 MG/KG UNREPORTED-MAN LDL0; REPRODUCTIVE EFFECTS DATA (RTECS). MONOHYDRATE: NO DATA AVAILABLE.
CAPCINDEN CTATUS NO DATA AVAILABLE.
LOCAL EFFECTS: CORROSIVE- INHALATION, SKIN, EYES, INGESTION. ACUTE TOXICITY LEVEL: HIGHLY TOXIC BY INHALATION; TOXIC BY INGESTION. TARGET EFFECTS: NO DATA AVAILABLE. AT INGREASED RISK FROM EXPOSURE: PERSONS WITH IMPAIRED PULMONARY FUNCTION, PRE-EXISIING EVE AND SKIN OISOPERSON
Sector 2.2 Mar Skill Orsonberg.
HEALTH EFFECTS AND FIRST AID

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PAGE: 3 DATE 05/28/92 ACCT: 146965-01 PAGE: 4 INDEX: 02921490654 DATE: 05/28/92 CAT NO: A509-212 ACCT : PO NBR: 627 146965-01 INDEX: D2921490654 CAT NO: A509-212 PO NBR: 627 DELAYED FOR MONTHS OR EVEN YEARS. DEATH MAY RESULT WITHIN A SHORT TIME FROM ASPHYXIA, CIRCULATORY COLLAPSE OR ASPIRATION OF EVEN MINUTE AMOUNTS. LATER DEATH MAY BE DUE TO PERITONITIS, SEVERE NEPHRITIS OR PNEUMONIA. COMA INHALATION NITRIC ACID: CORROSIVE/HIGHLY TOXIC. 100 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSURE- INHALATION OF ACIDIC SUBSTANCES MAY CAUSE SEVERE RESPIRATORY ACUTE EXPOSURE- INHALATION OF ACIDIC SUBSTANCES MAY CAUSE SEVERE RESPIRATORY ACUTE EXPOSURE- INHALATION OF ACIDIC SUBSTANCES MAY CAUSE SEVERE RESPIRATORY INFITATION WITH COUGHING, CHOKING, AND POSSIBLY YELLOWISH BURNS OF THE MUCOUS MEMBRANES. OTHER INITIAL SYMPTOMS MAY INCLUDE DIZZINESS, HEADACHE, NAUSEA, AND WEAKNESS. PULMONARY EDERM MAY BE IMMEDIATE IN THE MOST SEVERE EXPOSURES, BUT MORE LIKELY WILL OCCUR AFTER A LATENT PERIOD OF 5-72 HOURS. THE SYMPTOMS MAY INCLUDE TIGHTNESS IN THE CHEST, DYSPNEA, DIZZINESS, FROTHY SPUTUM, AND CYANOSIS. PHYSICAL FINDINGS MAY INCLUDE HYPOTENSION, WEAK, RAPID PULSE, MOIST RALES, AND HEMOCONCENTATION. IN NON-FATAL CASES, COMPLETE RECOVERY MAY OCCUR WITHIN A FEW DAYS OR WEEKS OR, CONVALESCENCE MAY BE PROLONGED WITH FREQUENT RELAPSES AND CONTINUED DYSPNEA AND OTHER SIGNS AND SYMPTOMS OF PULMONARY INSUFFICIENCY. IN SEVERE EXPOSURES, DEATH DUE TO ANOXIA MAY OCCUR WITHIN A FEW HOURS AFTER ONSET OF THE SYMPTOMS OF PULMONARY EDEMA OF FOLLOWING A RELAPSE. CHRONIC EXPOSURE- DEPENDING ON THE CONCENTRATION AND DURATION OF EXPOSURE, REPEATED OR PROLONGED EXPOSURE TO AN ACIDIC SUBSTANCE MAY CAUSE EROSION OF THE TEETH, INFLAMMATORY AND ULCERATIVE CHANGES IN THE MOUTH, AND POSSIBLY JAW NECROSIS. BRONCHIAL IRRITATION WITH COUGH AND FREQUENT ATTACKS OF BRONCHIAL PNEUMONIA MAY OCCUR. GASTROINTESTINAL DISTURBANCES ARE ALSO POSSIBLE. AND CONVULSIONS SOMETIMES OCCUR TERMINALLY CHRONICSIONS SUMETIMES OCCUR TERMINALLY. CHRONIC EXPOSURE- DEPENDING ON THE CONCENTRATION, REPEATED INGESTION OF ACIDIC SUBSTANCES MAY RESULT IN INFLAMMATORY AND ULCERATIVE CHANGES IN THE MUCOUS MEMBRANES OF THE MOUTH AND OTHER EFFECTS AS IN ACUTE INGESTION. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. FIRST AID- DO NOT USE GASTRIC LAVAGE OR EMESIS. DILUTE THE ACID IMMEDIATELY BY DRINKING LARGE QUANTITIES OF WATER OR MILK. IF VOMITING PERSISTS, ADMINISTER FLUIDS REPEATEDLY. INGESTED ACID MUST BE DILUTED APPROXIMATELY 1DD FOLD TO RENDER IT HARMLESS TO TISSUES. MAINTAIN AIRWAY AND TREAT SHOCK (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD BELOW HIPS TO HELP PREVENT ASPIRATION. ANTIDOTE: NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. REACTIVITY FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRATION OF OXYGEN SHOULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION IMMEDIATELY. REACTIVITY · REACTS EXOTHERMICALLY WITH WATER. INCOMPATIBILITIES: NITRIC ACID: ACETIC ACID: MAY REACT EXPLOSIVELY. ACETIC ANHYDRIDE: EXPLOSIVE REACTION BY FRICTION OR IMPACT. ACETONE: MAY REACT EXPLOSIVELY. ACETIC ANHYDRIDE: EXPLOSIVE REACTION BY FRICTION OR IMPACT. ACETONE: MAY REACT EXPLOSIVE MIXTURE. 4-ACETORY-3-METHOXYBENZALDEHYDE: EXOTHERMIC REACTION, ACROLEIN: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ACRYLONITRILE: EXPLOSIVE REACTION AT 90 C. ACRYLONITRILE-METHACRYLATE COPOLYMER: INCOMPATIBLE. ALCOHOLS: POSSIBLE VIOLENT REACTION OR EXPLOSION; FORMATION OF EXPLOSIVE _ COMPOUND IN THE PRESENCE OF HEAVY METALS. ALKANETHIOLS: EXOTHERMIC REACTION WITH POSSIBLE IGNITION. 2-ALKOX'-1, 3-DITHIA-2-PHOSPHOLAME: INCREASE IN CLOSED CONTAINER. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIA (GAS): BURNS IN AN ATMOSPHERE OF NITRIC ACID VAPOR. AMMONIA HYDROIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIAM HYDROIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIAM HYDROIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIAM HYDROIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIAM HYDROIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIAM HYDROIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIAM HYDROIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIAM HYDROIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIAM HYDRORS EXPLOSIVE SOLUTION. ANILINIAME: IGNITES ON CONTACT. ANILINIAME IGNITES ON CONTACT. ANILINIAME IFORME RESIDES POSSIBLE VIOLENT EXOTHERMIC REACTION. ANIONY VIOLENT R SKIN CONTACT: NITRIC ACID: CORROSIVE DRROSIVE. ACUTE EXPOSURE- DIRECT CONTACT WITH LIQUID OR VAPOR MAY CAUSE SEVERE PAIN, BURNS AND POSSIBLY YELLOWISH STAINS. BURNS MAY BE DEEP WITH SHARP EDGES AND HEAL SLOWLY WITH SCAR TISSUE FORMATION. DILUTE SOLUTIONS OF NITRIC ACID MAY PRODUCE MILD IRRITATION AND HARDEN THE EPIDERMIS WITHOUT DESTROYING IT. CONCENTRATED ACID SOLUTIONS APPLIED TO OVER 25% OF THE SKIN AREA IN RATS PRODUCED ELEVATED METHEMOGLOBIN AND BLOOD NITRATE CHYCLS. CHRONIC EXPOSURE- EFFECTS DEPEND ON THE CONCENTRATION AND DURATION OF EXPOSURE. REPEATED OR PROLONGED CONTACT WITH ACIDIC SUBSTANCES MAY RESULT IN DERMATITIS OR EFFECTS SIMILAR TO ACUTE EXPOSURE. FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-2D MINUTES). IN CASE OF CHEMICAL BURNS, COVER AREA WITH STERILE, DRY DRESSING, BANDAGE SECURELY, BUT NOT TOO TIGHTLY. GET MEDICAL ATTENTION IMMEDIATELY. ANTIMONY: VIOLENT REACTION, ARSINE: EXPLOSIVE REACTION, ARSINE-BORON TRIBROMIDE: VIOLENT OXIDATION. EYE CONTACT: NITRIC ACID: ARSINE: EXPLOSIVE REACTION. ARSINE: BORON TRIBROMIDE: VIOLENT OXIDATION. BASES: REACTS. BENZENE: EXPLOSIVE REACTION. BENZIDINE: SPONTANEOUS IGNITION. BENZOTHIOPHENE DERIVATIVES: FORMATION OF POSSIBLY EXPLOSIVE COMPOUNDS. N-BENZVL-N-ETHYLANILINE: VIGOROUS DECOMPOSITION. 1.4-BIS(METHOXYMETHYL)2,3,5,6-TETRAMETHYLBENZENE: GAS EVOLUTION. BISMUTH: INTENSE EXOTHERMIC REACTION OR EXPLOSION. 1.3-BIS(TRIFLUOROMETHYL)BENZENE: POSSIBLE EXPLOSION. BORON: VIOLENT REACTION WITH INCANDESCENCE. BORON PHOSPHIDE: IGNITION REACTION. BORON PHOSPHIDE: IGNITION REACTION. N-BUTYNALDEHYTAFLUORIDE: IGNITION REACTION. N-BUTYNALDEHYTAF: IGNITION REACTION. N-BUTYNALDEHYTAF: IGNITION REACTION. N-BUTYNALDEHYTAF: IGNITION REACTION. CALCIUM HYOPPHOSPHITE: IGNITION REACTION. CALCIUM HYOPHOSPHITE: SOULS AND REACTION. CALCIUM HYOPHOSPHITE: IGNITION REACTION. CALCIUM HYOPHOSPHITE: IGNITION REACTION. CALCIUM HYOPHOSPHITE: IGNITION REACTION. CALCIUM HYOPHOSPHITE: IGNITION REACTION. CALCIUM HYOPHOSPHITE: SOULS AND REACTION. CHLORATES: REACTS. CHLORIES: NERGENTS. CHLORIES: CORROSIVE ORROSIVE. ACUTE EXPOSURE- DIRECT CONTACT WITH ACIDIC SUBSTANCES MAY CAUSE PAIN AND LACRIMATION, PHOTOPHOBIA, AND BURNS, POSSIBLY SEVERE. THE DEGREE OF INJURY DEPENDS ON THE CONCENTRATION AND DURATION OF CONTACT. IN MILD BURNS, THE EPITHELIUM REGENERATES RAPIDLY AND THE EVE RECOVERS COMPLETELY. IN SEVERE CASES, THE EXTENT OF INJURY MAY NOT BE FULLY APPARENT FOR SEVERAL WEEKS. ULTIMATELY, THE WHOLE CORNEA MAY BECOME DEEPLY ASCULARIZED AND OPAQUE RESULTING IN BLINDNESS. IN THE WORST CASES, THE EVE MAY BE TOTALLY DESTROYED. CONCENTRATED NITRIC ACID MAY IMPART A YELLOW COLOR TO THE EYE UPON CONTACT. EVE UPON CONTACT. CHRONIC EXPOSURE- EFFECTS DEPEND ON THE CONCENTRATION AND DURATION OF EXPOSURE. REPEATED OR PROLONGED EXPOSURE TO ACIDIC SUBSTANCES MAY CAUSE CONJUNCTIVITIS OR EFFECTS AS IN ACUTE EXPOSURE. FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). CONTINUE IRRIGATING WITH NORMAL SALINE UNTIL THE PH HAS RETURNED TO NORMAL (30-50 MINUTES). COVER WITH STERILE BANDAGES. GET MEDICAL ATTENTION IMMEDIATELY. INGESTION: CHLORATES: REACTS. CHLORINE: INCOMPATIBLE. CHLORINE TRIFLUORIDE: VIOLENT REACTION. CHLOROBENZENE: POSSIBLE EXPLOSION. 4-CHLOROSULFONIC ACID: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. NITRIC ACID: COBBOSIVE / TOXIC

COAL: EXPLOSIVE MIXTURE.

CUPROL NITRIDE: EXPLOSIVE MEACTION. CUPROUS NITRIDE: VIOLENT REACTION. CYANATES: POSSIBLE EXPLOSIVE REACTION. CYCLOHEXANONE: VIOLENT REACTION. CYCLOHEXYLAMINE: FORMS EXPLOSIVE COMPOUND. CYCLOPENTADIENE: EXPLOSIVE REACTION.

COATINGS: MAY BE ATTACKED. COATINGS: MAY BE ATTACKED. CRESOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CROTONALDEHYDE: VIOLENT DECOMPOSITION WITH IGNITION. CUMENE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CUMENE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CUMENE: NITEIDE: EXPLOSIVE REACTION.

ACUTE EXPOSURE - ACIDIC SUBSTANCES MAY CAUSE CIRCUMORAL BURNS WITH YELLOW DISCOLORATION AND CORROSION OF THE MUCOUS MEMBRANES OF THE MOUTH, THROAT AND ESOPHAGUS. THERE MAY BE IMMEDIATE PAIN AND DIFFICULTY OR INABILITY TO SWALLOW OR SPEAK. EPIGLOTTAL EDEMA MAY RESULT IN RESPIRATORY DISTRESS AND POSSIBLY ASPHYXIA. MARKED THIRST, EPIGASTRIC PAIN, NAUSEA, VOMITING AND DIARRHEA MAY OCCUR. DEPENDING ON THE DEGREE OF ESPOHAGEAL AND GASTRIC CORROSION, THE VOMITUS MAY CONTAIN FRESH OR DARK PRECIPITATED BLOOD AND LARGE SHREDS OF MUCOSA. SHOCK WITH MARKED HYPOTENSION, WEAK, RAPID PULSE, SHALLOW RESPIRATION, AND CLAMMY SKIN MAY OCCUR. CIRCULATORY COLLAPSE MAY ENSUE AND IF UNCORRECTED, LEAD TO RENAL FAILURE. IN SEVERE CASES, GASTRIC, AND TO A LESSER DEGREE, ESOPHAGEAL PERFORATION AND SUBSEQUENT PERITONITIS MAY OCCUR AND BE ACCOMPANIED BY FEVER AND ABDOMINAL RIGIDITY. ESOPHAGEAL, GASTRIC ANC PULORIC STRICTURE MAY OCCUR WITHIN A FEW WEEKS, BUT MAY BE

PAGE: 5 INDEX: 0352/83/22 ACCT: 148965-01 PO NBR: 627 1.2-DIAMINGETHANESISITEMETHYLODD): EXPLOSIVE REACTION. 0.2-DIAMINGETHANESISITEMETHYLODD): EXPLOSIVE REACTION. 0.2-DIAMINGETHANESISITEMETHYLODD): EXPLOSIVE REACTION. 0.2-DIAMINGETHANESISITEMETHYLODD): EXPLOSIVE COMPOUND. 0.2-DIAMINGETHANESISITEMETHYLODD): EXPLOSIVE COMPOUND. 0.2-DIAMINGETHANESISITEMETHYLODD): EXPLOSIVE COMPOUND. 0.2-DIAMINGETHANESISITEMETHYLODD): EXPLOSIVE COMPOUND. 0.2-DIAMINGETHANESISITEMETHYLODS IGNITION 0.2-DIAMINGETHANESISITEMETHYLOGINAL DIAMINGETHYLODS IN CLOSED CONTAINER. 0.2-DIAMINGETHANESISITEMETHYLOGINAL DIAMINGETHYL 0.2-DIAMINGETHANESISITEMETHYLOGINAL DIAMINGETHYL 0.2-DIAMINGETHANESISITEMETHYLOGINAL DIAMINGETHYL 0.2-DIAMINGETHANESISITEMETHYLOGINAL DIAMINGETHYL 0.2-DIAMINGETHANESISITEMETHYLOGINAL DIAMINGETHYL 0.2-DIAMINGETHANESISITEMETHYL 0.2-DIAMINGETHANESISITEMETHYLDESINE INCERSISIEN CLOSED CONTAINER. 0.2-DIAMINGETHANESISITEMETHYL 0.2-DIAMINGETHANESISIENT CONTONING 0.2-DIAMINGETHANESISIENT CARDOD DISULFIELE XAPLOSION. 0.2-DIAMINGETHANESISIENT CARDOD DISULFIEL XAPLOSION. 0.2-DIAMINGETHANESISIENT CARDOD DISULFIEL XAPLOSION. 0.2-DIAMINGETHANESISIENT CARDOD DISULFIEL XAPLOSION. 0.2-DIAMINGETHANESISIENT CARDOD DISULFIEL XAPLOSION. 0.2-DIAMINGETHANESISIENT CONTONICAT. 0.2-DIAMINGETHANESISIENT CARDOD DISULFIEL XAPLOSION. 0.2-DIAMINGETHANESISIENTIONES CARDODISISIENTINESISTIEMETHYL 0.2-DIAMINGETHANESISSIENTIONESISSIENTINESISTIEMETHYL 0.2-DIAMINGETHANESISSIENTINESISSIENTINESISSIENTINESISTIEME PAGE: 5 DATE: OS/28/92 ACCT: 146955-01 CAT NO: A509-212 INDEX: 02921490654 PO NBR: 627 1,2-DIAMINOETHANEBIS(TRIMETHYLGOLD): EXPLOSIVE REACTION. CONTAINEN. METHYL THIOPHENE: IGNITION REACTION. NEODYMIUM PHOSPHIDE: VIOLENT REACTION. NICKEL TETRAPHOSPHIDE: IGNITION REACTION. NITRO AROMATIC HYDROCARBONS: FORMS HIGHLY EXPLOSIVE PRODUCTS. NITROBENZENE: EXPLOSIVE REACTION, ESPECIALLY IN THE PRESENCE OF WATER.

PAGE: 6 DATE: 05/28/92 ACCT: 146965-01 INDEX: 02921490654 CAT NO: A509-212 PO NBR: 627 INDER: 02521890534 CAI NU: A509-212 PO NBR: 527 NITROMETHANE: EXPLOSIVE REACTION. NITROMAPHTHALENE: EXPLOSION HAZARD. NOM-METAL OXIDES : EXPLOSIVE REACTION. OEGMNIC MATERIALS: FIRE AND EXPLOSION HAZARD. ORGANIC SUBSTANCES AND PERSUBLE INCREASE IN CLOSED CONTAINER. ORGANIC SUBSTANCES AND PERSUBLORATES: POSSIBLE EXPLOSION. ORGANIC SUBSTANCES AND SULFURIC ACID: POSSIBLE EXPLOSION. PHENYL ACETYLENE + 1 1-DIMETHYLHYDRAZINE: VIOLENT REACTION. PHENYL ACETYLENE + 1 1-DIMETHYLHYDRAZINE: VIOLENT REACTION. PHENYL ORTHOPHOSPHORIC ACID DISODIUM SALT: FORMS EXPLOSIVE PRODUCTS. PHOSPHONIUM IDDIDE: IGNITION REACTION. PHOSPHORUS (VAPOR): IGNITES WHEN HEATED. PHOSPHORUS TETRAIDDIDE: VIGOROUS REACTION. PHOSPHORUS TETRAIDDIDE: SULGONIVE REACTION. PHOSPHORUS TETRAIDDIDE: VIGOROUS REACTION. PHOSPHORUS TETRAIDDIDE: VIGOROUS REACTION. PHOSPHORUS TETRAIDDIDE: VIGOROUS REACTION. PHOSPHORUS TETRAIDDIDE: SEVEN VIGOROUS REACTION. PHOSPHORUS TETRAIDDIDE: SEVEN VIGOROUS REACTION. PHOSPHORUS TETRAIDDIDE: SEVEN VIGOROUS REACTION. PHOSPHORUS TETRAIDDIDE: VIGOROUS REACTION. PHOSPHORUS TETRAIDDIDE: SEVEN VIGOROUS REACTION. PHON VIGOROUS TETRAIDDIDE: SEVEN VIGOROUS REACTION. PHON VI PHYSAROROUS INTERLOADE: EXPLOSIVE REACTION. PHYBALIC ANNO SULFURIC ACID: POSSIBLE EXPLOSIVE REACTION. PHYBALICS AND SULFURIC ACID: POSSIBLE EXPLOSIVE REACTION. PLASTICS: MAY BE AITACKED. POLVALKENES: INTENSE REACTION. POLVALKENES: INTENSE REACTION. POLVALKENES: INTENSE REACTION. POLVIETHYLENE OXIDE: DERIVATIVES: POSSIBLE EXPLOSION. POLVYENEN: TEMPERATURE AND PRESSURE INCREASE IN A CLOSED CONTAINER. POLYISIUM PHOSPHITE: EXPLOSIVE REACTION. POLYIGINGNOSILANCIC EXPLOSIVE REACTION. POLYISIUM PHOSPHITE: EXPLOSIVE REACTION. POLYIGINGNOS: SULFURICATION EVAPORATION. B-PROPIOLACIONE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. POTASSIUM PHOSPHITE: EXPLOSIVE REACTION. B-PROPIOLACIONE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. POTYLENE ONICE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. POPYLENE ONICE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. PROPIONERONG + SULFURIC ACID: EXPLOSIVE OR IGNERATION. B-PROPIOLACIONE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. PYNIDING: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. PYNIDING AGENTS: POSSIBLE EXPLOSIVE OR IGNITION REACTION. REDUCING AGENTS: POSSIBLE EXPLOSIVE OR IGNITION REACTION. RESORCINOL: JOSTIBLE EXPLOSIVE OR IGNITION REACTION. RELENIUM: VIGOROUS REACTION. SELENIUM: VIGOROUS REACTION. SELENIUM: VIGOROUS REACTION. SELENIUM: VIGOROUS REACTION. SULICON: TIGLENT PEDICIE CAND PRESSURE INCREASE IN A CLOSED CONTAINER. SILICON: STALE EXPLOSIVE REACTION. SULFUNE: EXPLOSIVE REACTION. SUDIUM AZIDE: EXOTHERNIC REACTION. SULFUNE: EXPLOSIVE REACTION. SULFUNE: SPONTANEOUS IGNITION. SULFUNE: SPONTANEOUS IGNITION. SULFUNE: EXPLOSIVE REACTION. SULFUNE: ACID: VIGINOUS REACTION. TETRABORANE: EXPLOSIVE REACTION. TETRABORANE: EXPLOSIVE REACTION. TETRABORANE: EXPLOSIVE REACTION. TETR PICRATES: REACTS. IOLUDENE: VIDLENT REACTION. IOLUDENE: IGNITION REACTION. 1,3,5-TRIACETYLHEXAHYDRO-1,3,5-TRIAZINE + TRIFLUOROACETIC ANHYDRIDE: EXPLOSIVE REACTION. TRIAZINE: VIDLENTLY EXPLOSIVE REACTION. TRICADMIUM DIPHOSPHIDE: EXPLOSIVE REACTION. TRIMETHYLGALLIUM MONOETHYL ETHER COMPLEX: IGNITION REACTION. TRIMETHYLGALLIUM MONOETHYL ETHER COMPLEX: IGNITION REACTION. TRIS(IODOMERCURI)PHOSPHIME: VIDLENT DECOMPOSITION. TRITHIOACETONE: EXPLOSIVE REACTION. TRITHIOACETONE: EXPLOSIVE REACTION. UNSYMMETRICAL DIMETHYL HYDRAZINE: SPONTANEOUS IGNITION. URANIUM ALLOY: VIDLENT REACTION. URANIUM ALLOY: VIDLENT REACTION. URANIUM ALLOY: VIDLENT REACTION. URANIUM MENEOPYMUM ALLOYS: EXPLOSIVE REACTION. VINVL ACETATE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. VINVL ACETATE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. WODD: POSSIBLE IGNITION. P-XYLENE: INTENSE REACTION IN PRESENCE OF SULFURIC ACID. ZINC: INCANDESCENT REACTION. ZINC ETHOXIDE: POSSIBLE EXPLOSIVE REACTION.

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DECOMPOSITION:

THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF NITROGEN. POLYMERIZATION:

HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.

> -----STORAGE AND DISPOSAL

OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.

STORAGE

PROTECT AGAINST PHYSICAL DAMAGE. SEPARATE FROM METALLIC POWDERS, CARBIDES, HYOROGEN SULFIDE, TURPENTINE, ORGANIC ACIOS, AND ALL COMBUSTIBLE, ORGANIC OR OTHER READILY OXIDIZABLE MATERIALS. PROVIDE GOOD VENTILATION AND AVOID DIRECT SUNLIGHT (NFPA 49, HAZARDOUS CHEMICALS DATA, 1975).

STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

THRESHOLD PLANNING QUANTITY (TPQ): THE SHOLD FLANNING QUANILIY (IPU): THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 302 REQUIRES THAT EACH FACILITY WHERE ANY EXTREMELY HAZARDOUS SUBSTANCE IS PRESENT IN A QUANILY EQUAL TO OR GREATER THAN THE TPQ ESTABLISHED FOR THAT SUBSTANCE NOTIFY THE STATE EMERGENCY RESPONSE COMMISSION FOR THE STATE IN WHICH IT IS LOCATED. SECTION 303 OF SARA REQUIRES THESE FACILITIES TO PARTICIPATE IN LOCAL EMERGENCY RESPONSE PLANNING (40 CFR 355.30).

DISPOSAL

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 252. EPA HAZARDOUS WASTE NUMBER DO02. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY.

********************** CONDITIONS TO AVOID

MAY IGNITE OTHER COMBUSTIBLE MATERIALS (WOOD, PAPER, OIL, ETC.). REACTS VIOLENTLY WITH WATER AND FUELS. FLAMMABLE, POISONOUS GASES MAY ACCUMULATE IN TANKS AND HOPPER CARS. RUNOFF TO SEWER MAY CREATE FIRE OR EXPLOSION HAZARD.

CONSULT NFPA PUBLICATION 43A, STORAGE OF LIQUID AND SOLID OXIDIZING MATERIALS. FOR STORAGE REQUIREMENTS.

SPILL AND LEAK PROCEDURES

SOIL SPILL

DIG A HOLDING AREA SUCH AS A PIT, POND OR LAGOON TO CONTAIN SPILL AND DIKE SURFACE FLOW USING BARRIER OF SOIL, SANDBAGS, FOAMED POLYURETHANE OR FOAMED CONCRETE. ABSORB LIQUID MASS WITH FLY ASH OR CEMENT POWDER.

NEUTRALIZE SPILL WITH SLAKED LIME, SODIUM BICARBONATE OR CRUSHED LIMESTONE.

AIR SPILL:

APPLY WATER SPRAY TO KNOCK DOWN AND REDUCE VAPORS. KNOCK-DOWN WATER IS CORROSIVE AND TOXIC AND SHOULD BE DIKED FOR CONTAINMENT AND LATER DISPOSAL.

WATER SPILL

ADD SUITABLE AGENT TO NEUTRALIZE SPILLED MATERIAL TO PH-7.

OCCUPATIONAL SPILL:

OCCUPATIONAL SPILL: KEEP COMBUSTIBLES (WOOD, PAPER, OIL, ETC.) AWAY FROM SPILLED MATERIAL. DO NOT TOUCH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. DO NOT GET WATER INSIDE CONTAINER. FOR SMALL SPILLS, FLUSH AREA WITH FLOODING AMOUNTS OF WATER. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY. VENTILATE CLOSED SPACES BEFORE ENTERING.

REPORTABLE QUANTITY (RQ): 1000 POUNDS THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).

..... PROTECTIVE EQUIPMENT

VENTILATION: PROCESS ENCLOSURE RECOMMENDED TO MEET PUBLISHED EXPOSURE LIMITS.

PAGE: 8 DATE 05/28/92 ACCT : 146965-01 INDEX: 02921490654 CAT NO: A509-212 PO NBR: 627 RESPIRATOR RESPIRATOR: THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1910 SUBPART Z. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA). NITRIC ACID: 50 PPM- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS-FLOW MODE. 100 PPM- ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE. ANY SELF-CUNIAINED BREAINING APPARATUS WITH A FULL FACEPIECE. ANY AIR-PURIFYING, FULL-FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE, FRONT- OR BACK-MOUNTED CANISTER PROVIDING PROTECTION AGAINST NITRIC ACID.* ANY CHEMICAL CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE AND CARTRIDGE(S) PROVIDING PROTECTION AGAINST NITRIC ACID.* ESCAPE- ANY AIR-PURIFYING, FULL-FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE, FRONT- OR BACK-MOUNTED CANISTER PROVIDING PROTECTION AGAINST NITRIC ACID.* ANY APPROPRIATE ESCAPE-TYPE, SELF-CONTAINED BREATHING APPARATUS. * ONLY NONOXIDIZABLE SORBENTS ARE ALLOWED (NOT CHARCOAL). FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS: ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE. ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE. CLOTHING: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT ANY POSSIBILITY OF SKIN CONTACT WITH THIS SUBSTANCE. GLOVES EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE. EYE PROTECTION: EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE. EMERGENCY WASH FACILITIES: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE. AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 12/04/84 REVISION DATE: 02/25/92 -ADDITIONAL INFORMATION--ADDITIONAL INFORMATION-THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY. EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USER SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. USERS

DATE: 10/30/91 ACCT: 146965-01 PAGE: 1	SOLUBILITY IN WATER: SOLUBLE VAPOR DENSITY; T.3
DATE: 10/30/91 ACCT: 146965-01 INDEX: 02912330409 CAT NO: A144500 PO NBR: N/A	FIRE AND EXPLOSION DATA
HYDROCHLÒRIC ACID, CONCENTRAIED (36-37%) **HYDROCHLORIC ACID, CONCENTRAIED (36-37%)** **HYDROCHLORIC ACID, CONCENTRAIED (36-37%)**	FIRE AND EXPLOSION HAZARD: NEGLIGIBLE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.
MATERIAL SAFETY DATA SHEET	
FISHER SCIENTIFIC EMERGENCY NUMBER: (201) 796-710	FIREFIGHTING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM 0 (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).
FISHER SCIENTIFIC EMERGENCY NUMBER: (201) 795-710 CHEMICAL DIVISION CHEMTREC ASSISTANCE: (800) 424-9 1 REAGENT LANE FAIR LAWN NJ 07410 (201) 795-7100	300 FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM
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SUBSTANCE IDENTIFICATION	
CAS-NUMBER 7647-01-0 SUBSTANCE: **HYDROCHLORIC ACID, CONCENTRATED (36-37%)**	
TRADE NAMES/SYNONYMS: CHLOROHYDRIC ACID; HYDROCHLORIDE; MURIATIC ACID; SPIRITS OF SALT; HYDROCHLORIC ACID, CONCENTRATED; HYDROGEN CHLORIDE, 23 EB; UN 1763; A1 A144; A508; A466; A481; ACC11155	42;
CHEMICAL FAMILY: Ingrganic acid	
MOLECULAR FORMULA: H-CL	
MOLECULAR WEIGHT: 36.46	
CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=0 REACTIVITY=1 PERSISTENC NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=0	E=0
COMPONENTS AND CONTAMINANTS	
COMPONENT: HYDROGEN CHLORIDE PERCENT: 35.0 CAS# 7647-01-0	D-38.0
COMPONENT: WATER PERCENT: 62.0	0-65.0
OTHER CONTAMINANTS: NONE	
EXPOSURE LIMITS: HYDROGEN CHLORIDE (HYDROCHLORIC ACID): 5 PPM (7.6 MG/M3) OSHA CEILING 5 PPM (7.6 MG/M3) ACGIH CEILING 5 PPM (7.6 MG/M3) NIOSH RECOMMENDED CEILING 5 PPM (7.6 MG/M3) DFG MAK TWA: 10 PPM (15.2 MG/M3) DFG MAK 5 MINUTE PEAK, MOMENTARY VALUE, 8 TIMES/S	HIFT
MEASUREMENT METHOD: SILICA GEL TUBE; SODIUM BICARBÓNATE/SODIUM CARBON Ion Chromatography; (NIOSH VOL. III # 7903, INORGANIC ACIDS).	ATE;
500 POUNDS SARA SECTION 302 THRESHOLD PLANNING QUANTITY (GAS) 5000 POUND SARA SECTION 304 REPORTABLE QUANTITY (GAS) 5000 POUNDS CERCLA SECTION 103 REPORTABLE QUANTITY (LIQUID) SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING	
PHYSICAL DATA	
DESCRIPTION: COLORLESS OR SLIGHTLY YELLOW FUMING LIQUID WITH A PUNGENT	
ODOR. BOILING POINT: 384 F (195 C) SPECIFIC GRAVITY: 1.2	
VAPOR PRESSURE: NOT AVAILABLE PH: 1.1 (0.1 N)	

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FIREFIGHTING:

MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS_OUT_STAY AWAY FROM ENDS OF TANKS (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 60).

EXTINGUISH USING AGENTS SUITABLE FOR TYPE OF FIRE. USE FLOODING AMOUNTS OF WATER AS FOG. COOL CONTAINERS WITH FLOODING AMOUNTS OF WATER, APPLY FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING CORROSIVE VAPORS, KEEP UPWIND.

TRANSPORTATION DATA

DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101: CORROSIVE MATERIAL

DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND SUBPART E CORROSIVE

DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49 CFR 173,263 EXCEPTIONS: 49 CFR 173.244

..... TOXICITY

HYDROGEN CHLORIDE (HYDROCHLORIC ACID): ANHYDROUS: 100 MG RINSED EYE-RABBIT MILD

HYDROCHLORIC ACID: 5 MG/30 SECONDS RINSED EYE-RABBIT MILD. TOXICITY DATA:

HYDROCHLORIC ACID: 5 MG/30 SECONDS RINSED EYE-RABBIT MILD. TOXICITY DATA: HYDROGEN CHLORIDE (ANHYDROUS GAS): 4701 PPM/30 MINUTES INHALATION-RAT LC50; 2644 PPM/30 MINUTES INHALATION-MOUSE LC50. MONOHYDRATE: NO DATA AVAILABLE. TRIHYDRATE: NO DATA AVAILABLE. HEXAHYDRATE: NO DATA AVAILABLE. HYDROGEN CHLORIDE (AEROSOL): 5666 PPM/30 MINUTES INHALATION-RAT LC50; 2142 PPM/30 MINUTES INHALATION-MOUSE LC50. HYDROCHLORIC ACID: 1300 PPM/30 MINUTES INHALATION-HUMAN LCL0; 3000 PPM/5 MINUTES INHALATION-HUMAN LCL0; 81 MG/KG UNREPORTED MAN LDL0; 3124 PPM/1 HOUR INHALATION-RAT LC50; 1108 PPM/1 HOUR INHALATION-MOUSE LC50; 1449 MG/KG INTRAPERITONEAL-MOUSE LD50; 900 MG/KG ORAL-RABBIT LD50; 4415 PPM/30 MINUTES INHALATION-RABBIT LCL0; 4416 PPM/30 MINUTES INHALATION-GUINEAL PRODUCTIVE EFFECTS DATA (RTECS). CARCINGENT STATUS: NONE. LOCAL EFFECTS: NO DATA AVAILABLE. MACINGENT DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS). CARCINGENT STATUS: NONE. LOCAL EFFECTS: NO DATA AVAILABLE.

HEALTH EFFECTS AND FIRST AID

INHALATION:

INHALATION: HYDROGEN CHLORIDE (HYDROCHLORIC ACID): CORROSIVE. 100 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSURE- INHALATION OF GAS OR FUMES AT LEVELS OF 5-35 PPM MAY CAUSE IRRITATION AND BURNING OF THE THROAT, COUGHING AND CHOKING; 50-100 PPM MAY BE BARLY TOLERABLE FOR 1 HOUR. HIGH LEVELS MAY CAUSE INFLAMMATION AND DUCASIONALY ULCERATION OF THE NOSE, THROAT OR LARYNX, BRONCHITIS, PNEUMONIA, PALPITATIONS AND HEADACHE. HIGHER CONCENTRATIONS MAY CAUSE NECROSIS OF THE TRACHEAL AND BRONCHIAL EPITHELIUM, NASOSEPTAL PERFORATION, ATELECTASIS, EMPHYSEMA, DAMAGE TO PULMONARY BLOOD VESSELS AND LESIONS OF THE LIVER AND OTHER ÓRGANS. DEATH MAY BE DUE TO LARYNGEAL SPASM, BRONCHOPNEUMONIA OR PULMONARY EDEMA. 1300-2000 PPM MAY BE DANGEROUS, EVEN ON BRIEF EXPOSURES. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. CHRONIC EXPOSURE- REPEATED OR PROLONGED EXPOSURE MAY CAUSE EROSION AND DISCOLORATION OF EXPOSURES AND CHARTING AND GASTRITIS.

FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD

PRESSURE AND AUMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSOT AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRATION (SHOULD BE PERFORMED BY QUALIFIED PERSONNEL, GET MEDICAL ATTENTION

AND

GEN

SKIN CONTACT:

HYDROGEN CHLORIDE (HYDROCHLORIC ACID): CORROSIVE.

ORROSIVE. ACUTE EXPOSURE- CONTACT MAY CAUSE SEVERE IRRITATION, INFLAMMATION, ULCERATION, NECROSIS AND CHEMICAL BURNS. SHOCK SYMPTOMS MAY DEVELOP INCLUDING RAPID PULSE, SWEATING AND COLLAPSE, PHOTOSENSITIZATION REACTIONS MAY OCCUR IN PERSONS PREVIOUSLY EXPOSED. CONTACT WITH A COMPRESSED GAS MAY CAUSE FROSTBITE. CHRONIC EXPOSURE- REPEATED OR PROLONGED CONTACT WITH VAPORS OR DILUTE

 DATE: 10/30/91 ACCT: 148985-01 PD NBR: N/A SOLUTIONS MAY CAUSE DERMATITIS. PHOTOSENSITIZATION MAY OCCUR. FIRST DISTIZATION MAY CAUSE DERMATITIS. PHOTOSENSITIZATION MAY OCCUR. FIRST ALD REMOVE CONTAINTATE CLUTNING AND CAUSE SIMULATELY. WAYA AFFECTED EVIDENCE OF CHEMICAL REMAINS (SALE CAS TAS TAOL CARGE AMULATS OF WATER UNTIL NOT EVOLUTION THE DISTINCT AND CAUSE SIMULATELY. FVE CONTACT: INFORMATION THE ACTO DISTINCT AND CONJUNCTIVITIS. FOR CONTACT: INFORMATION THE ACTO DISTINCT AND CONJUNCTIVITIS. FVE CONTACT: INFORMATION THE CONVERTING INFORMATION OF THE EVE AND INMEDIATELY. FVE CONTACT: INFORMATION THE CONVERTING INFORMATION OF THE EVE AND INMEDIATELY. FVE CONTACT: INFORMATION OF THE CONVERTING ON DIPOLOTIVITIS. FOR SO DAYS SHOWED ONLY SCIENT ON THE EVE AND INMEDIATELY. WASHED OUT, A PRODUCED A WHITE CONVERTING ON DIPOLOTIVAL. FUE CONTACT: INFORMATION OF THE CONVERTING ON DIPOLOTIVAL. FUE CONTACT: SOUTH OF THE CONVERTING ON DIPOLOTIVAL. FUE CONTACT: ROSIDON OF THE CONVERTING ON DIPOLOTIVAL. FUE CONTACT: SOUTH OF THE CONVERTING ON DIPOLOTIVAL. FUE CONVERTING THE CONVERTING ON THE ACTION OF THE EVER AND INTO ON PARE A DOUBLE DIPILIATION OF THE CONVERTING ON DIPOLOTIVAL. FUE CONTACT: SOUTH ON THE CONVERTING ON THE ACTO DIPOLOTIVAL. FUE CONTROL CONTROL ON THE ACTO MAY CAUSE BURNES OF THE MOUTH. FUE SOUTH ON THE ACTO MAY CAUSE BURNES OF THE MOUTH. FUE SOUTH ON THE ACTO MAY CAUSE BURNES OF THE MOUTH. FUE SOUTH ON THE ACTO MAY CAUSE BURNES OF THE MOUTH. FUE SOUTH ON THE ACTO MAY CAUSE BURNES OF THE MOUTH. FUE SOUTH ON THE ACTO MAY CAUSE BURNES OF THE MOUTH. FUE SOUTH ON THE ACTO MAY CAUSE BURNES OF THE MOUTH. FUE SOUTH ON THE ACTO MAY CAUSE BURNES OF THE MOUTH. FUE SOUTH ON THE ACTO MAY CAUSE BUR	CHLOROSULFUNIC ACID: VIULENT REACTION. 1.1-DIF. UGBOG TWYLENG: STATEMELY EXOTHERMIC DECOMPOSITION REACTION. ETHICHEN INTE: SON CONTACT. FUNCINE: INTES ON CONTACT. TORNIC: SUFFACE. VIULENT REACTION. HORNESIUM BORDIS: MOTH FULUTION OF FLAMMABLE MYDROGEN GAS. MCRUBIC: SUFFACE. VIULENT REACTION. MCRUBIC: SUFFACE. MCRUBIC: SUFFACE. MCRU

"SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLA TO CONTAINERS FOR LATER DISPOSAL. FOR SMALL DRY SPILLS, WITH CLEAN SHU LU MATERIAL INTO CLEAN, DRY CONTAINER AND COVER. MOVE CONTAINERS FROM AREA. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. KEEP UNNECESSARY PEOPLE AWAY, ISOLATE HAZARD AREA AND DENY ENTRY. PAGE: 4 DATE 10/30/91 ACCT 146965-01 INDEX: 02912330409 CAT NO: A144500 PO NBR: N/A PERCHLORIC ACID: VIOLENT REACTION. PLASTICS, RUBBER, COATINGS: ATTACKS. POTASSIUM PERMANGANATE: EXPLOSION HAZARD. REPORTABLE QUANTITY (RQ): 5000 POUNDS THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6). BETA-PROPIOLACTONE: VIOLENT REACTION. PROPYLENE OXIDE: VIOLENT REACTION. RUBIDIUM ACETYLIDE: IGNITES ON CONTACT. SULTA (GEL): INCOMPATIBLE. SODIUM: VIGOROUS OR EXPLOSIVE REACTION. SULFURIC ACID: EXPLOSIVE REACTION WITH RELEASE OF TOXIC HYDROGEN CHLORIDE UAS. TETRASELENIUM TETRANITRIDE: EXPLODES ON CONTACT. VINYL ACETATE: VIOLENT REACTION. DECOMPOSITION: THERMAL DECOMPOSITION MAY RELEASE CORROSIVE HYDROGEN CHLORIDE. POLYMERIZATION: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES. STORAGE AND DISPOSAL OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY. **STORAGE** THRESHOLD PLANNING QUANTITY (TPQ): THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 302 REQUIRES THAT EACH FACILITY WHERE ANY EXTREMELY HAZARDOUS SUBSTANCE IS PRESENT IN A QUANTITY EQUAL TO OR GREATER THAN THE TPQ ESTABLISHED FOR THAT SUBSTANCE NOTIFY THE STATE EMERGENCY RESPONSE COMMISSION FOR THE STATE IN WHICH IT IS LOCATED. SECTION 303 OF SARA REQUIRES THESE FACILITIES TO PARTICIPATE IN LOCAL PROTECT AGAINST PHYSICAL DAMAGE. STORE IN COOL, WELL-VENTILATED PLACE, SEPARATED FROM ALL OXIDIZING MATERIALS (NFPA 49, HAZARDOUS CHEMICALS DATA, 1975). ************************ CONDITIONS TO AVOID MAY BURN BUT DOES NOT IGNITE READILY. FLAMMABLE, POISONOUS GASES MAY ACCUMULATE IN TANKS AND HOPPER CARS. MAY IGNITE COMBUSTIBLES (WOOD, PAPER, OIL, ETC.). SPILL AND LEAK PROCEDURES SOIL SPILL: DIG HOLDING AREA SUCH AS LAGOON, POND OR PIT FOR CONTAINMENT. DIKE FLOW OF SPILLED MATERIAL USING SOIL OR SANDBAGS OR FOAMED BARRIERS SUCH AS POLYURETHANE OR CONCRETE. USE CEMENT POWDER OR FLY ASH TO ABSORB LIQUID MASS. NEUTRALIZE SPILL WITH SLAKED LIME, SODIUM BICARBONATE OR CRUSHED LIMESTONE. AIR SPILL: KNOCK DOWN VAPORS WITH WATER SPRAY. KEEP UPWIND. WATER USED TO KNOCK DOWN VAPORS MAY BECOME CORROSIVE OR TOXIC AND SHOULD BE CONTAINED PROPERLY FOR LATER DISPOSAL. WATER SPILL: NEUTRALIZE WITH AGRICULTURAL LIME, SLAKED LIME, CRUSHED LIMESTONE, OR SODIUM BICARBONATE. OCCUPATIONAL SPILL: DO NOT TOUCH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. FOR

LACE

SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. PAGE: 5 DATE 10/30/91 ACCT: 146965-01 INDEX: 02912330409 CAT NO: A144500 PO NBR: N/A ------PROTECTIVE EQUIPMENT VENTILATION: PROVIDE LOCAL EXHAUST OR PROCESS ENCLOSURE VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS RESPIRATOR: THE FOLLOWING RESPIRATORS ARE RECOMMENDED BASED ON INFORMATION FOUND IN THE PHYSICAL DATA, TOXICITY AND HEALTH EFFECTS SECTIONS. THEY ARE RANKED IN ORDER FROM MINIMUM TO MAXIMUM RESPIRATORY PROTECTION. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST BE BASED ON THE SPECIFIC OPERATION, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND MUST BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA). HYDROGEN CHLORIDE (HYDROCHLORIC ACID); 50 PPM- ANY SUPPLIED-AIR RESPIRATOR. ANY SUFFICIENTAIRED BREATHING APPARATUS. ANY CHEMICAL CARTRIDGE RESPIRATOR WITH CARTRIDGE(S) PROVIDING PROTECTION AGAINST HYDROCHLORIC ACID. 100 PPM- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS FLOW MODE. ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE. ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE. ANY AIR-PURFIVING, FULL-FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE, FRONT-, OR BACK- MOUNTED CANISTER PROVIDING PROTECTION AGAINST HYDROCHLORIC ACID. ANY CHEMICAL CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE AND CARTRIDGE(S) PROVIDING PROTECTION AGAINST HYDROCHLORIC ACID. ANY CHEMICAL CARTRITUGE RESPIRATOR WITH CARTRIDGE(S) PROVIDING PROTECTION AGAINST HYDROCHLORIC ACID. ANY POWERED, AIR-PURFIYING RESPIRATOR WITH CARTRIDGE(S) PROVIDING PROTECTION AGAINST HYDROCHLORIC ACID.
 ESCAPE- ANY AIR-PURFYING, FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE, FRONT- OR BACK-MOUNTED ACID GAS CANISTER. ANY APPROPRIATE ESCAPE-TYPE SELF-CONTAINED BREATHING APPARATUS. FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS: ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMANO OR OTHER POSITIVE-PRESSURE MODE. ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-OEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE. CLOTHING EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT ANY POSSIBILITY OF SKIN CONTACT WITH THIS SUBSTANCE. GLOVES EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE. EVE PROTECTION: ETE FRUTELIUR: EMPLOVEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE. EMERGENCY WASH FACILITIES: EMENGENCY WASH FACILITES: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE. AUTHORIZED - FISHER SCIENTIFIC, INC. ITON DATE: 04/30/85 REVISION DATE: 07/02/91 CREATION DATE: 04/30/85 -ADDITIONAL INFORMATION-THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USER USERS

PAGE: 1 PAGE: 2 05/28/92 ACCT: 146965-01 DATE: DATE: 05/28/92 ACCT: 146965-01 INDEX: 02921490654 CAT NO: A510-212 PO NBR: 627 INDEX: 02921490654 CAT NO: A510-212 PO NBR: 627 OXIDIZER: OXIDIZERS DECOMPOSE, ESPECIALLY WHEN HEATED, TO YIELD OXYGEN OR OTHER GASES WHICH WILL INCREASE THE BURNING RATE OF COMBUSTIBLE MATTER. CONTACT WITH EASILY OXIDIZABLE, ORGANIC, OR OTHER COMBUSTIBLE MATERIALS MAY RESULT IN IGNITION, VIOLENT COMBUSTION OR EXPLOSION. **SULFURIC ACID** **SULFURIC ACID** **SULFURIC ACID** MATERIAL SAFETY DATA SHEET -----EMERGENCY NUMBER: (201) 796-7100 CHEMTREC ASSISTANCE: (800) 424-9300 FISHER SCIENTIFIC CHEMICAL DIVISION FIREFIGHTING MEDIA: DRY CHEMICAL OR CARBON DIOXIDE (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5). 1 REAGENT LANE FAIR LAWN NJ 07410 (201) 796-7100 FOR LARGER FIRES, FLOOD AREA WITH WATER FROM A DISTANCE (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5). THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY. EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. FIREFIGHTING DO NOT GET WATER INSIDE CONTAINER. DO NOT GET SOLID STREAM OF WATER ON SPILLED MATERIAL. MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5 GUIDE PAGE 39). USE AGENT SUITABLE FOR TYPE OF FIRE; USE FLOODING AMOUNTS OF WATER AS A FOG. COOL CONTAINERS WITH FLOODING AMOUNTS OF WATER, APPLY FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING CORROSIVE VAPORS, KEEP UPWIND. SUBSTANCE IDENTIFICATION CAS-NUMBER 7664-93-9 SUBSTANCE: **SULFURIC ACID** _____ TRADE NAMES/SYNONYMS: OIL OF VITRIOL; BOY; OIPPING ACID; VITRIOL BROWN OIL; HYDROGEN SULFATE; NORDHADSEN ACID; DIHYDROGEN SULFATE; SULPHURIC ACID; MATTING ACID; DITHIONIC ACID; STCC4930040; UN 1830; A300; A300C; A300SI; A300S; A298; A510; A468; S0A174; A484; SA17D; SA176; A302; A305; H204S; ACC22350 TRANSPORTATION DATA DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172, 101; CORROSIVE MATERIAL DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND SUBPART E: CORROSIVE CHEMICAL FAMILY: INORGANIC ACID DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49 CFR 173.272 MOLECULAR FORMULA: H2-S-04 EXCEPTIONS: 49 CFR 173.244 MOLECULAR WEIGHT: 98.07 FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), DOCKET NUMBERS HM-1818, HM-1818, HM-1818, HM-1810, HM-1810 AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/30) CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE≈0 REACTIVITY=2 PERSISTENCE=0 NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=2 COMPONENTS AND CONTAMINANTS EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 10/18/91) COMPONENT: SULFURIC ACID CAS# 7664-93-9 PERCENT: 70.0-100.0 U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: COMPONENT: WATER PERCENT: 0-30.0 SULFURIC ACID-UN 1830 OTHER CONTAMINANTS: NONE. U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 8 - CORROSIVE MATERIAL EXPOSURE LIMITS: SULFURIC ACID: MG/M3 OSHA TWA MG/M3 ACGIH TWA; 3 MG/M3 ACGIH STEL MG/M3 NIOSH RECOMMENDED TWA MG/M3 DEG MAK TWA; U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG II 2 MG/M3 DFG MAK 5 MINUTE PEAK, MOMENTARY VALUE, 8 TIMES/SHIFT U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: MEASUREMENT METHOD: SILICA GEL TUBE; SODIUM BICARBONATE/SODIUM CARBONATE; ION CHROMATOGRAPHY; (NIOSH VOL. III # 7903, INORGANIC ACIDS). CORROSIVE U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: 1000 POUNDS SARA SECTION 302 THRESHOLD PLANNING QUANTITY 1000 POUNDS SARA SECTION 304 REPORTABLE QUANTITY 1000 POUNDS CERCLA SECTION 103 REPORTABLE QUANTITY SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING EXCEPTIONS: NONE NON-BULK PACKAGING; 49 CFR 173,202 BULK PACKAGING: 49 CFR 173.242 U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 1 L CARGO AIRCRAFT ONLY: 30 L PHYSICAL DATA DESCRIPTION: ODORLESS, CLEAR, COLORLESS, DENSE HYGROSCOPIC OILY LIQUID WITH TOXICITY A MARKED ACID TASTE WHEN PURE. BOILING POINT: 525 F (330 C) SULFURIC ACID: SPECIFIC GRAVITY: 1.84 IRRITATION DATA: 1380 UG EYE-RABBIT SEVERE; 5 MG/30 SECONDS RINSED EYE-RABBIT MELTING POINT: 50 F (10 C) SEVERE. TOXICITY DATA: 3 MG/M3/24 WEEKS INHALATION-HUMAN TCLO; 510 MG/M3/2 HOURS INHALATION-RAT LCSO; 320 MG/M3/2 HOURS INHALATION-MOUSE LCSO; 18 MG/M3 INHALATION-GUINEA PIG LCSO; 2140 MG/KG ORAL-RAT LDSO; 135 MG/KG UNGEPORTED-MAN LOLO; MUTAGENIC OATA (RTECS); REPRODUCTIVE EFFECTS DATA SOLUBILITY IN WATER: SOLUBLE VAPOR PRESSURE: <0.001 @ 20 C PH: <3 ODOR THRESHOLD; >1 MG/M3 (MIST) VAPOR DENSITY: 3.4 SOLVENT SOLUBILITY: DECOMPOSES IN ALCOHOL. (BTECS) CARCINOGEN STATUS; NONE, AN EPIDEMIOLOGICAL STUDY OF WORKERS AT A REFINERY AND CHEMICAL PLANT SUGGESTS AN INCREASED RISK OF LARVNGEAL CANCER FROM EXPOSURE TO HIGH CONCENTRATIONS OF SULFURIC ACID. LOCAL EFFECTS: CORROSIVE- INHALATION, SKIN, EYE AND INGESTION. ACUTE TOXICITY LEVEL: HIGHLY TOXIC BY INHALATION; MODERATELY TOXIC BY @ 340 C IT DECOMPOSES INTO SULFUR TRIOXIDE AND WATER FIRE AND EXPLOSION DATA INGESTION FIRE AND EXPLOSION HAZARD: TARGET EFFECTS: NO DATA AVAILABLE. NEGLIGIBLE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

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HEALTH EFFECTS AND FIRST AID INHALATION: SULFURIC ACID: CORROSIVE/HIGHLY TOXIC. 80 MG/M3 IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSURE- INHALATION OF MISTS MAY CAUSE MUCOUS MEMBRANE IRRITATION PRINCIPALLY AFFECTING THE RESPIRATORY TRACT EPITHELIUM. LOW CONCENTRATIONS, 0.35-5 MG/M3, MAY CAUSE INCREASED PULMONARY AIR FLOW RESISTANCE AND SUBSEQUENT SHALLOWER AND MORE RAPID BREATHING. HOT CONCENTRATED MISTS MAY CAUSE NADIA LOSS OF CONSCIOUSNESS WITH POSSIBLE DAMAGE TO LUNG TISSUE. VAPORS MAY CAUSE NASAL SECRETIONS, SNEEZING, A BURNING OB LICKLING SENSATION IN THE NORE	AND DIARRHEA OF CHARRED BLACK STOMACH CONTENTS. DEHYDRATION AND CARBONIZATION OF TISSUE MAY OCCUR WITH ESCHARS ON THE LIPS AND MOUTH. BROWNISH OR YELLOWISH STAINS MAY BE FOUND AROUND THE MOUTH, INTENSE THIRST, DIFFICULT SWALLOWING, ACIDEMIA, STOMATITIS, RAPID AND WEAK PULSE, SHALLOW BREATHING, SHOCK AND POSSIBLE CONVULSIONS AND DEATH MAY OCCUR. ALBUMIN, BLOOD AND CASTS IN URINE, ANURIA, ESOPHAGEAL AND DELAYED GASTRIC STENDSIS HAS BEEN REPORTED. POSSIBLE PERFORATION OF THE GASTRIC NETINAL TRACT MAY RESULT IN PERITONITIS. CHRONIC EXPOSURE- NO DATA AVAILABLE.
BURNAGE TO LUNG TISSUE. VAPUHS MAY CAUSE NASAL SECRETIONS, SNEEZING, A BURNING OR TICKLING SENSATION IN THE NOSE AND THROAT AND RETROSTERNAL REGION, FOLLOWED BY COUGH, RESPIRATORY DISTRESS, TRACHEOBRONCHITIS, CHEMICAL PNELMONITIS AND POSSIBLE SPASM OF THE VOCAL CORDS. HIGH CONCENTRATIONS MAY PRODUCE BLOODY NASAL SECRETIONS AND SPUTUM, HEMATEMESIS GASTRITIS, AND PULMONARY EDEMA, A SINGLE OVEREXPOSURE MAY LEAD TO LARYNGEAL, TRACHEOBRONCHIAL AND PULMONARY EDEMA, ONE INDIVIDUAL SPRAYED IN THE FACE WITH SULFURIC ACID LIQUID EXPERIENCED DELAYED SYMPTOMS OF PULMONARY FIBROSIS, RESIDUAL BRONCHITIS, AND PULMONARY EMPHYSEMA. UAPORS FROM DILUTE SOLUTIONS MAY IRRITATE MUCOUS MEMBRANES. THE LETHAL DOSE REPORTED IN RATS IS 510 MG/M3/2 HOURS. CHRONIC EXPOSURE - REPEATED EXPOSURE TO THE MIST MAY CAUSE INFLAMMATION OF THE UPPER RESPIRATORY TRACT, CHRONIC BRONCHITIS, AND ETCHING OF THE DENTAL ENAMEL. THE CENTRAL AND LATERAL INCISORS ARE PRIMARILY AFFECTED.	FIRST AID- DO NOT USE GASTRIC LAVAGE OR EMESIS, DILUTE THE ACID IMMEDIATELY BY DRINKING LARGE QUANTITIES OF WATER OR MILK. IF VOMITING PERSISTS, ADMINISTER FLUIDS REPEATEDLY. INGESTED ACID MUST BE DILUTED APPROXIMATELY 100 FOLD TO RENDER IT HARMLESS TO TISSUES. MAINTAIN AIRWAY AND TREAT SHOCK (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD BELOW HIPS TO HELP PREVENT ASPIRATION. ANTIDOTE: NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.
OF THE UPPER RESPIRATORY TRACT, CHRONIC BRONCHITIS AND FICHING OF THE	
BRONCHITIC SYMPTOMS RHINDERHEA, FREQUENT RESPIRATORY TRACT INFECTIONS,	REACTIVITY REACTIVITY: SULFURIC ACID: VIOLENT EXOTHERMIC REACTION WITH WATER.
MAY CAUSE ALKALINE DEPLETION OF THE BODY PRODUCING AN ACIDOSIS WHICH AFFECTS THE NERVOUS SYSTEM AND PRODUCES AGITATION, HESITANT GAIT AND GENERALIZED WEAKNESS. AN EPIDEMIOLOGICAL STUDY OF WORKERS AT A REFINERY AND CHEMICAL PLANT SUGGESTS AN INCREASED RISK OF LARYNGEAL CANCER FROM EXPOSURE TO HIGH CONCENTRATIONS OF SULFURIC ACID. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS.	INCOMPATIBILITIES: SULFURIC ACID: ACETALDEHYDE: VIOLENTLY POLYMERIZED BY CONCENTRATED ACID. ACETALDEHYDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ACETORE + NITRIGACID: VIOLENT DECOMPOSITION.
FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRATION OF OXYGEN SHOULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION	ACETONE + POTASSIUM DICHROMATE: TONITION. ACETONE CYANHYDRIN: PRESSURE INCREASE WITH POSSIBLE EXPLOSIVE RUPTURE OF VESSEL. ACETONITRILE: VIOLENT EXOTHERM ON HEATING; SULFUR TRIOXIDE REDUCES INITIATION TEMPERATURE. ACROLEIN: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ACRYLONITRILE: VIGOROUS EXOTHERMIC POLYMERIZATION.
SKIN CONTACT: SULFURIC ACID: CORROSIVE. ACUTE EXPOSURE- CONTACT WITH CONCENTRATED SULFURIC ACID MAY CAUSE SEVERE SECOND AND THIRD DEGREE SKIN BURNS WITH NECROSIS DUE TO ITS AFFINITY FOR WATER AND SUBSEQUENT SEVERE DEHYDRATING ACIION, AND ITS EXOTHERMIC REACTION WITH MOISTURE. POSSIBLE CHARRING MAY OCCUR LEADING TO SHOCK AND COLLAPSE DEPENDING ON THE AMOUNT OF TISSUE INVOLVED. THE RESULTING WOUNDS MAY BE LONG IN HEALING AND MAY CAUSE EXTENSIVE SCARRING THAT MAY RESULT IN FUNCTIONAL INHIBITION. CONTACT WITH DILUTE SOLUTIONS MAY CAUSE SKIN INFRITATION. CHRONIC EXPOSURE- REPEATED CONTACT WITH LOW CONCENTRATIONS MAY CAUSE SKIN DESICCATION AND ULCERATION OF THE HANDS, AND PANARIS OR CHRONIC PURULENT INFLAMMATION AROUND THE NAILS. REPEATED CONTACT WITH DILUTE SOLUTIONS MAY CAUSE DERMATITIS.	ALCOMOL EXOTHERMIC REACTION AND CONTRACTION OF VOLUME. ALCOMOLS AND HYDROGEN PEROXIDE: POSSIBLE EXPLOSION. ALLYL ALCOMOL TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL CHORIDE: VIOLENT POLYMERIZATION. ALKYL NITRATES: MAY CAUSE VIOLENT REACTION. 2-AMINOETHANOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. BASES: VIOLENT REACTION. BENZYL ALCOHOL: MAY DECOMPOSES EXPLOSIVELY AT ABOUT 180 C. BROMATES + METALS: POSSIBLE IGNITION. TERT-BUTYL-M-XYLENE: VIOLENT REACTION WITHPOSSIBLE IGNITION. TERT-BUTYL-M-XYLENE: VIOLENT REACTION WITHOUT AGITATION. N-BUTYRALDEHYDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER.
FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF CHEMICAL BURNS, COVER AREA WITH STERILE, DRY DRESSING. BANDAGE SECURELY, BUT NOT TOO TIGHTLY. GET MEDICAL ATTENTION IMMEDIATELY.	CESIUM ACETYLIDE: IGNITION ON CONTACT. 1-CHLORO-2,3-EPOXYPROPANE: VIOLENT INTERACTION. 4-CHLORONITROBENZENE AND SULFUR TRIOXIDE: POSSIBLE EXPLOSIVE REACTION. CHLORATES: ALL CHLORATES, WHEN BROUGHT IN CONTACT WITH SULFURIC ACID MAY GIVE OFF EXPLOSIVE CHLORINE DIOXIDE GAS. A VIOLENT FRUIDIONIC SULMA
EVE CONTACT: SULFURIC ACID: CORROSIVE. ACUTE EXPOSURE- EXPOSURE TO THE VAPORS MAY CAUSE A BURNING OR STINGING SENSATION IN THE EYES WITH LACRIMATION, BLURRED VISION AND CONJUNCTIVAL CONGESTION. SPLASHES OF ACID IN THE EYES MAY PRODUCE DEEP CORNEAL ULCERATION, KERATO-CONJUNCTIVIIS AND PALPEBRAL LESIONS WITH SEVERE SEOUELAE. IRREPARABLE CORNEAL DAMAGE AND BLINDNESS AS WELL AS SCARRING OF THE EYELIDS MAY OCCUR. SEVERE SULFURIC ACID EYE BURSN HAVE INCLUDED GLAUCOMA AND CATARACT AS COMPLICATIONS IN THE MOST SEVERE CASES. CONTACT WITH DILUTED ACID MAY PRODUCE MORE TRANSIENT EFFECTS FROM WHICH RECOVERY MAY BE COMPLETE. CHRONIC EXPOSURE- REPEATED EXPOSURE MAY RESULT IN LACRIMATION AND CHRONIC	CHLORINE TRIFLUGAJOE: VIOLENT REACTION. CHLOROSULFONIC ACID: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CHROMATES: FIRE AND EXPLOSION HAZARD. COMBUSTIBLE MATERIALS (FINELY DIVIDED): MAY IGNITE. COMBUSTIBLE MATERIALS (FINELY DIVIDED): MAY IGNITE. COMPER: EVOLUTION OF SULFUR DIOXIDE. CUPROUS NITRIDE: VIOLENT REACTION. 2-CYANO-2-PROPANOL: VIOLENT REACTION. WITH INCREASE IN PRESSURE. CYCLOPENTANONE OXIME: VIOLENT REACTION. 1,3-DIAZIDOBENZENE: IGNITION FOLLOWED BY EXPLOSIVE REACTION. 1,3-DIAZIDOBENZENE: IGNITION FOLLOWED BY EXPLOSIVE REACTION.
FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). CONTINUE IRRIGATING WITH NORMAL SALINE UNTIL THE PH HAS RETURNED TO NORMAL (30-60 MINUTES). COVER WITH STERILE BANDAGES. GET MEDICAL ATTENTION IMMEDIATELY.	DIISOBUTYLENE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. DIMETHYLENZYLCARBINOL + HYDROGEN PEROXIDE: EXPLODES. DIMETHOXYANTHRAQUINONE: EXOTHERMIC REACTION ABOVE 150 C. 4-DIMETHYLAMINOBENZALDEHYDE: EXOTHERMIC REACTION. 2.5-DINITRO-3-METHYLBENZOIC ACID + SODIUM AZIDE: EXPLOSIVE REACTION. 1.5-DINITROAPHTHALENE + SULFUR: EXOTHERMIC REACTION. EPICHLOROHYDRIN: VIOLENT REACTION.
INGESTION: SULFURIC ACID: CORROSIVE. ACUTE EXPOSURE- INGESTION MAY CAUSE BURNING PAIN IN THE MOUTH, THROAT, ACUTE EXPOSURE AND ARCONFUN ACCUSE BURNING PAIN IN THE MOUTH, THROAT,	ETHANOL + HYDROGEN PERSIBLE IGNITION. ETHANOL + HYDROGEN PERSIBLE POSSIBLE EXPLOSION. ETHYLENE CVANOHYDRIN: VIOLENT REACTION. FTHYLENE DIAMUE: TEMBEDATURG ANGEDATE AND
ESOPHAGUS AND ABDOMEN, A SOUR TASTE AND NAUSEA FOLLOWED BY VOMITING	ETHYLENE GLYCOL: TEMPERATURE AND PRESSURE INCHEASE IN CLOSED CONTAINER. ETHYLENE GLYCOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ETHYLENIMINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER.

PAGE: 5 DATE; 05/28/92 ACCT: 146955-01 CAT NO: A510-212 INDEX: 02921490654 PO NBR: 627 FULMINATES: EXTREMELY HAZARDOUS MIXTURE. HEXALITHIUM DISILICIDE: INCANDESCENT REACTION. HYDROGEN PERONIDE (>50%): EXPLOSIVE REACTION AFTER EVAPORATION. HYDROGEN PERONIDE (>50%): EXPLOSIVE REACTION AFTER EVAPORATION. HYDROGEN PERONIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. INDANE + NITRIC ACID: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. INDANE + NITRIC ACID: POSSIBLE EXPLOSION. IODINE HEPTAFLUORIDE: THE ACID BECOMES EFFERVESCENT. IRON: POSSIBLE EXPLOSION DUE TO HYDROGEN GAS FROM THE ACID-METAL REACTION. ISOPRENE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. LITRIUM SILICIDE: INCANDESCENT REACTION. MERCURY NITRIDE: EXPLOSION ON CONTACT. MESTIVU OXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. METALS: MAY LIBERATE FLAMMABLE HYDROGEN GAS. METALS: MAY LIBERATE FLAMMABLE HYDROGEN GAS. METAL ACETYLIDES: IGNITION REACTION. METAL ACETYLIDES: IGNITION REACTION. METAL CHLORATES: FORMATION OF EXPLOSIVE PRECHLORIC COLED. METAL CHLORATES: FORMATION OF EXPLOSIVE VON CONTACT. NETAL CHLORATES: FORMATION OF EXPLOSIVE VON CONTACT. NITRAMIDE: MAY DECOMPOSE EXPLOSIVELY ON CONTACT. NITRATES: INCOMPATIBLE. METAL ACETYLIDES: EXOTHERMIC REACTION. MITAMIDE: MAY DECOMPOSE EXPLOSIVELY ON CONTACT. NITRATES: INCOMPATIBLE. NITRATES: INCOMPATIBLE. MITAMIDE: MAY DECOMPOSE EXPLOSIVELY ON CONTACT. NITRATES: INCOMPATIBLE. FULMINATES: EXTREMELY HAZARDOUS MIXTURE 4-METHYLPYRIDINE: EXOTHERMIC REACTION. NITRAMIDE: MAY DECOMPOSE EXPLOSIVELY ON CONTACT. NITRATES: INCOMPATIBLE. NITRIC ACID + GYCERIDES: EXPLOSIVELY ON CONTACT. NITRIC ACID + ORGANIC MATERIAL: MAY CAUSE VIOLENT REACTION. NITRIC ACID + TOLUENE: POSSIBLE VIOLENT REACTION OR EXPLOSION. NITRIC ACID + TOLUENE: POSSIBLE VIOLENT REACTION OR EXPLOSION. NITRORYL BASES AND DERIVATIVES: MAY CAUSE VIOLENT REACTION OR EXPLOSION. NITROBENZENE: EXOTHERMIC REACTION AT ELEVATED TEMPERATURES. 3-NITROBENZENESULFONIC ACID: EXOTHERMIC REACTION. NITROBENZENESULFONIC ACID: EXOTHERMIC REACTION. A-NITROBENZENESULFONIC ACID: EXOTHERMIC REACTION. A-NITROMETHYLAMINE: EXPLOSIVE DECOMPOSITION. 4-NITROMETHYLAMINE: EXPLOSIVE AT 80 C. ORGANICS: VIOLENT EXOTHERMIC REACCION. PENTASILVER TRIHYDROXYDIAMIDOPHOSPHATE: EXPLOSION ON CONTACT. PERCHLORIC ACID: FORMATION OF DANGEROUS ANHYDROUS PERCHLORIC ACID. PERMANGANATES: FORMATION OF DERMANGANIC ACID. PERMANGANATES: FORMATION OF DERMANGANIC ACID. PERMANGANATES: FORMATION OF DERMANGANIC ACID. PHOSPHORUS (WITE OR YELLOW): IGNITION IN CONTACT WITH BOILING ACID. PHOSPHORUS ISOCYANATE: VIOLENT REACTION. NOSPHORUS ISOCYANATE: VIOLENT REACTION. PHOSPHORUS ISOCYANATE: VIOLENT REACTION. PHOSPHORUS ISOCYANATE: VIOLENT REACTION. PHOSPHORUS ISOCYANATE: VIOLENT NEACTION. PHOSPHORUS ISOCYANATE: VIOLENT REACTION. PHOSPHORUS ISOTACT. POTASSIUM TERT-BUTOSIVE INTERACTION. POTASSIUM TERT-BUTOSIVE INTERACTION. POTASSIUM TERT-BUTOSIVE INTERACTION. POTASSIUM CHLORATE: POSSIBLE FIRE AND EXPLOSION. POTASSIUM CHLORATE: POSSIBLE FIRE AND EXPLOSION. POTASSIUM CHLORATE: POSSIBLE FIRE AND EXPLOSION. POTASSIUM TERT-BUTOXIDE: IGNITION. POTASSIUM CHLORATE: POSSIBLE FIRE AND EXPLOSION, POTASSIUM PERMANGANATE: POSSIBLE EXPLOSION IN THE PRESENCE OF MOISTURE. POTASSIUM PERMANGANATE + POTASSIUM CHLORIDE: VIDLENT EXPLOSION. PROPIOLACTONE (BETA): TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. PROPYLENE OXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. 9-PROPYUOL: POSSIBLE EXPLOSION UNLESS ADEQUATELY COOLED. PYRIDINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. PYRIDINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. RUBBER: ATTACKED. RUBBER: ATTACKED. RUBBER: ATTACKED. RUBBIDIUM ACETYLIDE: IGNITION ON CONTACT. SILVER PERMANGANATE (MOIST): EXPLOSIVE REACTION. SILVER PERMANGANATE (MOIST): EXPLOSIVE REACTION. SODIUM: EXPLOSIVE REACTION WITH AQUEOUS ACID. SODIUM CARBONATE: VIOLENT REACTION. SODIUM CHLORATE: POSSIBLE FIRE OR EXPLOSION. SODIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. SODIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. SODIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. SODIUM THIOCYANATE: VIOLENT EXOTHERMIC WITH EVOLUTION OF CARBONYL SULFIDE. STEEL: POSSIBLE EXPLOSION DUE TO HYDROGEN GAS FROM THE ACID-METAL REACTION. SUCROSE: FORMATION OF CARBON MONOXIDE. TETRAME MONOMER: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. SUCROSE: FORMATION OF CARBON MONOXIDE. I.Z.4, 5-TETRAZINE: VIOLENT REACTION IN CLOSED CONTAINERS. 1,2,4,5-TETRAZINE: VIOLENT REACTION IN CONTACT. 1,3,5-TRINITROSOHEXAHYDRO-1,3,5-TRIAZINE: EXPLOSIVE DECOMPOSITION ON CONTACT. VINYL ACETATE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ZINC CHLORATE: LIKELY TO CAUSE FIRES AND EXPLOSIONS. ZINC IODIDE: VIOLENT INTERACTION. DECOMPOSITION: THERMAL DECOMPOSITION MAY RELEASE TOXIC OXIDES OF SULFUR. POLYMERIZATION: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES. STORAGE AND DISPOSAL OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.

STORAGE

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STORE IN COOL, DRY, WELL-VENTILATED LOCATION. SEPARATE FROM COMBUSTIBLES AND OTHER REACTIVE MATERIALS. SEPARATE FROM CARBIDES, CHLORATES, FULMINATES, NITRATES, PICRATES, AND POWDERED METALS. (NFPA 49, HAZARDOUS CHEMICALS DATA,

STORE IN A TIGHTLY CLOSED CONTAINER,

AVOID DIRECT SUNLIGHT,

STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

THRESHOLD PLANNING QUANTITY (TPO); THE SUPERFUND AMMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 30Z REGUIRES THAT EACH FACILITY WHERE ANY EXTREMELY HAZARDOUS SUBSTANCE IS PRESENT IN A QUANTITY EQUAL TO OR GREATER THAN THE TPO ESTABLISHED FOR THAT SUBSTANCE NOTIFY THE STATE EMERGENCY RESPONSE COMMISSION FOR THE STATE IN WHICH IT IS LOCATED. SECTION 303 OF SARA REQUIRES THESE FACILITIES TO PARTICIPATE IN LOCAL EMERGENCY RESPONSE PLANNING (40 CFR 355.30).

DISPOSAL

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262. EPA HAZARDOUS WASTE NUMBER DOO2. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY.

************************* CONDITIONS TO AVOID

MAY IGNITE OTHER COMBUSTIBLE MATERIALS (WOOD, PAPER, OIL, ETC.). VIOLENT REACTION WITH WATER. FLAMMABLE, POISONOUS GASES MAY ACCUMULATE IN CONFINED SPACES. RUNOFF TO SEWER MAY CREATE FIRE OR EXPLOSION HAZARD.

SPILL AND LEAK PROCEDURES

SOIL SPILL:

DIG HOLDING AREA SUCH AS LAGOON, POND OR PIT FOR CONTAINMENT.

DIKE FLOW OF SPILLED MATERIAL USING SOIL OR SANDBAGS OR FOAMED BARRIERS SUCH AS POLYURETHANE OR CONCRETE.

USE CEMENT POWDER OR FLY ASH TO ABSORB LIQUID MASS.

NEUTRALIZE SPILL WITH SLAKED LIME, SODIUM BICARBONATE OR CRUSHED LIMESTONE.

AIR SPILL

AIR SFILL APPLY WATER SPRAY TO KNOCK DOWN AND REDUCE VAPORS, KNOCK-DOWN WATER IS CORROSIVE AND TOXIC AND SHOULD BE DIKED FOR CONTAINMENT AND LATER DISPOSAL.

WATER SPILL: NEUTRALIZE WITH AGRICULTURAL LIME, SLAKED LIME, CRUSHED LIMESTONE, OR SODIUM BICARBONATE.

OCCUPATIONAL SPILL: KEEP COMBUSTIBLES (WOOD, PAPER, OIL, ETC.) AWAY FROM SPILLED MATERIAL. DO NOT TOUCH SPILLED MATERIAL. DO NOT GET WATER INSIDE CONTAINER. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS, DO NOT PUT WATER ON LEAK OR SPILL AREA. CLEAN UP ONLY UNDER THE SUPERVISION OF AN EXPERT. DIKE SPILL FOR LATER DISPOSAL. DO NOT APPLY WATER UNLESS DIRECTED TO DO SO. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY. VENTILATE CLOSED SPACES REFORDE FUTERING.

REPORTABLE QUANTITY (RQ): 1000 POUNDS

HEPORIABLE QUANTITY (RQ): 1000 POUNDS THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).

PROTECTIVE EQUIPMENT

VENTILATION: PROVIDE LOCAL EXHAUST OR PROCESS ENCLOSURE VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS.

RESPIRATOR:

THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF

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SULFURIC ACID:	
25 MG/M3- ANY POWERED AIR-PURIFYING RESPIRATOR WITH AN ACID GAS CARTRIDGE(S) AND HAVING A HIGH-EFFICIENCY PARTICULATE FILTER. ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS FLOW MODE.	
50 MG/M3- ANY CHEMICAL CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE AND ACID GAS CARTRIDGE(S) IN COMBINATION WITH A HIGH-EFFICIENCY PARTICULATE FILTER.	
ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE. ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE. ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE OR FRONT- OR BACK-MOUNTED ACID GAS CANISTER HAVING A HIGH-EFFICIENCY PARTICULATE FILTER.	
80 MG/M3- ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE AND OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.	
ESCAPE- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-SIYLE OR FRONT- OR BACK-MOUNTED ACID GAS CANISTER HAVING A HIGH-EFFICIENCY PARTICULATE FILTER. ANY APPROPRIATE ESCAPE-TYPE SELF-CONTAINED BREATHING APPARATUS.	
FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:	
ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
CLOTHING: WEAR APPROPRIATE PROTECTIVE CLOTHING TO AVOID ANY POSSIBILITY OF SKIN CONTACT WITH LIQUIDS CONTAINING MORE THAN 1% SULFURIC ACID. AVOID REPEATED OR PROLONGED SKIN CONTACT WITH LIQUIDS CONTAINING 1% OR LESS SULFURIC ACID.	
GLOVES: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.	
EYE PROTECTION: EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE.	
EMERGENCY WASH FACILITIES: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.	
AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 11/28/84 REVISION DATE: 04/17/92	
-ADDITIONAL INFORMATION- THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.	
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DATE: 05/07/92 ACCT: 145955-01 PAGE: 1 INDEX: 02921280616 CAT NO: A4544 PO NBR: 510 **METHANOL** *#METHANOL**	DATE: 05/07/92 ACCT: 146965-01 PAGE: 2 INDEX: 02921280616 CAT NO: A4544 PO NBR: 510 OF IGNITION AND FLASH BACK. VAPOR-AIR MIXTURES ARE EXPLOSIVE.
MATERIAL SAFETY DATA SHEET	FLASH POINT: 52 F (11 C) (CC) UPPER EXPLOSIVE LIMIT: 35.0%
FISHER SCIENTIFIC EMERGENCY NUMBER: (201) 795-7100 CHEMICAL DIVISION CHEMIREC ASSISTANCE: (800) 424-9300 1 REAGENT LANE CHEMIREC ASSISTANCE: (800) 424-9300 FAIR LAWN NJ 07410	LOWER EXPLOSIVE LIMIT: 6.0% AUTOIGNITION TEMP.: 725 F (385 C) FLAMMABILITY CLASS(OSHA): IB FIREFIGHTING MEDIA;
(201) 796-7100 THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABLITY OR ANY CTHER WARRANTY, EXERCISION IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO. LABLITY DEFINITION FORM TO NOT	DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL-RESISTANT FOAM (1990 Emergency response guidebook, dot p 5800.5).
MERCHANTABILITY OR ANY CTEER WARRANTY, EXERESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABLITY RESULTING FROM ITS USE, USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.	FOR LARGER FIRES, USE WATER SPRAY, FOG OR ALCOHOL-RESISTANT FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5). FIREFIGHTING:
SUBSTANCE IDENTIFICATION SUBSTANCE: **METHAMOL** CAS-NUMBER 67-56-1	MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. DIKE FIRE-CONTROL WATER FOR LATER DISPOSAL; DO NOT SCATTER THE MATERIAL, APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE. ISOLATE FOR 1/2 MILE IN ALL DIRECTIONS IF TANK, RAIL CAR OR TANK TRUCK IS INVOLVED IN FIRE (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P \$800.5, GUIDE PAGE 28).
TRADE NAMES/SYNONYMS: WETHYL ALCOHOL; WOOD ALCOHOL; METHYL HYDROXIDE; CARBINOL; WENGYDROXYMETHANE; WOOD SPIRIT; WOOD NAPHTHA; METHYLOL; COLONIAL SPIRIT; COLUMBIAN SPIRIT; PYROXYLIC SPIRIT; COULOMATIC (R) CONDITIONER SOLUTION; STANDARC WATER IN METHANOL; STCC 4909230; UN 1230; RCRA U154; A454; A522; A936; A408; A947; A935; BP1105; A412; A411; A433P; SW2;; SC95; A452SK; A408SK; A412P; A434; A412SK; A450; A433S; CH40; ACC14280	EXTINGUISH ONLY IF FLOW CAN BE STOPPED; USE WATER IN FLOODING AMOUNTS AS FOG, SOLID STREAMS MAY NOT BE EFFECTIVE. COOL CONTAINERS WITH FLOODING QUANTITIES OF WATER, APPLY FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING TOXIC VAPORS, KEEP UPWIND.
CHEMICAL FAMILY: Hydroxyl, Aliphatic	TRANSPORTATION DATA DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101:
MOLECULAR FORMULA: C-H3-O-H	
MOLECULAR WEIGHT: 32.04	DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND SUBPART E: FLAMMABLE LIQUID
CERCLA RATINGS (SCALE O-3): HEALTH=3 FIRE=3 REACTIVITY=0 PERSISTENCE=0 NFPA RATINGS (SCALE O-4): HEALTH=1 FIRE=3 REACTIVITY=0	DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49 CFR 173.119 EXCEPTIONS: 49 CFR 173.118
COMPONENTS AND CONTAMINANTS COMPONENT: METHYL ALCOHOL (METHANOL) CAS# 67-56-1 PERCENT: 100	FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181C AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90)
OTHER CONTAMINANTS: NONE EXPOSURE LIMITS:	EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO
METHYL ALCOHOL (METHANOL); 20D PPM (262 MG/M3) DSHA TWA (SKIN); 250 PPM (328 MG/M3) DSHA STEL 20D PPM (262 MG/M3) ACGIH TWA (SKIN); 250 PPM (328 MG/M3) ACGIH STEL 200 PPM (262 MG/M3) NIDSH RECOMMENDED TWA (SKIN);	OCTOBER 1, 1993. (56 FR 47158, 10/18/91) U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: METHYL ALCOHOL-UN 1230
250 PPM (328 MG/M3) NIOSH RECOMMENDED STEL 200 PPM (262 MG/M3) DFG MAK TWA (SKIN); 400 PPM (524 MG/M3) DFG MAK 30 MINUTE PEAK, AVERAGE VALUE, 4 TIMES/SHIFT	U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 3 - Flammable Liquid
MEASUREMENT METHOD: SILICA GEL TUBE; WATER; GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION; (NIOSH VOL. III # 2000, METHANOL).	U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG II
SOOD POUNDS CERCLA SECTION 103 REPORTABLE QUANTITY Subject to sara section 313 Annual Toxic chemical release reporting	U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: Flammable Liquid, poison
PHYSICAL DATA DESCRIPTION: CLEAR, COLORLESS LIQUID WITH A CHARACTERISTIC ALCOHOLIC ODOR.	U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: EXCEPTIONS: NONE Non-BULK PACKAGING: 49 CFR 173.202 BULK PACKAGING: 49 CFR 173.243
BOILING POINT: 149 F (65 C) MELTING POINT: -137 F (-94 C) SPECIFIC GRAVITV: 0.7914 VAPOR PRESSURE: 97.25 MMHG @ 20 C	U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 1 L CARGO AIRCRAFT ONLY: 60 L
EVAPORATION RATE: (BUTYL ACETATE=1) 4.6 SOLUBILITY IN WATER: VERY SOLUBLE ODOR THRESMOLD: 100 PPM VAPOR DENSITY: 1.11	TOXICITY
SOLVENT SOLUBILITY: ETRER, BENZENE, ALCOHOL, ACETONE, CHLOROFORM, ETHANOL. VISCOSITY: 0.59 CPS @ 20 C	METHYL ALCOHOL (METHANOL); IRRITATION DATA; 20 MG/24 HOURS SKIN-RABBIT MODERATE; 40 MG EYE-RABBIT MODERATE; 100 MG/24 HOURS EYE-RABBIT MODERATE. TOXICITY DATA: 86,000 MG/M3 INHALATION-HUMAN TCLO; 300 PPM INHALATION-HUMAN TCLO; 64,000 PPM/4 HOURS INHALATION-RAT LCSO; 1000 PPM INHALATION-HUMAN LCLO: 50 GM/M3/2 HOURS INHALATION-RAT LCSO; 1000 PPM INHALATION-MONKEY
FIRE AND EXPLOSION DATA FIRE AND EXPLOSION HAZARD: OANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT, FLAME, OR OXIDIZERS. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE	LLD; 54.000 PPM/4 HOURS INHALATION-RAT LC50; 1000 PPM INHALATION-MONKEY LCLD; 50 GM/M3/2 HOURS INHALATION-MOUSE LCLD; 44.000 MG/M3/6 HOURS INHALATION-CAT LCLD; 15,800 MG/KG SKIN-RABBIT LD50; 393 MG/KG SKIN-MONKEY LDLD; 428 MG/KG ORAL-HUMAN LDLD; 143 MG/KG ORAL-HUMAN LDLD; 6422 MG/KG ORAL-MAN LDLD; 3429 MG/KG ORAL-MAN TDLD; 140 MG/KG ORAL-WOMAN TDLD; 7 GM/KG ORAL-MONKEY LD50; 5528 MG/KG ORAL-RAT LD50; 7300 MG/KG ORAL-MOUSE LD50; 14,200 MG/KG ORAL-RABBIT LD50; 7500 MG/KG ORAL-D0G LDLD; 9800 MG/KG SUBCUTANEOUS-MOUSE LD50; 2131 MG/KG INTRAVENOUS-RAT LD50; 4710 MG/KG

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PAGE: 3 DATE -05/07/92 ACCT: 146965-01 PAGE: 4 DATE: 05/07/92 INDEX: 02921280616 CAT NO: A4544 ACCT : 146965-01 PO NBR: 510 INDEX: 02921280616 CAT NO: A4544 INTRAVENOUS-MOUSE LD50; 8907 MG/KG INTRAVENOUS-RABBIT LD50; 4641 MG/KG INTRAVENOUS-CAT LDL0; 7529 MG/KG INTRAPERITONEAL-RAT LD50; 1D.765 MG/KG INTRAPERITONEAL-MOUSE LD50; 1826 MG/KG INTRAPERITONEAL-RABBIT LD50; 3556 MG/KG INTRAPERITONEAL-GUINEA PIG LD50; 8555 MG/KG INTRAPERITONEAL-HAMSTER LD50; 868 MG/KG UNREPORTED-MAN LDL0; MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS). PO NBR: 510 60-240 ML. PROLONGED ASTHENIA AND IRREVERSIBLE EFFECTS ON THE NERVOUS SYSTEM INCLUDING DIFFICULTY IN SPEECH, MOTOR DYSFUNCTION WITH RIGIDITY, SPASIICITY, AND HYPOKINESIS HAVE BEEN REPORTED. CHRONIC EXPOSITE FREEARED INGESTION MAY CAUSE VISUAL IMPAIRMENT AND BLINDNESS AND OTHER SYSTEMIC EFFECTS AS DETAILED IN ACUTE INGESTION. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. CARCINGEN STATUS: NONE. LOCAL EFFECTS: IRRITANT- SKIN, EYE. ACUTE TOXICITY LEVEL: SLIGHTLY TOXIC BY INHALATION, DERMAL ABSORPTION, FIRST AID- IF INGESTION OF METHANOL IS DISCOVERED WITHIN 2 HOURS, GIVE SYRUP OF IPECAC. LAVAGE THOROUGHLY WITH 2-4 L OF TAP WATER WITH SODIUM BICARBONATE (20 G/L) ADDED. GET MEDICAL ATTENTION IMMEDIATELY. LAVAGE SHOULD BE PERFORMED BY QUALIFIED MEDICAL PERSONNEL (DREISBACH, HANDBOOK INGESTION. ANGESTION. TARGET EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSANT; NEUROTOXIN. AT INCREASED RISK FROM EXPOSURE: PERSONS WITH KIDNEY, EYE OR SKIN DISORDERS. OF POISONING, 12TH ED.). HEALTH EFFECTS AND FIRST AID ANTIDOTE: ANILUTE: THE FOLLOWING ANTIDOTE(S) HAVE BEEN RECOMMENDED. HOWEVER, THE DECISION AS TO WHETHER THE SEVERITY OF POISONING REQUIRES ADMINISTRATION OF ANY ANTIDOTE AND ACTUAL DOSE REQUIRED SHOULD BE MADE BY QUALIFIED MEDICAL PERSONNEL. INHALATION: INHALATION: METHYL ALCOHOL (METHANOL): NARCOTIC/NEUROTOXIN. 25,000 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSURE- MAY CAUSE IRRITATION OF THE MUCOUS MEMBRANES, COUGHING, OPPRESSION IN THE CHEST, TRACHEITIS, BRONCHITIS, TINNITUS, UNSTEADY' GAIT. TWITCHING. COLIC, CONSTIPATION, NYSTAGMUS, AND BLEPHAROSPASM. SYMPTOMS FROM OCCUPATIONAL EXPOSURE INCLUDE PARESTHESIAS, NUMBNESS AND SHOOTING PAINS IN THE HANDS AND FOREARMS. METABOLIC ACIDOSIS, AND EFFECTS ON THE EYES AND CENTRAL NERVOUS SYSTEM MAY OCCUR AS DETAILED IN ACUTE METHANOL POISONING: METHANOL POISONING: GIVE ETHANOL, 50% (100 PROOF), 1.5 ML/KG ORALLY INITIALLY, DILUTED TO NOT MORE THAN 5% SOLUTION, FOLLOWED BY 0.5-1.0 ML/KG EVERY 2 HOURS ORALLY OR INTRAVENOUSLY FOR 4 DAYS IN ORDER TO REDUCE METABOLISM OF METHANOL AND TO ALLOW TIME FOR ITS EXCRETION. BLOOD ETHANOL LEVEL SHOULD BE IN THE RANGE OF 1-1.5 MG/ML (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). ANTIDOTE SHOULD BE ADMINISTERED BY QUALIFIED MEDICAL PERSONNEL. INCESTION INGESTION. CHRONIC EXPOSURE- REPEATED OR PROLONGED EXPOSURE MAY CAUSE EFFECTS AS IN ACUTE INGESTION. REPEATED EXPOSURE TO 200-375 PPM CAUSED RECURRENT HEADACHES IN WORKERS. EXPOSURE FOR 4 YEARS TO 1200-8000 PPM RESULTED IN MARKED DIMINUTION OF VISION AND ENLARGEMENT OF THE LIVER IN A WORKMAN. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. ORAL OR INTRAVENOUS ADMINISTRATION OF 4-METHYLPYRAZOLE INHIBITS ALCOHOL DEHYDROGENASE AND HAS BEEN USED EFFECTIVELY AS AN ANTIDOTE FOR METHANOL OR ETHYLENE GLYCOL POISONING (ELLENHORN AND BARCELOUX, MEDICAL TOXICOLOGY). FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY. REACTIVITY REACTIVITY: STABLE UNDER NORMAL TEMPERATURES AND PRESSURES. SKIN CONTACT: INCOMPATIBILITIES; METHYL ALCOHOL (METHANOL): METHYL ALCOHOL (METHANOL): ACETYL BROMIDE: VIOLENT REACTION WITH FORMATION OF HYDROGEN BROMIDE. ALKYLALUMINUM SOLUTIONS: VIOLENT REACTION. METHYL ALCOHOL (METHANOL); IRRITANT/NARCOTIC/NEUROTOXIN. ACUTE EXPOSURE- CONTACT WITH LIQUID MAY CAUSE IRRITATION. SKIN ABSORPTION MAY OCCUR AND CAUSE METABOLIC ACIDOSIS AND EFFECTS ON THE EYES AND CENTRAL NERVOUS SYSTEM AS DETAILED IN ACUTE INGESTION. CHRONIC EXPOSURE- REPEATED OR PROLONGED CONTACT WITH THE LIQUID MAY CAUSE DEFATTING OF THE SKIN RESULTING IN ERYTHEMA, SCALING, AND ECZEMATOID DERMATITIS. CHRONIC ABSORPTION MAY RESULT METABOLIC ACIDOSIS AND EFFECTS AS DETAILED THA COULT INGESTION. ALKYLALUMINUM SOLUTIONS: VIOLENT REACTION. ALUMINUM: CORRODES. BARIUM PERCHLORATE: DISTILLATION YIELDS HIGHLY EXPLOSIVE ALKYL PERCHLORATE. BERVILIE: VIGOROUSLY EXOTHERMIC REACTION. CALCIUM CARBIDE: VIOLENT REACTION. CHLORINE: POSSIBLE IGNITION AND EXPLOSION HAZARD. CHLOROFORM AND SODIUM HYDROXIDE: EXPLOSIVE REACTION. CHLOROFORM AND SODIUM HYDROXIDE: EXPLOSIVE REACTION. CYANURIC CHLORIDE: VIOLENT REACTION. CYANURIC CHLORIDE: VIOLENT REACTION. CYANURIC CHLORIDE: VIOLENT REACTION. DIETHYL ZINC: POSSIBLE IGNITION AND EXPLOSION. AS DETAILED IN ACUTE INGESTION. FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY, WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES), GET MEDICAL ATTENTION IMMEDIATELY. DIETHYL ZINC: BOSSIBLE IGNITION AND EXPLOSION. Hydrogen Peroxide + Water: Explosion Hazard. 1000m - Ethanol + Mercuric Oxide: Explosion Hazard. EYE CONTACT: METHYL ALCOHOL (METHANOL): LEAD: CORRODES. IRRITANT. RAITANT. ACUTE EXPOSURE- VAPORS MAY CAUSE IRRITATION. HIGH CONCENTRATIONS HAVE BEEN REPORTED TO CAUSE VIOLENT INFLAMMATION OF THE CONJUNCTIVA AND EPITHELIAL DEFECTS ON THE CORNEA. MILD IRRITATION MAY OCCUR WITH DILUTE SOLUTIONS; THE UNDILUTED LIQUID HAS PRODUCED MODERATE CORNEAL OPACITY AND CONJUNCTIVAL REDNESS IN RABBITS. APPLICATION OF A DROP OF METHANOL IN RABBIT EYES CAUSED A MILD REVERSIBLE REACTION, GRADED 3 ON A SCALE OF 1-10 AFTER 24 HOURS. CHRONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS. LEAD PERCHLORATE: EXPLOSION HAZARD. MAGNESIUM: VIOLENT REACTION. MAGNESIUM (POWDERED): MIXTURES ARE CAPABLE OF DETONATION. METALS: INCOMPATIBLE. NICKEL: POSSIBLE IGNITION IN THE PRESENCE OF NICKEL CATALYST. NITRIC ACID (CONCENTRATED): MIXTURES OF GREATER THAN 25% ACID MAY DECOMPOSE VIOLENTLY. VIOLENTLY. VIOLENTLY. OXIDIZERS (STRONG): FIRE AND EXPLOSION HAZARD. PERCHLORIC ACID: EXPLOSION HAZARD. PHOSPHOROUS TRIOXIDE: POSSIBLE VIOLENT REACTION AND IGNITION. PLASTICS, RUBBER, COATINGS: MAY BE ATTACKED. POTASSIUM HYDOXIDE + CHLOROFORM: EXOTHERMIC REACTION. POTASSIUM HYDOXIDE + CHLOROFORM: EXOTHERMIC REACTION. POTASSIUM HYDOCFORM: POSSIBLE EXPLOSION HAZARD. SODIUM HYPOCHLORITE: EXPLOSION HAZARD. SODIUM HYPOCHLORITE: EXPLOSION HAZARD. FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY. INGESTION: METHYL ALCOHOL (METHANOL); Herric Algorid (Metranuc): ACUTE EXPOSURE- MAY CAUSE MILD AND TRANSIENT INEBRIATION AND SUBSEQUENT DROWSINESS FOLLOWED BY AN ASYMPTOMATIC PERIOD LASTING 8-48 HOURS. DROWSINESS FOLLOWED BY AN ASYMPTOMATIC PERIOD LASTING 8-48 HOURS. VERTIGO OR DIZZINESS, NAUSEA, VOMITING, OCCASIONAL DIARRHEA, ANOREXIA, VIOLENT PAIN IN THE BACK, ABDOMEN, AND EXTREMITIES, RESTLESSNESS, APATHY OR DELIUIUM, AND RARELY, EXCITEMENT AND MANIA MAY OCCUR. RAFID, SHALLOW RESPIRATION DUE TO METABOLIC ACIDOSIS, COLD AND CLAMMY SKIN, HYPOTENSION, CYANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA, CARDIAC DEPRESSION, PERIPHERAL NEURITIS, CEREBRAL AND PULMONARY EDEMA, UNCONSCIOUSNESS, AND COMA ARE POSSIBLE. EFFECTS ON THE EYE MAY INCLUDE OPTIC NEURITIS, BLURRED OR DIMMEO VISION, DILATED, UNRESPONSIVE PUPILS, PTOSIS, EYE PAIN, CONCENTRIC CONSTRICTION OF VISUAL FIELDS, DIPLOPIA, CHANGE IN COLOR PERCEPTION, PHOTOPHOBIA, AND OPTIC NERVE ATROPHY. PARTIAL BLINDNESS OR POSSIBLY DELAYED TRANSIENT OR PERMANENT BLINDNESS MAY OCCUR. BILATERAL SENSORINEURAL DEAFNESS HAS BEEN REPORTED IN A SINGLE CASE. LIVER, KIDNEY, HEART, STOMACH, INTESTINAL AND PANCREATIC DAMAGE MAY ALSO OCCUR. BILATERAL SENSORINEURAL DEAFNESS HAS BEEN REPORTED IN A SINGLE COCCULATORY COLLAPSE. AS LITTLE AS 15 ML HAS CAUSED BLINDNESS; THE USUAL FATAL DOSE IS NARCOTIC/NEUROTOXIN. SOLIUM HEHOLIUS E CHLOROFORM MACAND, SULFURIC ACID: FIRE AND EXPLOSION HAZARD, ZINC: EXPLOSION HAZARD. DECOMPOSITION: THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON. POLYMERIZATION: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES. STORAGE AND DISPOSAL OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.

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STORAGE

STORE IN ACCORDANCE WITH 29 CFR 1910, 106.

STORE AWAY FROM INCOMPATIBLE SUBSTANCES

DISPOSAL

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262, EPA HAZARDOUS WASTE NUMBER 0154.

CAT NO: A4544

CONDITIONS TO AVOID

AVOID CONTACT WITH HEAT, SPARKS, FLAMES OR OTHER IGNITION SOURCES. VAPORS MAY BE EXPLOSIVE. MATERIAL IS POISONOUS; AVOID INHALATION OF VAPORS OR CONTACT WITH SKIN. DO NOT ALLOW MATERIAL TO CONTAMINATE WATER SOURCES.

SPILL AND LEAK PROCEDURES

SOIL SPILL DIG HOLDING AREA SUCH AS LAGOON, POND OR PIT FOR CONTAINMENT.

DIKE FLOW OF SPILLED MATERIAL USING SOIL OR SANDBAGS OR FOAMED BARRIERS SUCH AS POLYURETHANE OR CONCRETE.

AIR SPILL: APPLY WATER SPRAY TO KNOCK DOWN VAPORS.

WATER SPILL . ALLOW SPILLED MATERIAL TO AERATE,

LIMIT SPILL MOTION AND DISPERSION WITH NATURAL BARRIERS OR OIL SPILL CONTROL BOOMS.

USE SUCTION HOSES TO REMOVE TRAPPED SPILL MATERIAL.

OCCUPATIONAL SPILL:

OCCUPATIONAL SFILL: SHUT OFF IGNITION SOURCES, DO NOT TOUCH SPILLED MATERIAL, STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING, FLAMES OR FLARES IN HAZARD AREA! KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND DENY ENTRY.

REPORTABLE QUANTITY (RQ); 5000 POUNDS

REPORTABLE QUANTITY (RQ): 5000 POUNDS THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CONTER MUST BE NOTIFIED IMMEDIATELY AT (BDO) 424-8802 OR (202) 426-2675 IN THE DETERDANTION FULNER SUBJECT OF CONCERNMENTS METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).

PROTECTIVE EQUIPMENT

VENTILATION

PROVIDE GENERAL DILUTION VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS. VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF.

RESPIRATOR

THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF

LABOR, 29 CFR 1910 SUBPART Z. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).

METHYL ALCOHOL (METHANOL);

2000 PPM- ANY SUPPLIED-AIR RESPIRATOR. ANY SELF-CONTAINED BREATHING APPARATUS.

5000 PPM- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS-FLOW MODE.

- 10,000 PPM- ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE. ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE. ANY SUPPLIED-AIR RESPIRATOR THAT HAS A TIGHT-FITTING FACEPIECE AND IS OPERATED IN A CONTINUOUS-FLOW MODE.
- 25,000 PPM- ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE AND OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

ESCAPE- ANY APPROPRIATE ESCAPE-TYPE, SELF-CONTAINED BREATHING APPARATUS.

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FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

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ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

CLOTHING TO PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH THIS SUBSTANCE.

GLOVES EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

EVE PROTECTION: EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES TO PREVENT EYE CONTACT WITH THIS SUBSTANCE.

EMERGENCY EYE WASH: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 09/25/84 REVISION DATE: 02/25/92

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MATERIAL SAFETY DATA SHEET

FISHER SCIENTIFIC CHEMICAL DIVISION 1 REAGENT LANE FAIR LAWN NJ 07410 (201) 796-7100 EMERGENCY NUMBER: (201) 796-7100 CHEMTREC ASSISTANCE: (800) 424-9300

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SUBSTANCE IDENTIFICATION

CAS-NUMBER 75-09-2

SUBSTANCE: **METHYLENE CHLORIDE**

TRADE NAMES/SYNONYMS: METHANE, DICHLORO-; METHYLENE CHLORIDE; METHYLENE DICHLORIDE; NETHANE DICHLORIDE; SOLAESTHIN; NARKOTIL; SOLMETHINE; DICHLOROMETHANE; RCRA U080; STCC 4941132; D150; D143; D142; D123; D35; D37; D37S; D37SK; D150SK; D143SK; D151; BP1186; D152; UN 1593; CH2CL2;

CHEMICAL FAMILY: Halogen compound, aliphatic

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MOLECULAR FORMULA: C-H2-CL2

MOLECULAR WEIGHT: 84.93

CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=1 REACTIVITY=0 PERSISTENCE=1 NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=1 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: METHYLENE CHLORIDE CAS# 75-09-2 PERCENT: 100.0

OTHER CONTAMINANTS: NONE

EXPOSURE LIMITS: DICHLOROMETHANE (METHYLENE CHLORIDE): 500 ppm OSHA TWA; 1000 ppm OSHA ceiling; 2000 ppm/5 min in 2 hours OSHA peak 50 ppm (174 mg/m3) ACGIH TWA ACGIH A2- Suspected Human Carcinogen Lowest feasible limit NIOSH recommended exposure criteria 100 ppm (360 mg/m3) DFG MAK TWA; 500 ppm (1800 mg/m3) DFG MAK 30 minute peak, average value, 2 times/shift

Measurement method: Charcoal tube (2); carbon disulfide; gas chromatography with flame ionization detection; (NIDSH Vol. III **#** 1005).

ACC14930 PAGE 02 0E 08 1000 pounds CERCLA Section 10 portable Quantity Subject to SARA Section 313 Annual Toxic Chemical Release Reporting Subject to California Proposition 65 cancer and/or reproductive toxicity warning and release requirements- (April 1, 1988) PHYSICAL DATA DESCRIPTION: Clear, colorless liquid with an mild, chluroform-like odor BOILING POINT: 104 F (40 C) MELTING POINT: -139 F (-95 C) SPECIFIC GRAVITY: 1.3266 VOLATILITY: 100% VAPOR PRESSURE: 400 mmHg @ 24 C EVAPORATION RATE: (butyl acetate=1) 27.5 SOLUBILITY IN WATER: 1.32% @ 20 C ODOR THRESHOLD: 25-50 ppm VAPOR DENSITY: 2.9 SOLVENT SOLUBILITY: Soluble in alcohol, ether, dimethylformamide, phenols, aldehydes, ketones, glacial acetic acid, triethyl phosphate, acetoacetic acid, cyclohexylamine, chlorinated solvents. VISCOSITY: 0.441 cP @ 20 C FIRE AND EXPLOSION DATA FIRE AND EXPLOSION HAZARD: Slight fire hazard when exposed to heat or flame. UPPER EXPLOSIVE LIMIT: 23% LOWER EXPLOSIVE LIMIT: 13% AUTOIGNITION TEMP.: 1033 F (556 C) FIREFIGHTING MEDIA: Dry chemical or carbon dioxide (1993 Emergency Response Guidebook, RSPA P 5800.6). For larger fires, use water spray, fog or regular foam (1993 Emergency Response Guidebook, RSPA P 5800.6). FIREFIGHTING: Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire (1993 Emergency Response Guidebook, RSPA P 5800.6, Guide Page 74). Extinguish using agents suitable for surrounding fire. Use flooding quantities of water to cool affected containers, applying from as far a distance as possible. Avoid breathing hazardous vapors, keep unwind. TRANSPORTATION DATA U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172,101: Dichloromethane-UN 1593

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U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101 6.1 - Poisonous materials

U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG III

U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: Keep away from food

U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: EXCEPTIONS: 49 CFR 173.153 NON-BULK PACKAGING: 49 CFR 173.203 BULK PACKAGING: 49 CFR 173.241

U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 60 L CARGO AIRCRAFT ONLY: 220 L

TOXICITY

DICHLOROMETHANE (METHYLENE CHLORIDE):

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IRRITATION DATA: 162 mg eye-rabbit moderate; 10 mg eye-rabbit mild; 500 mg/24 hours eye-rabbit mild; 810 mg/24 hours skin-rabbit severe; 100 mg/24 hours skin-rabbit moderate.

TOXICITY DATA: 500 ppm/1 year intermittent inhalation-human TCLo; 500 ppm/8 hours inhalation-human TCLo; 88000 mg/m3/30 minutes inhalation-rat LC50; 552 ppm/6 hours/5 days intermittent inhalation-rat TCLo; 14400 ppm/7 hours inhalation-mouse LC50; 10000 ppm/7 hours inhalation-rabbit LCLo; 5000 ppm/2 hours inhalation-guinea pig LCLo; 14108 ppm/7 hours inhalation-dog LCLo; 43400 mg/m3/4.5 hours inhalation-cat LCLo; 357 mg/kg oral-human LDLo; 1600 mg/kg oral-rat LD50; 1900 mg/kg oral-rabbit LDLo; 3 gm/kg oral-dog LDLo; 6460 mg/kg subcutaneous-mouse LD50; 2700 mg/kg subcutaneous-rabbit LDLo; 200 mg/kg intravenous-dog LDLo; 916 mg/kg intraperitoneal-rat LD50; 437 mg/kg intraperitoneal-mouse LD50; 950 mg/kg intraperitoneal-dog LDLo; 4770 mg/kg unreported-mouse LD50; 13000 ppm/6 hours/19 days intermittent inhalation-rat TCLo; 44 mg/m3/24 hours/96 days continuous inhalation-rat TCLo; 8400 ppm/6 hours/13 weeks intermittent inhalation-rat; 13000 ppm/6 hours/19 days intermittent inhalation-mouse TCLo; 8400 ppm/6 hours/13 weeks intermittent inhalation-mouse TCLo; 39270 mg/kg/17 weeks intermittent skin-rat TDLo; mutagenic data (RTECS); reproductive effects data (RTECS); tumorigenic data (RTECS).

CARCINDGEN STATUS: Anticipated Human Carcinogen (NTP); Human Inadequate Evidence, Animal Sufficient Evidence (IARC Group-2B). Exposure by inhalation increased the incidence of benign and malignant lung and liver tumors in mice of each sex and the incidence or multiplicity of benign mammary tumors in rats of each sex; in male rats, an increased incidence of sarcomas located in the neck was also observed.

LOCAL EFFECTS: Irritant- inhalation. skin. eye

ACUTE TOXICITY LEVEL: Moderately toxic by inhalation and ingestion.

TARGET EFFECTS: Central nervous system depressant; chemical asphyxiant. Poisoning may affect the blood, liver and kidneys.

AT INCREASED RISK FROM EXPOSURE: Persons with skin, liver, kidney, cardiovascular disease or anemia.

ADDITIONAL DATA: Concurrent exposure to other sources of carbon monoxide,
ACC14930 PAGE 04 DF 08 smoking, or physical activity increase the level of carboxyhemogl in the blood resulting in additive effects. Alcohol may enhance the toxic effects. Stimulants such as epinephrine may induce cardiac arrhythmias. One study indicated that chronic exposure may be associated with an increased risk of spontaneous abortion. Dichloromethane crosses the placenta and is excreted in breast milk.

HEALTH EFFECTS AND FIRST AID

INHALATION:

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DICHLOROMETHANE (METHYLENE CHLORIDE):

IRRITANT/NARCOTIC/CHEMICAL ASPHYXIANT/CARCINOGEN.

ACUTE EXPOSURE- Human exposure to 100 ppm has resulted in upper respiratory tract irritation; concentrations as low as 200 ppm have produced temporary neurobehavioural effects; 500-1000 ppm for 1-2 hours has caused lightheadedness and elevated carboxyhemoglobin level; 2300 ppm for 30 minutes has caused nausea and narcosis; 5000 ppm has caused headache, fatigue, neurasthenic disorders and digestive disturbances. Other symptoms may include dizziness, tingling, numbness of the extremities, a sensation of heat, a sensation of fullness in the head, drunkenness, stupor, dullness and mental confusion. Massive exposure may cause pharyngeal erosion, pulmonary edema, staggering, hemolysis with gross hematuria, rapid unconsciousness and death. Recovery is generally complete if exposure is terminated before anesthetic death. Exposure to high levels may also cause cardiac arrhythmias.

CHRONIC EXPOSURE- More than 100 workers exposed to levels below 500 ppm have developed health problems including significant upper respiratory irritation, exacerbation of coronary artery disease, and a high incidence of neurotoxicity; increased complaints of chest pains were reported at concentrations of 10 to 35 ppm. Repeated human exposure to 500-3600 ppm has caused signs of toxic encephalopathy with acousting in the course delusions and hallucinations. A case of serious cerebral deterioration was observed in an individual exposed for several years to dichloromethane. In a mortality study of two groups of workers, one exposed to acetone and the other to dichloromethane and acetone, a statistically significant difference in deaths from diseases of the circulatory system and from ischemic heart disease were reported from the dichloromethane and acetone group. In another mortality study of workers exposed to dichloromethane, a significant increase in hypertensive disease and a "suggestive excess" of pancreatic cancer were reported. Liver disease has been reported in workers. In one study, an increase in serum bilirubin was observed in exposed workers, but no other sign of liver injury or hemolysis was reported. Adverse liver effects were observed in several animal species chemically exposed. Testicular choony wee recorded on mode excosed to ADD com over 1 years. Repeated inhalation by rodents prior to and/or during gestation caused fetal skeletal abnormalities and behavioral effects in newborn offspring. Repeated inhalation increased the incidence of benign and malignant lung and liver tumors in mice of each sex and the incidence or multiplicity

of benign mammary tumors in rats of each sex; in male rats, an increased incidence of sarcomas located in the neck was also observed.

FIRST AID- Remove from exposure area to fresh air immediately. Perform artificial respiration if necessary. Maintain airway, blood pressure and respiration. Keep warm and at rest. Treat symptomatically and supportively. Get medical attention immediately. Qualified medical personnel should consider administering oxygen. SKIN CONTACT:

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DICHLOROMETHANE (METHYLENE CHLORIDE): IRRITANT. ACUTE EXPOSURE- May cause effects ranging from mild irritation to severe pain, paresthesias, and possibly burns, depending on the intensity of contact. CHRONIC EXPOSURE- Prolonged or repeated contact may cause a dry, scaly and fissured dermatitis due to defatting action of liquid on skin. FIRST AID- Remove contaminated clothing and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately. EYE CONTACT: DICHLOROMETHANE (METHYLENE CHLORIDE): IRRITANT. ACUTE EXPOSURE- Vapor concentrations above 2000 ppm may cause irritation. Direct contact may cause pain and extreme irritation, but it is not likely to cause serious injury. 10 mg applied to rabbit eyes produced keratitis, iritis, increased corneal thickness, and inflammation of the conjunctiva and eyelids with some effects lasting up to two weeks. CHRONIC EXPOSURE- Repeated or prolonged exposure to irritants may cause conjunctivitis, FIRST AID- Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately. INGESTION: DICHLOROMETHANE (METHYLENE CHLORIDE): NARCOTIC/CHEMICAL ASPHYXIANT. Acute exposure: May cause rapid, then slowed respiration, glottal and pharyngeal edema, intravascular hemolysis with gross hematuria, gastrointestinal ulceration and hemorrhage, and carboxyhemoglobinemia. These symptoms may progress rapidly to unconsciousness and lack of response to painful stimuli. Pharyngeal erosions may disturb the swallowing mechanism resulting in aspiration pneumonia. In addition, symptoms of central nervous system depression may occur followed by convulsions and paresthesia of the extremities. Large doses may cause liver and kidney damage. The estimated lethal dose for an adult is 25 grams. CHRONIC EXPOSURE- Repeated ingestion by rats and mice resulted in histomorphological changes in the liver. FIRST AID- Remove by gastric lavage or emesis. Maintain blood pressure and airway. Give oxygen if respiration is depressed. Do not perform gastric lavage or emesis if victim is unconscious. Get medical attention immediately (Dreisbach, Handbook of Poisoning, 12th Ed.). Administration of gastric lavage or oxygen should be performed by qualified medical personnel. ANTIDOTE:

No specific antidote. Treat symptomatically and supportively.

PAGE 06 OF 08

REALTIVITY

REACTIVITY:

Stable under normal temperatures and pressures.

INCOMPATIBILITIES:

DICHLOROMETHANE (METHYLENE CHLORIDE): ALKALI METALS: Possible explosive reaction. ALUMINUM: Violent, uncontrollable reaction above 95 C. CAUSTICS (STRONG): Vigorous, possibly violent reaction. COPPER: May corrode at elevated temperatures in the presence of moisture. DINITROGEN PENTOXIDE: Possible explosion. DINITROGEN TETROXIDE: Forms shock-sensitive mixture. IRON: May corrode at elevated temperatures in the presence of moisture. LITHIUM: Forms shock-sensitive mixture. MAGNESIUM: Possible explosion. NICKEL: May corrode at elevated temperatures in the presence of moisture. NITRIC ACID: Exothermic reaction yielding detonable solution. OXIDIZERS (STRONG): Fire and explosion hazard. OXYGEN (LIQUID): Explosive reaction on ignition. PLASTICS, RUBBER, AND COATINGS: May be attacked. POTASSIUM: Explosive reaction. POTASSIUM HYDROXIDE + N-METHYL-N-NITROSO UREA: Possible explosion. POTASSIUM TERT-BUTOXIDE: Ignition reaction. SODIUM: Forms shock-sensitive mixture. SODIUM-POTASSIUM ALLOY: Forms shock-sensitive mixture. STAINLESS STEEL: May corrode at elevated temperatures in the presence of moisture. TITANIUM: Possible violent reaction. ZINC: Possible violent reaction.

DECOMPOSITION:

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Thermal decomposition products may include toxic and hazardous phosgene gas, toxic and corrosive fumes of chlorides, and oxides of carbon.

POLYMERIZATION:

Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

STORAGE AND DISPOSAL

Observe all federal, state and local regulations when storing or disposing of this substance.

Storage

Protect against physical damage. Store in cool, dry, well ventilated location, away from any area where the fire hazard may be acute (NFPA 49, Hazardous Chemicals Data, 1975).

Store in a tightly closed container.

Store under nitrogen.

Store away from incompatible substances.

Disposal

Disposal must be in accordance with standards applicable to generators of hazardous waste, 40CFR 262. EPA Hazardous Waste Number UO80.

Nay burn but does not ignite readily. Container may explode in heat of fire.

SOIL SPILL:

Dig a holding area such as a pit, pond or lagoon to contain spill and dike surface flow using barrier of soil, sandbags, foamed polyurethane or foamed concrete. Absorb liquid mass with fly ash or cement powder.

AIR SPILL:

Apply water spray to knock down vapors.

WATER SPILL:

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Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers.

Use suction hoses to remove trapped spill material.

The California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) prohibits contaminating any known source of drinking water with substances known to cause cancer and/or reproductive toxicity.

OCCUPATIONAL SPILL:

Shut off ignition sources. Stop leak if you can do it without risk. For small liquid spills, take up with sand, earth or other absorbent material. For larger spills, dike far ahead of spill for later disposal. No smoking, flames or flares in hazard area! Keep unnecessary people away.

Reportable Quantity (RQ): 1000 pounds

The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the National Response Center must be notified immediately at (800) 424-8802 or (202) 426-2675 in the metropolitan Washington, D.C. area (40 CFR 302.6).

PROTECTIVE EQUIPMENT

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Process enclosure recommended to meet published exposure limits.

RESPIRATOR:

The following respirators and maximum use concentrations are recommendations by the U.S. Department of Health and Human Services, NIOSH Pocket Guide to Chemical Hazards; NIOSH criteria documents or by the U.S. Department of Labor, 29 CFR 1910 Subpart Z.

The specific respirator selected must be based on contamination levels and in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA).

DICHLOROMETHANE (METHYLENE CHLORIDE): At any detectable concentration:

> Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape- Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister. Any appropriate escape-type, self-contained breathing apparatus.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

CLOTHING:

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Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

GLOVES;

Employee must wear appropriate protective gloves to prevent contact with this substance.

EYE PROTECTION:

Employee must wear splash-proof or dust-resistant safety goggles and a faceshield to prevent contact with this substance.

Emergency wash facilities:

Where there is any possibility that an employee's eyes and/or skin may be exposed to this substance, the employer should provide an eye wash fountain and quick drench shower within the immediate work area for emergency use.

> AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 09/26/84 REVISION DATE: 12/08/9-

-ADDITIONAL INFORMATION-

THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH RECOMMATION AND WE APPOME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865
MATERIAL SAFETY DATA SHEET 24-HOUR EMERGENCY TELEPHONE (903) 859-2151 CHEMTREC # (800) 424-9300 NATIONAL RESPONSE CENTER # (800) 424-8802
388 M04METHYL ISO-BUTYL KETONEPAGE: 1EFFECTIVE: 01/04/94ISSUED: 01/15/94
J.T.BAKER INC., 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865
SECTION I - PRODUCT IDENTIFICATION
PRODUCT NAME: METHYL ISO-BUTYL KETONE COMMON SYNONYMS: 4-METHYL-2-PENTANONE; ISOPROPYLACETONE; HEXONE HEMICAL FAMILY: KETONES FORMULA: CH3COCH2CH(CH3)2 FORMULA WT.: 100.16 CAS NO.: 108-10-1 HIOSH/RTECS NO.: SA9275000 PRODUCT USE: LABORATORY REAGENT PRODUCT CODES: 5384,9212,9320,4855,9322,5384
PRECAUTIONARY LABELING
BAKER SAF-T-DATA* SYSTEM HEALTH - 2 MODERATE FLAMMABILITY - 3 SEVERE (FLAMMABLE) REACTIVITY - 1 SLIGHT CONTACT - 1 SLIGHT
ABORATORY PROTECTIVE EQUIPMENT
GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
U.S. PRECAUTIONARY LABELING
WARNING LAMMABLE. CAUSES IRRITATION. HARMFUL IF SWALLOWED OR INHALED. KEEP AWAY FROM HEAT, SPARKS, FLAME. AVOID CONTACT WITH EYES, SKIN, CLOTHING. AVOID BREATHING VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE ENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, USE ALCOHOL FOAM, DRY CHEMICAL, CARBON DIOXIDE - WATER MAY BE INEFFECTIVE. FLUSH SPILL AREA WITH WATER SPRAY.
INTERNATIONAL LABELING
VOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH LENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.
SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)
CONTINUED ON PAGE: 2

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIP SBURG, NJ 08865 M A T E R I A L S A F E T Y D A T A S H E E T 24-HOUR EMERGENCY TELEPHONE (908) 859-2151 CHEMTREC # (800) 424-9300 NATIONAL RESPONSE CENTER # (800) 424-8802	9
388 M04METHYL ISO-BUTYL KETONEPAGEEFFECTIVE: 01/04/9401/04/94ISSUED: 01/15	
SECTION II - COMPONENTS	= = =
COMPONENT CAS NO. WEIGHT % OSHA/PEL ACGIH/T METHYL ISO-BUTYL KETONE 108-10-1 90-100 50 PPM 50 PP	
SECTION III - PHYSICAL DATA	===
BOILING POINT: 116 C (240 F) VAPOR PRESSURE (MMHG): 15 (AT 760 MM HG) (20 C)	
MELTING POINT: -85 C (-121 F) VAPOR DENSITY (AIR=1): 3.5 (AT 760 MM HG)	
SPECIFIC GRAVITY: 0.79EVAPORATION RATE: 1.6(H20=1)(BUTYL ACETATE = 1)	
LUBILITY(H20): MODERATE (1-10%) % VOLATILES BY VOLUME: 100 (21 C)	
DOR THRESHOLD (P.P.M.): N/A PHYSICAL STATE: LIQUID	
COEFFICIENT WATER/OIL DISTRIBUTION: N/A	
PPEARANCE & ODOR: COLORLESS LIQUID. PLEASANT ODOR.	
SECTION IV - FIRE AND EXPLOSION HAZARD DATA	===
LASH POINT (CLOSED CUP): 15 C (60 F) NFPA 704M RATING: 2-3-0	
AUTDIGNITION TEMPERATURE: 448 C (840 F)	
LAMMABLE LIMITS: UPPER - 7.5 % LOWER - 1.4 %	
IRE EXTINQUISHING MEDIA USE ALCOHOL FOAM, DRY CHEMICAL OR CARBON DIOXIDE. (WATER MAY BE INEFFECTIVE.)	
PECIAL FIRE-FIGHTING PROCEDURES FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. US CONTINUED ON PAGE: 3	E

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBU MATERIAL SAFETY DATA S 24-HOUR EMERGENCY TELEPHONE (908) 859- CHEMTREC # (800) 424-9300 NATIONAL RESPONSE CENTER	H E E T -2151
588 MO4 METHYL ISO-BUTYL KETONE EFFECTIVE: 01/04/94	PAGE: 3 ISSUED: 01/15/94
SECTION IV - FIRE AND EXPLOSION HAZARD DATA (CON	======================================
WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL. UNUSUAL FIRE & EXPLOSION HAZARDS VAPORS MAY FLOW ALONG SURFACES TO DISTANT IGNITION SOU CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. CONTAC OXIDIZERS MAY CAUSE FIRE.	
CARBON MONOXIDE, CARBON DIOXIDE	
EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT NONE IDENTIFIED.	
EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE NONE IDENTIFIED.	
SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE (TLV/TWA): 205 MG/M (50 PPM)	
SHORT-TERM EXPOSURE LIMIT (STEL): 300 MG/M (75 PPM)	
ERMISSIBLE EXPOSURE LIMIT (PEL): 205 MG/M (50 PPM)	
TOXICITY OF COMPONENTS	
RAL RAT LD5C FOR METHYL ISO-BUTYL KETONE INHALATION MOUSE LC50 FOR METHYL ISC-BUTYL KETONE INTRAPERITONEAL MOUSE LD50 FOR METHYL ISO-BUTYL KETONE ARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OS	2080 MG/KG 23 G/M 268 MG/KG HA REG: NO
CARCINOGENICITY NONE IDENTIFIED.	
REPRODUCTIVE EFFECTS NONE IDENTIFIED.	
CONTINUED ON PAGE: 4	

M /	KER INC. 222 RED SCHOOL LANE, PHILLIPSBU A T E R I A L S A F E T Y D A T A S 24-HOUR EMERGENCY TELEPHONE (908) 859 (800) 424-9300 NATIONAL RESPONSE CENTE	БНЕЕТ 9-2151
588 M04 EFFECTIVE: 01/04	METHYL ISO-BUTYL KETONE	PAGE: 4 ISSUED: 01/15/94
	SECTION V - HEALTH HAZARD DATA (CONTINUE	
EFFECTS OF OVEREX	POSURE	
INHALATION:	HEADACHE, NAUSEA, VOMITING, DIZZINES IRRITATION OF UPPER RESPIRATORY TRAC	
SKIN CONTACT:	IRRITATION, DERMATITIS	
EYE CONTACT:	IRRITATION	
SKIN ABSORPTI	ON: NONE IDENTIFIED	
INGESTION:	IRRITATION OF MUCOUS MEMBRANES, HEAD Vomiting, dizziness, gastrointestina Nervous system depression	
CHRONIC EFFEC	TS: KIDNEY DAMAGE, LIVER DAMAGE	
RESPIRATORY S	YSTEM, EYES, SKIN, CENTRAL NERVOUS SYSTE	Μ
	S GENERALLY AGGRAVATED BY EXPOSURE • SKIN DISORDERS• RESPIRATORY SYSTEM DIS	EASE
PRIMARY ROUTES OF INHALATION, I	ENTRY NGESTION, EYE CONTACT, SKIN CONTACT	
EMERGENCY AND FIR	ST AID PROCEDURES	
INGESTION:	CALL A PHYSICIAN. IF SWALLOWED, IF CON AMOUNTS OF WATER. INDUCE VOMITING.	SCIOUS, GIVE LARGE
INHALATION:	IF INHALED, REMOVE TO FRESH AIR. IF NO ARTIFICIAL RESPIRATION. IF BREATHING IS OXYGEN.	
SKIN CONTACT:	IN CASE OF CONTACT, FLUSH SKIN WITH WATE	ER•
EYE CONTACT:	IN CASE OF EYE CONTACT, IMMEDIATELY FLU: WATER FOR AT LEAST 15 MINUTES.	SH WITH PLENTY OF
SAI	RA/TITLE III HAZARD CATEGORIES AND LISTS	
JTE: YES CHRONIC	C: YES FLAMMABILITY: YES PRESSURE: NO RE	EACTIVITY: NO
1	CONTINUED ON PAGE: 5	
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	J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08855 MATERIAL SAFETY DATA SHEET 24-HOUR EMERGENCY TELEPHONE (908) 859-2151 CHEMTREC # (800) 424-9300 NATIONAL RESPONSE CENTER # (800) 424-8802
1	388 M04METHYL ISO-BUTYL KETONEPAGE: 5EFFECTIVE: 01/04/94ISSUED: 01/15/94
	SECTION V - HEALTH HAZARD DATA (CONTINUED)
	EXTREMELY HAZARDOUS SUBSTANCE: NO CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS METHYL ISOBUTYL KETONE (RQ = 5000 LBS)
	SARA 313 TOXIC CHEMICALS: YES CONTAINS METHYL ISOBUTYL KETONE GENERIC CLASS: GENERIC CLASS REMOVED FROM CFR: 7/1/91 TSCA INVENTORY: YES
	SECTION VI - REACTIVITY DATA
:	TABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
	CONDITIONS TO AVOID: HEAT, FLAME, OTHER SOURCES OF IGNITION
	INCOMPATIBLES: STRONG OXIDIZING AGENTS, STRONG BASES, AMINES AND AMMONIA, STRONG ACIDS
I	TOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE
!	SECTION VII - SPILL & DISPOSAL PROCEDURES
	TEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. SHUT _ OFF IGNITION SOURCES; NO FLARES, SMOKING OR FLAMES IN AREA. STOP LEAK IF YOU CAN DO SO WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. TAKE UP WITH SAND OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND PLACE INTO CONTAINER FOR LATER DISPOSAL. FLUSH AREA WITH WATER.
	• T. BAKER SOLUSORB(R) SOLVENT ADSORBENT IS RECOMMENDED FOR SPILLS OF THIS RODUCT.
	DISPOSAL PROCEDURE DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.
.	PA HAZARDOUS WASTE NUMBER: U161 (TOXIC WASTE)
1	CONTINUED ON PAGE: 6
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MATER 24-HOU	• 222 RED SCHODL LANE, PHIN I A L S A F E T Y D A R EMERGENCY TELEPHONE (90 24-9300 NATIONAL RESPONSE	TA SHEET 08) 859-2151
388 M04 Effective: 01/04/94	METHYL ISO-BUTYL KETON	E PAGE: 6 ISSUED: 01/15/94
SECTION	VIII - INDUSTRIAL PROTECTIV	VE EQUIPMENT
		: * = = = = = = = = = = = = = = = = = =
VENTILATION:	USE GENERAL OR LOCAL EXHAUS REQUIREMENTS.	ST VENTILATION TO MEET TLV
RESPIRATORY PROTECTION:	RESPIRATORY PROTECTION REQU CONCENTRATION EXCEEDS TLV. 1000 PPM, A CHEMICAL CARTRI VAPOR CARTRIDGE IS RECOMMEN SELF-CONTAINED BREATHING AP	AT CONCENTRATIONS UP TO IDGE RESPIRATOR WITH ORGANIC NDED. ABOVE THIS LEVEL, A
EYE/SKIN PROTECTION:	SAFETY GOGGLES, UNIFORM, AP Alcoholgloves are recommend	-
	X - STORAGE AND HANDLING PRE	
TORAGE REQUIREMENTS KEEP CONTAINER TIGHT FLAMMABLE LIQUID STO	TLY CLOSED. STORE IN A COOL DRAGE AREA.	<pre>> DRY, WELL-VENTILATED,</pre>
SPECIAL PRECAUTIONS BOND AND GROUND CONT	AINERS WHEN TRANSFERRING LI	QUI D.
SECTION X - TRA DOMESTIC (D.O.T.)	NSPORTATION DATA AND ADDITI	ONAL INFORMATION
ROPER SHIPPING NAME: M HAZARD CLASS: 3 UN/NA: UN1245 ABELS: FLAMMABLE LIQUID EGULATORY REFERENCES: 4	•	PACKAGING GROUP: II
NTERNATIONAL (I.M.O.)		
	•2 POLLUTANTS: NO	I.M.G. PAGE: 3257 PACKAGING GROUP: II
1	CONTINUED ON PAGE: 7	

M A T E 24-H0	C. 222 RED SCHOOL LANE, PHILLIPSB R I A L S A F E T Y D A T A UR EMERGENCY TELEPHONE (908) 859 424-9300 NATIONAL RESPONSE CENTR	S H E E T 9-2151
588 M04 EFFECTIVE: 01/04/94	METHYL ISO-BUTYL KETONE	PAGE: 7 ISSUED: 01/15/94
SECTION X - TRANSP	ORTATION DATA AND ADDITIONAL INFORM	MATION (CONTINUED)
REGULATORY REFERENCES: AIR (I.C.A.D.)	49CFR PART 176; IMDG CODE	
PROPER SHIPPING NAME: HAZARD CLASS:	METHYL ISOBUTYL KETONE 3•2	
UN: UN1245		AGING GROUP: II
LABELS: FLAMMABLE LIQU REGULATORY REFERENCES:	49CFR PART 175; ICAO=== WE BELIEVE DATA AND REFERENCES CONTAINED HERE THE OPINION OF QUALIFIED EXPERTS. A GUIDE TO THE OVERALL CLASSIFICAT AND IS NOT PACKAGE SIZE SPECIFIC, TAKEN AS A WARRANTY OR REPRESENTAT COMPANY ASSUMES LEGAL RESPONSIBILI INFORMATION IS OFFERED SOLELY FOR INVESTIGATION, AND VERIFICATION. A INFORMATION MUST BE DETERMINED BY ACCORDANCE WITH APPLICABLE FEDERAL LAWS AND REGULATIONS. SEE SHIPPER 171.2, CERTIFICATION 172.204, AND CFR 173.1(B).	EIN TO BE FACTUAL AND THE DATA IS MEANT AS FION OF THE PRODUCT NOR SHOULD IT BE FION FOR WHICH THE TY.=== THE YOUR CONSIDERATION, NY USE OF THE THE USER TO BE IN , STATE, AND LOCAL REQUIREMENTS 49CFR
U.S. CUSTOMS HARMONIZAT	ION NUMBER: 29141300006	
. == = = = = = = = = = = = = = = = = =		
<pre>DSED FOR CARRYING. -N/A = NOT APPLICABLE. N/E = NOT ESTABLISHED</pre>		
REQUIREMENTS OF THE UNI REGULATIONS PROMULGATED ANADIAN WORKPLACE HAZA S INTENDED ONLY AS A G THE MATERIAL BY A PERSO N, CHEMICAL HANDLING. RECAUTIONS AND DANGERS APPLICATION. DEPENDING FACE GUARDS AND RESPIRA R BREATHING CHEMICAL V	TED STATES OCCUPATIONAL SAFETY AND THEREUNDER (29 CFR 1910.1200 ET. RDOUS MATERIALS INFORMATION SYSTEM UIDE TO THE APPROPRIATE PRECAUTION IN TRAINED IN, OR SUPERVISED BY A P THE USER IS RESPONSIBLE FOR DETER OF THIS CHEMICAL FOR HIS OR HER P ON USAGE, PROTECTIVE CLOTHING INC TORS MUST BE USED TO AVOID CONTACT	HEALTH ACT AND SEQ.) AND THE THIS DOCUMENT ARY HANDLING OF ERSON TRAINED MINING THE ARTICULAR LUDING EYE AND WITH MATERIAL
	I MAY HAVE SERIOUS ADVERSE HEALTH I ITH OTHER SUBSTANCES. SINCE THE P CONTINUED ON PAGE: 8	

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILL PSBURG, NJ 08865 MATERIAL SAFETY DATA SHEET 24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151 CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802 METHYL ISO-BUTYL KETONE PAGE: 8 88 MO4 ISSUED: 01/15/94 EFFECTIVE: 01/04/94 ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE. THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET. NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) FOR ASSISTANCE. PYRIGHT 1994 J.T.BAKER INC. TRADEMARKS OF J.T.BAKER INC. PROVED BY QUALITY ASSURANCE DEPARTMENT. -- LAST PAGE "ISSUED BY VWR 09/24/94"



NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

Jennifer A. Salisbury CABINET SECRETARY

Oil Conservation Div. Environmental Bureau 2040 S. Pacheco Santa Fe, NM 87505

March 15, 2000

CERTIFIED MAIL RETURN RECEIPT NO. 5050 9429

Mr. Robert Young Envirotech Inc. 5796 US Highway 64 - 3014 Farmington, New Mexico 87401

RE: Discharge Plan Renewal Notice for Envirotech Inc. Facility

Dear Mr. Young:

Envirotech Inc. has the following discharge plan which expires during the current calendar year.

GW-221 expires 11/16/2000 – Farmington Facility

WOCC 3106.F. If the holder of an approved discharge plan submits an application for discharge plan renewal at least 120 days before the discharge plan expires, and the discharger is not in violation of the approved discharge plan on the date of its expiration, then the existing approved discharge plan for the same activity shall not expire until the application for renewal has been approved or disapproved. A discharge plan continued under this provision remains fully effective and enforceable. An application for discharge plan renewal must include and adequately address all of the information necessary for evaluation of a new discharge plan. Previously submitted materials may be included by reference provided they are current, readily available to the secretary and sufficiently identified to be retrieved. [12-1-95]

The discharge plan renewal application for each of the above facilities is subject to WQCC Regulation 3114. Every billable facility submitting a discharge plan renewal will be assessed a fee equal to the filing fee of \$50.00 plus a flat fee equal to one-half of the original flat fee for oil field service company facilities. The \$50.00 filing fee is to be submitted with the discharge plan renewal application and is nonrefundable.

Please make all checks payable to: NMED-Water Quality Management and addressed to the OCD Santa Fe Office. Please submit the original discharge plan renewal application and one copy to the OCD Santa Fe Office and one copy to the OCD Aztec District Office. Note that the completed and signed application form must be submitted with your discharge plan renewal request. (A copy of the discharge plan application form is enclosed to aid you in preparing the renewal application. A complete copy of the regulations is available on OCD's website at www.emnrd.state.nm.us/ocd/).

Mr. Robert Young March 15, 2000 Page 2

If the above sited facility no longer has any actual or potential discharges and a discharge plan is not needed, please notify this office. If the Envirotech Inc. has any questions, please do not hesitate to contact me at (505) 827-7152.

Sincerely,

Roger C. Anderson Oil Conservation Division

cc: OCD Aztec District Office

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r L	City, State, ZIP+4 Farmington Gio-221	
	PS Form 3800; July 1999	<u> </u>

ENVIROTECH, INC.

Req # 5136 Main yard discharge permit fees

GW - 221

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

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for Main yard		<u>w-221</u>
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Req # 5136 Main yard discharge permit fees

GW - 221

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NEW MEXICO WERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

February 9, 1998

CERTIFIED MAIL RETURN RECEIPT NO. Z-357-869-925

Mr. Robert Young ENVIROTECH INC. 5796 US HWY 64 - 3014 Farmington, New Mexico 87401

RE: Discharge Plan Fees GW-221 ENVIROTECH INC., Farmington Facility San Juan County, New Mexico

Dear Mr. Young:

In November, 1995, ENVIROTECH INC. received, via certified mail, an approval dated November 16, 1995 from the New Mexico Oil Conservation Division (OCD) for discharge plan GW-221. Each discharge plan has a filing fee and a flat fee as described in WQCC Section 3114 (see attachment). Two installment payments (\$276.00 each) of the flat fee have been received by the OCD for the Farmington facility discharge plan GW-221. As of this date, February 9, 1998, there is a remaining amount of \$828.00. The last installment received by the OCD was December 27, 1996.

KN will submit the remaining \$828.00 flat fee in full by March 9, 1998 in order to be in compliance with Water Quality Control Commission Regulation 3114.B.6, or the OCD may initiate enforcement actions which may include fines and/or an order to cease all operations at the facility. Please make all checks payable to: NMED-Water Quality Management and addressed to the OCD Santa Fe Office.

If you have any questions regarding this matter, please contact me at (505)-827-7152 or Mr. W. Jack Ford at (505) 827-7156.

Sincerely,

Roger Anderson Environmental Bureau Chief

RCA/wjf

cc: Mr. Denny Foust - Aztec District OCD office

attachment

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OIL CONSERVATION DIVISION 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

March 21, 1997

CERTIFIED MAIL RETURN RECEIPT NO. P- 288-258-791

Mr. Morris D. Young ENVIROTECH INC. 5796 U.S. Highway 64-3014 Farmington, NM 87401

RE: Glycol filter disposal-Request Withdrawal Farmington Facilities San Juan County, New Mexico

Dear Mr. Young:

The NMOCD has not received a response from ENVIROTECH INC. regarding the November 16, 1995 and May 19, 1995 letter's submitted to ENVIROTECH INC from OCD regarding the March 27, 1995 letter that was sent to Mr. Roger Anderson of the OCD regarding the above captioned item. Since the significant amount of time that has lapsed since the November 16, 1995 letter from OCD; The OCD hereby considers this request withdrawn.

If you have any questions regarding this matter please feel free to call me at (505)-827-7156 or Roger Anderson at (505)-827-7152.

Sincerely,

Patricio W. Sanchez Petroleum Engineering Specialist Environmental Bureau - OCD

c: Denny Foust - Aztec District Environmental Geologist, OCD

P 288 258 791

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ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

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Filing Fee Ne	w Facility Renewal
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	ater Quality Management Fund. or Annual Increment \bigvee
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Full Payment ENVIROTECH, INC. 5796 U.S. HWY. 64-3014 FARMINGTON, NM 87401 (505) 632-0615	or Annual Increment 2075 FIRST NATIONAL BANK OF FARMINGTON FARMINGTON - AZTEC - BLOOMFIELD - SHIPROCK 95-54-1022
Full Payment ENVIROTECH, INC. 5796 U.S. HWY, 64-3014 FARMINGTON, NM 87401 (505) 632-0615 **Two Hundred Seventy-Six Dol	or Annual Increment 2 of 5 FIRST NATIONAL BANK OF FARMINGTON FARMINGTON - AZTEC - BLOOMFIELD - SHIPROCK
Full Payment ENVIROTECH, INC. 5796 U.S. HWY. 64-3014 FARMINGTON, NM 87401 (505) 632-0615	or Annual Increment 2

Security features included. Details on back.

Mr. Robert Young ENVIROTECH INC. November 16, 1995 Page 3

ATTACHMENT TO DISCHARGE PLAN GW-221 APPROVAL ENVIROTECH INC. - Farmington DISCHARGE PLAN REQUIREMENTS

November 16, 1995

- 1. <u>Payment of Discharge Plan Fees</u>: The one thousand three hundred and eighty dollar (\$1380) flat fee shall be submitted upon receipt of this approval. The flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the five (5) year duration of the plan, with the first payment due upon receipt of this approval.
- 2. <u>Tank Berming</u>: All tanks that contain materials other than fresh water that, if released, could contaminate surface or ground water or the environment will be bermed to contain 1 1/3 times the capacity of the tank or 1 1/3 times the volume of all interconnected tanks.
- 3. Drum Storage: All drums will be stored on pad and curb type containment.
- 4. <u>Spills</u>: All spills and/or leaks will be reported to the OCD district office pursuant to WQCC Rule 1-203 and OCD Rule 116. (Phone: 334-6178)
- 5. <u>Modifications</u>: All proposed modifications that include the construction of any below grade facilities or the excavation and disposal of wastes or contaminated soils will have OCD approval prior to excavation, construction or disposal.
- 6. <u>Waste Disposal</u>:
 - A. All wastes shall be disposed of at an NMOCD approved facility.
 - B. Only oilfield exempt wastes can be disposed of down Class II injection wells. Nonexempt oilfield wastes that are non-hazardous by characteristics may be disposed of at an NMOCD approved facility.
 - C. All hazardous waste issues will be addressed by NMED Hazardous and Radioactive Materials Bureau.(Phone: (505)-827-1558)

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ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

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I hereby acknowledge re	ceipt of check No dated 11/22/95
	2/18/95 in the amount of \$ 276.00
from Envirotee	
for farmington	Facility GW-221
Submitted by:	Date:
Submitted to ASD by:	Richarden Date: 1/16/96
Received in ASD by:	ngela Herrera Date: 1-17-46
Filing Fee N	New Facility X Renewal
Modification	Other
	(spanidy)
Organization Code	Applicable FY <u>96</u>
Full Payment	or Annual Increment X 1075
ENVIROTECH, INC. 5796 U.S. HWY. 64-3014 FARMINGTON, NM 87401 (505) 632-0615	CITIZENS BANK FARMINGTON, NM 87401 95-207-1022
PAY ***Two Hundred Seventy-Six	Dollars and ØØ/100**********************************
TO THE ORDER OF	11/22/95 \$276.00
OIL CONSERVATION DIVISION 2040 SOUTH PACHECO SANTA FE, NM 87505	
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Discharge PLAN GW-Z21

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Environmental Bureau Oil Conservation Division

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195 NO 15 HA 8 52

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NOV 1 6 1995

Environmental Bureau

Oil Conservation Division

October 26, 1995

Mr. Pat Sanchez State of New Mexico Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87505

Re: Supplemental Information Discharge Permit Application Envirotech, Inc.

Dear Mr. Sanchez:

Upon review of our discharge plan application for Envirotech facilities located at 5796 and 5726 US Highway 64, Farmington, New Mexico, the New Mexico Oil Conservation Division (NMOCD) requested additional information to supplement our proposed discharge plan.

The following addresses the items of concern outlined in your September 5, 1995 letter to Envirotech:

- Item A: The 10-15 drums of monitor well development water did not originate from an oil field site, but from a leaking underground storage tank site. These drums are anticipated to be removed from our facility within the next 30 days, pending approval of a discharge permit application from the New Mexico Environment Department Groundwater Bureau. Approval is anticipated within the next 10 days.
- Item B: Pursuant to NMOCD Rule 116 and WQCC 1-203, all breaks, spills, or leaks of 5 barrels or more of crude oil or condensate, or 100 barrels or more of salt water, or reportable quantities of hydrocarbon waste or residue, strong caustics or acids, gasses or other deleterious chemicals or harmful contaminants or any magnitude which may with reasonable probability endanger human health or result in substantial damage to property will be immediately reported to the Aztec NMOCD office at (505) 334-6178.

Included in this oral report will be:

- The name, address, and telephone number of the person or persons in charge of the facility, as well as of the owner and/or operator of the facility.

- The name and address of the facility.

- The date, time, location, and duration of the discharge.

- The source and cause of the discharge.

- A description of the discharge, including its chemical composition.

- The estimated volume of the discharge, and

- Any actions taken to mitigate immediate damage from the discharge.

Within ten days of the discharge, a written notification will be sent to NMOCD, verifying the prior oral notification and the foregoing items, providing any appropriate additions or corrections to the information contained in the prior oral notification. Any additional reporting pursuant to the referenced rules and regulations will be submitted to the appropriate agency.

- Item C: All spills, leaks, and releases will be addressed as outlined in the NMOCD publications "<u>Guidelines for</u> <u>Remediation of Leaks, Spill, and Releases</u>", "<u>New Mexico</u> <u>Oil Field Wastes, Categories and Disposal Methods, Oil</u> <u>and Gas Exploration and Production Wastes</u>", and "<u>EPA</u> <u>Waste Classification, O&G Exploration and Production</u> <u>Wastes</u>". All spills, leaks, or releases that require off-site disposal will be sent to NMOCD approved facilities.
- Item D: All potential hazardous waste issues will be addressed by NMED Hazardous Waste and Radioactive Materials Bureau. (505) 827-1558.

Should you need any additional information, please contact us at (505) 632-0615.

Respectfully submitted, ENVIROTECH, INC.

Now Mounes

Robert M. Young Environmental Biologist

SUPDISC2.LTR

cc: Mr. Denny Foust, NMOCD Aztec, NM office. File

RMY/rmy



MEMORANDUM OF MEETING OR CONVERSATION

Time Date Telephone Personal 9:30 AM 11/13/95 Other Parties Originating Party Pat Sanchez Rob Tound Enviroted NMacSubject GW-2 dditi Discharge NN Information Discussion Asked Rohert Information where Additional the. Vagnested 1995 15 Scot deadline. information 10 SCM Letter 60 av ict. the info rmation Rabu may nall ma San to Eustil Scn Chris Decn Conclusions or Agreements Druny 1.9 ann G where CORTES m Denny La Notc: called Lift в -95 I unc them call to for Dac (ne) not MESSADO Distribution Signed

AFFIDAVIT OF PUBLICATION

No. 35239

STATE OF NEW MEXICO County of San Juan:

ROBERT LOVETT being duly sworn says: That he is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s):

Friday, September 1, 1995

and the cost of publication was: \$62.29

ROBERT LOVETT

appeared before me, whom I know personally to be the person who signed the above document. SEAL

My Commission Expires March 21, 1998

COPY OF PUBLICATION

Legals



STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(GW-221)- ENVIROTECH, inc., Mr. Morris Young, (505)-632-0615, 5796 U.S. Highway 64-3014, Farmington, NM, 87401 has submitted a Discharge plan application for their Farmington facilities located in the NW/4 NW/4, Section 27, Township 29 North, Range 12 West, and NW/4 NE/4, Section 28, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. All effuents that may be generated at the facilities will be collected in a closed top tank and transported offsite for disposal at an OCD approved facility; Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 55 feet with a total dissolved solids concentration of approximately 1000 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

• GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 24th day of August, 1995.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

/s/ William J. LeMay WILLIAM J. LEMAY, Director

Legal No. 35239 published in The Daily Times, Farmington, New Mexico, Friday, September 1, 1995.

Them. CO SENT

NOTICE OF PUBLICATION

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STATE OF NEW MEXICO OIL CONSERVATION DIVISION 00 WILLIAM J. LEMAY, Director

SEAL



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No. 35239

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Thursday, September 21, 1995.

and the cost of publication was: \$61.02

On **9/25/96**BERT LOVETT

appeared before me, whom I know personally to be the person who signed the above document.

My Commission Expires March 21, 1998

COPY OF PUBLICATION



STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

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STATE OF NEW MEXICO OIL CONSERVATION DIVISION

/s/ William J. LeMay WILLIAM J. LEMAY, Director

Legal No. 35239 published in The Daily Times, Farmington, New Mexico, Thursday, September 21, 1995.

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STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(GW-221)- ENVIROTECH, Inc., Mr. Morris Young, (505)-632-0615, 5796 U.S. Highway 64-3014, Farmington, NM, 87401 has submitted a Discharge plan application for their Farmington facilities located in the NW/4 NW/4, Section 27, Township 29 North, Range 12 West, and <u>NW/4, F/4</u>, Section 28, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. All effluents that may be generated at the facilities will be collected in a closed top tank and transported offsite for disposal at an OCD approved facility; Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 55 feet with a total dissolved solids concentration of approximately 1000 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 24th day of August, 1995.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION WILLIAM J. LEMA . Director

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USFWS⁻- NMESSO STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

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Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 24th day of August, 1995.

	TE OF NEW MEXICO
NO EFFECT FINDING The described action will have no effect on listed species,	LIAM J. LEMAY, Director
Consultation # <u>GWOCD95-1</u> Approved by <u>U.S. FISH</u> and WILDLIFE SERVICE NEW-MEXICO ECOLOGICAL SERVICES FIELD OFFICE ALBUQUERQUE, NEW MEXICO	

NOTICE OF PUBLICATION STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

OIL CONSERVATION DIVISION Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the follow-ing discharge plan application has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mex-ico 87505, Telephone (505) 827-7131: 7131:

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(GW-221)-ENVIROTECH, Inc., Mr. Morris Young, (505)-632-0615, 5796 U.S. Highway 64-3014, Farmington, NM, 87401, has submitted a Dis-charge plan application for their Farmington facilities located in the NW/ANN/4 located in the NW/4NW/4 located in the NW/4NW/4, Section 27, Township 29 North, Range 12 West, and NW/4 NE/4, Section 28, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. All effluents that may be gener-ated at the facilities will be collected in a closed top collected in a closed top tank and transported offsite tank and transported onsite for disposal at an OCD approved facility; Groundwater most likely to be affected by a spiil, leak, an accidental displante to or accidental discharge to the surface is at a depth of approximately 55 feet with a total dissolved solids con-centration of approximately plan addresses how spills, leaks, and other accidental discharges to the surface will be managed. Any interested person may obtain further information from the Oil Con-servation Division and may submit or accidental discharge to

further information from the Oil Con-servation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 a.m. Monday through Friplan application may be tween 8:00 a.m. above address between 8:00 a.m. and 4:00 p.m., Monday through Fri-day. Prior to ruling on any propoosed discharge plan or its modification, the Director of the Oil Conservation Divi-sion shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any hearing may be requested by any interested person. Requests for public hearing shall set forth the rea why a hearing shall set form the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public

interest. If no public hearing is held, the Director will approve or disapprove the proposed plan based on informa-tion available. If a public hearing is held, the director will approve disapprove the proposed plan ba on information in the plan and in-formation submitted at the hearing. GVEN under the Seal of New Mexico

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 24th day of August, 1995. STATE OF NEW MEXICO OIL CONSERVATION DIVISION S/WILLIAM J. LEMAY, Director Journal: August 31, 1995.

STATE OF NEW MEXICO SS County of Bernalillo


OIL CONSERVATION DIVISION

September 5, 1995

CERTIFIED MAIL RETURN RECEIPT NO. Z-765-963-046

Mr. Robert Young ENVIROTECH INC. 5796 U.S. HWY 64 - 3014 Farmington, NM 87401

RE: Discharge Plan GW-221 ENVIROTECH INC., Farmington facility San Juan County, New Mexico

Dear Mr. Young:

The NMOCD has received the proposed Envirotech Inc. discharge plan application for the facilities located in NE/4 NW/4, Section 27, and NW/4 NE/4 Section 28, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. The NMOCD has prepared and sent out the public notice for the facility as stated in WQCC section 3-108 and has performed a preliminary review of the discharge plan proposed by Envirotech Inc. as signed by Mr. Robert Young on August 21, 1995.

The following comments and request for additional information are based on the review of the Envirotech Inc. application. Please note that unless otherwise stated, response to all comments shall be received and reviewed by the OCD prior to approval of the discharge plan application.

Refer to the application package submitted by Envirotech on August 21, 1995 as signed by Mr. Robert Young.

I. Pursuant to WQCC section 3-114 Envirotech Inc. is subject to the \$50 (fifty dollar) filing fee and the \$1,380 (One Thousand Three Hundred and Eighty Dollar) flat fee. The \$50 filing fee has been received by the NMOCD, the \$1,380 flat fee has not.

II. The review that follows will site specific information from your application that needs to be clarified. Enclosed you will find several attachments which will be mentioned throughout this review. The service company guidelines that were provided to Envirotech Inc. at the inspection will be referenced during this process.

Mr. Robert Young September 5, 1995 Page 2

A. ITEM V of the Guidelines - Facility Description

Did the 10 to 15 drums described as monitor well development water come from NMOCD regulated facilities? If so has this water been tested for hazardous characteristics according to 40 CFR part 261? Only NON-hazardous non-exempt waste or exempt wastes may be accepted at NMOCD permitted facilities. Non-exempt waters cannot be disposed of down Class II UIC injection wells.

NOTE: Attachment NO. 1 explains the subtitle C exemption from RCRA for the oil and gas industry.

B. ITEM X. of the guidelines - Inspection, Maintenance and Reporting.

Attachment No. 2 is the NMOCD rule 116 and WQCC 1-203 for spill reporting - include these reporting requirements as part of the discharge plan. In the event of a spill that is reportable according to the above rules - contact the Aztec NMOCD office at 334-6178.

C. ITEM XIII. of the guidelines - Other Compliance Information.

Attachment No. 3 - labelled XIII. A. and XIII. B., include as part of the discharge plan.

Attachment No. 4 - included only for informational purposes.

D. All potential hazardous waste issues will be addressed by NMED - Hazardous Waste and Radioactive Materials Bureau. (505)-827-1558

Submit the requested information and commitments within 30 days of receipt of this letter. This will expedite the final review of the application and approval of the discharge plan. Submit the information in three copies - two to Santa Fe, and one copy to Aztec.

If you have any questions, please feel free to call me at (505)-827-7156.

Sincerely.

Patricio W. Sanchez, Petroleum Engineer

xc: Mr. Denny Foust - Environmental Geologist

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NOTICE OF PUBLICATION

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

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GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 24th day of August, 1995.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION WILLIAM J. LEMAY , Director

SEAL

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

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I hereby acknowledge receipt	of check No date	d <u>8/2//75</u> ,
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ENVIROTECH, INC. 5796 U.S. HWY. 64-3014 FARMINGTON, NM 87401 (505) 632-0615	CITIZENS BANK FARMINGTON, NM 87401 95-207-1022	
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ENVIROTECH, II	INC.	;.
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Environmental Bureau Oil Conservation Division

August 21, 1995

Mr. Pat Sanchez State of New Mexico Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87505

Re: Supplemental Information Discharge Permit Application Envirotech, Inc.

Dear Mr. Sanchez:

Upon review of our discharge plan application for Envirotech facilities located at 5796 and 5726 US Highway 64, Farmington, New Mexico, we concur that some pertinent groundwater information was indeed inadvertently omitted from the application.

Typically, groundwater in our area is found at approximately 55' below the ground surface. Additionally, throughout the Farmington area, TDS ranges are usually less than 2,000 mg/l, and average approximately 1,000 mg/l.

Should you need any additional information, please contact us at (505) 632-0615.

Respectfully submitted, **ANVIROTECH, INC.**

low Nobel !!

Robert M. Young Environmental Biologist

SUPDISC.LTR

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cc: Mr. Denny Foust, NMOCD Aztec, NM office. File

RMY/rmy

ENVIROTECH - W-221

MEMORANDUM OF MEETING OR CONVERSATION
X TELEPHONE PERSONAL TIME 10:20 AM/PM DATE 6/24/95
ORIGINATING PARTY: RAD Young Envirytech OTHER PARTIES: Put SANCHER - NMEGD.
SUBJECT: GV-221 Groundwater Depth and TDS (Total Dissolved Salids in mark
DISCUSSION: Depth ~ 55' 3 Roh Suid
TDS @ 1,000 mg/l > to USC 44/2-
groundwater depth and tos intermation.
conclusions/Agreements: <u>L Com Non Submit the</u> public Notice
PATRICIO W. SANCHEZ:

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OIL CON. DIV.

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AUG 2 3 1995

Environmental Bureau Oil Conservation Division

August 21, 1995

Mr. William J. LeMay State of New Mexico Oil Conservation Division 2040 S. Pacheco Santa Fe, New Mexico 87505

Re: Discharge Permit Application Envirotech, Inc.

Dear Mr. LeMay:

Attached please find a Discharge Plan Application for Oilfield Service Facilities that has been completed for Envirotech, Inc.

Based on the close proximity of the two facilities, both will be covered under the same application, although information is provided separately for each individual facility. Envirotech's main office is located at 5796 US Highway 64, Envirotech's maintenance yard is located at 5726 US Highway 64. Both facilities are located in Farmington, New Mexico.

Due to lack of space on the application for supplemental information, the application information is provided in this letter. For your convenience, a blank application is attached. Both locations are considered "new applicants".

Envirotech Main Office:

- 1. Oilfield Service Company
- 2. Envirotech, Inc. 5796 US Highway 64, Farmington, NM 87401. Contact Person: Morris or Rob Young; phone (505) 632-0615.
- 3. NE/4 NW/4 Section 27, Township 29 North, Range 12 West. A 7.5 minute topographic map of the Horn Canyon Quadrangle is attached.
- 4. Jerry Clayton is the land owner. Mr. Clayton's address is 710 E. 20th Street, Farmington, NM. Envirotech is currently pursuing the possibility of purchasing the property, at which time Envirotech, or Morris Young, will become the property owner.
- 5. A plat map of the subject property is attached, including the location of the current tanks and barrels at the facility, along with the future location of concrete pad-and-curb

containment that is to be constructed.

The facility currently has a 500 gallon diesel above-ground storage tank (AST) located within a HDPE lined and bermed containment area along the west property boundary.

The facility currently has 10-15 drums of monitor-well development water which are temporarily stored along the eastern property boundary. These drums will be permanently moved off-site for disposal at Envirotech Soil Remediation Facility-Landfarm #3, upon receipt of modifications to our discharge permit for that facility (anticipated within 60 days).

Solid and liquid waste generated from our laboratory are currently stored in labelled drums in the same area as the monitor well development water. These drums will be transferred to the concrete pad-and-curb containment that is to be constructed.

Construction of the new pad-and-curb containment for our 500 gallon diesel AST and laboratory waste is anticipated to be complete by the end of 1995. This containment is anticipated to be constructed in the approximate location of the current AST.

The facility is fenced and has no pits.

- 6. A Part 6 Form is attached.
- 7. A Part 7 Form is attached.
- 8. A Part 8 Form is attached.

8.B.1. All storage on site is in above-ground tanks, drums, or smaller containers. On-site storage is in either original (unused products) or in other containers appropriate containers (used products). The diesel AST is currently located within secondary containment, which will be upgraded with a concrete pad-and-curb system. Unused laboratory products are stored inside the lab in the original (or Most new products equivalent) containers. lab are subsequently stored in segregated fire-resistant cabinets (not-vented) with built-in secondary containment. Lab waste is stored inside the lab in containers compatible with the When full, lab waste containers are waste being stored. transferred into 55-gallon drums located in the yard. These lab waste drums will be placed into the concrete containment when it is constructed.

<u>8.B.2.</u> One surface impoundment is present on the site, and is used for secondary containment of the current 500 gallon diesel AST. Date of construction is unknown. Construction consists of a HDPE liner (unknown thickness) placed on a square earthen berm set at site grade. Dimensions of the bermed area are approximately 15'x20'x1.5'deep. This containment is capable of containing approximately 3,366 gallons of liquid.

Construction of the concrete pad-and-curb containment will be designed to contain at least 130% of the volume of the largest tank or interconnected tanks. For additional protection, the appropriate thickness HDPE liner (as recommended by manufacturer) will be emplaced below the concrete containment.

<u>8.B.3.</u> This facility is less than 25 years old and there is no underground process piping.

<u>8.C.1.</u> On-site disposal does not occur at this site, with the exception of domestic sewage to a septic system and leach field.

<u>8.C.2.</u> Lab solids and liquids are segregated into hazardous and non-hazardous (by listing). Non-hazardous lab wastes are subjected to RCRA analysis prior to shipment to Landfarm #2. Hazardous wastes are shipped off-site biannually to a licensed hazardous waste incinerator. Different incinerators are used, depending on price and availability. Approval from the receiving facility is received prior to shipment.

Trash is collected weekly by Waste Management of Four Corners, located at 101 Spruce Street, Farmington, New Mexico, for placement at San Juan County Landfill.

- 9. A new concrete pad-and-curb containment is discussed in 8.B.2.
- 10. <u>10.A</u> The facility will be inspected monthly by management for leaks and spillage. Record of each inspection will be kept at the main office. Any reportable quantities spillage will be reported to OCD.

<u>10.B</u> Monitor wells are not located at the site.

<u>10.C</u> Since all waste streams will be in secondary containment, precipitation and run-off containment will not be constructed.

11. <u>11.A.</u> Whereas all material is stored in secondary containment (as a minimum), spillage will be into contained areas. There is not any anticipated threat to surface or groundwater.

Spillage will be collected from its containment and placed into its container (or equivalent) for continued storage. OCD will not be notified of spills less than reportable quantities.

<u>11.B.</u> All containment is visually inspectable from all sides, which makes a leak of any quantity easily detectable. Monthly inspections by management and frequent use of the facilities by employees ensure that leaks are repaired with only minor spillage.

<u>11.C</u>. There is not an injection well at this site.

12. <u>12.A.1.</u> The San Juan River is located approximately 3900' south of the site. An unnamed ephemeral stream (dry wash) is located approximately 1900' west of the site. A dry drainage ditch is located approximately 50' east of the site. All streams in the vicinity flow to the San Juan River.

12.A.2. Water well locations are located on the attached map. All water wells are assumed to be for domestic use. There may be up to 61 wells located within a 1 mile radius of the site. These wells were located according to "<u>Records of Water Wells</u> and Springs prior to 1978", "<u>Records of Water Wells in San</u> Juan County 1978-1983", and "<u>Listing of Points of Diversion</u> for the San Juan Basin in New Mexico, 2/7/92".

<u>12.A.3.a.</u> Soil types in the area typically consist of cobble filled sandy loams ranging to silty and clayey sands. Soils are typically moist, loose, non-cohesive, and have a high permeability.

<u>12.A.3.b.</u> The aquifer below the site is not named.

<u>12.A.3.c.</u> The aquifer is typically a poorly graded medium sand with varying amounts of cobble and silt.

<u>12.A.3.d.</u> Depth to bedrock is undetermined, however, it is anticipated to be in excess of 60' below the site.

<u>12.A.4.a.</u> Flooding potential and run-off potential at the site is very minimal.

<u>12.A.4.b.</u> Flood protection measures at the site are not necessary.

<u>12.B.</u> Due to thorough tracking of lab wastes, and existing and planned containment, impact to either groundwater or surface water is not probable.

13. Envirotech Soil Remediation Facility is currently under an existing discharge permit, and is not included in this application.

Envirotech Maintenance Yard:

- 1. Oilfield Service Company
- 2. Envirotech, Inc. 5726 US Highway 64, Farmington, NM 87401. Contact Person: Morris or Rob Young; phone (505) 632-0615.

- 3. NW/4 NE/4 Section 28, Township 29 North, Range 12 West. A 7.5 minute topographic map of the Horn Canyon Quadrangle is attached.
- 4. Morris Young/Envirotech, Inc. is the land owner. Envirotech, Inc. main office address if 5796 US Highway 64, Farmington, NM. Envirotech is currently pursuing the possibility of selling the property, at which time we will withdraw this facility from our discharge permit.
- 5. A plat map of the subject property is attached, including the location of the building. The facility is fenced and has no pits.
- 6. A Part 6 Form is attached.
- 7. A Part 7 Form is attached.
- 8. A Part 8 Form is attached.

<u>8.B.1.</u> All storage on site is inside the building on the concrete floor. Floor drains are not present in the storage area and work area.

<u>8.B.2.</u> All storage on site is inside the building on the concrete floor. Floor drains are not present in the storage area and work area.

<u>8.B.3.</u> This facility is less than 25 years old and there is no underground process piping.

<u>8.C.1.</u> On-site disposal does not occur at this site, with the exception of domestic sewage to a septic system and leach field.

<u>8.C.2.</u> Off-site disposal is allowed through recyclers. Used motor oil (in excess of 4 drums) is sent to D&D Used Oil Recyclers located at 10 Road 5044, Bloomfield, New Mexico. Used lead-acid batteries are sent to Intermountain Batteries, located at 534 E. Broadway, Farmington, New Mexico, when new batteries are delivered to the site. Both facilities dispatch their own trucks and personnel to collect the material from our maintenance yard.

Trash is collected weekly by Waste Management of Four Corners, located at 101 Spruce Street, Farmington, New Mexico, for placement at San Juan County Landfill. A maximum of 4 oil filters per week are permitted for disposal through this method. The approval is attached, which includes both facilities as a combined waste stream.

9. No modifications are anticipated to the outlined operating procedures at this facility.

10. <u>10.A</u> The facility will be inspected monthly by management for leaks and spillage. Record of each inspection will be kept at the main office. Any reportable quantities spillage will be reported to OCD.

<u>10.B</u> Monitor wells are not located at the site.

<u>10.C</u> Since all waste streams will be indoors in secondary containment, precipitation and run-off containment will not be constructed.

11. <u>11.A.</u> Whereas all material is stored in secondary containment (as a minimum), spillage will be into contained areas. There is not any anticipated threat to surface or groundwater.

Spillage will be collected from its containment and placed into its container (or equivalent) for continued storage. OCD will not be notified of spills less than reportable quantities.

<u>11.B.</u> All containment is visually inspectable from all sides, which makes a leak of any quantity easily detectable. Monthly inspections by management and frequent use of the facilities by employees ensure that leaks are repaired with only minor spillage.

<u>11.C</u>. There is not an injection well at this site.

12. <u>12.A.1.</u> The San Juan River is located approximately 3500' south of the site. An unnamed ephemeral stream (dry wash) is located approximately 1500' east of the site. All streams in the vicinity flow to the San Juan River.

<u>12.A.2.</u> Water well locations are located on the attached map. All water wells are assumed to be for domestic use. There may be up to 49 wells located within a 1 mile radius of the site, with one of the wells listed within 1/4 mile of the property. These wells were located according to "<u>Records of Water Wells</u> and Springs prior to 1978", "<u>Records of Water Wells in San</u> Juan County 1978-1983", and "Listing of Points of Diversion for the San Juan Basin in New Mexico, 2/7/92".

<u>12.A.3.a.</u> Soil types in the area typically consist of cobble filled sandy loams ranging to silty and clayey sands. Soils are typically moist, loose, non-cohesive, and have a high permeability.

<u>12.A.3.b.</u> The aquifer below the site is not named.

<u>12.A.3.c.</u> The aquifer is typically a poorly graded medium sand with varying amounts of cobble and silt.

<u>12.A.3.d.</u> Depth to bedrock is undetermined, however, it is anticipated to be in excess of 60' below the site.

<u>12.A.4.a.</u> Flooding potential and run-off potential at the site is very minimal.

<u>12.A.4.b.</u> Flood protection measures at the site are not necessary.

<u>12.B.</u> Due to indoor storage of all materials, on concrete, impact to either groundwater or surface water is not probable.

13. Envirotech Soil Remediation Facility is currently under an existing discharge permit, and is not included in this application.

Should you need any clarification of our responses, or have any comments, please contact us at (505) 632-0615.

Kobert M. Young

Environmental Biologist

DCPERMIT.LTR

cc: Mr. Denny Foust, NMOCD Aztec, NM office. File

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rict II S. Firs hia, NI rict II Rio I c, NM	940 M 88241-1980 - (505) 748-1283 M 88211-0719 I - (505) 334-6178 Brazos Road I 87410 <u>V</u> - (505) 827-7131	Energy Mine	tate of New Me erals and Natural Resounce Oil Conservation Div 2040 South Pacheco Str Santa Fe, New Mexico 87 (505) 827-7131	urces Department rision reet	Revised 4/18/5 Submit Origin Plus 1 Coj to Santa I Copy to appropria District Offic
			PLICATION FOR OILF Guidelines for assistance in ∞		
		New	Renewal	Modification	
1.	Туре:				
2.	Operator:				
	Address:				
	Contact Person:			Phor	ne:
3.	Location: Submit lar		/4 Section		Range
4.	Attach the name ar	id address of the	landowner of the facility site		
5.	Attach the descripti	on of the facility w	vith a diagram indicating loca	ation of fences, plts, di	kes and tanks on the facility.
6.	Attach a description	n of all materials	stored or used at the facility		in a second s The second s
7.	Attach a description water must be inclu		ces of effluent and waste s	olids. Average quality	and daily volume of waste
	Attach a description		and solid waste collection/t		
8.			difications to existing collec	uonvireaunenvoisposa	il systems.
9.	Attach a description				Transferra en
9. 10.	Attach a description Attach a routine ins	pection and main	itenance plan to ensure per		
9. 10. 11.	Attach a description Attach a routine ins Attach a contringen	pection and main cy_plan for report	itenance plan to ensure per ting and clean-up of spills or	r releases.	
9. 10.	Attach a description Attach a routine ins Attach a contringen Attach geological/h	pection and main cy plan for report ydrological evide	itenance plan to ensure per ting and clean-up of spills or	r releases. posal of oil field waste	s will not adversely impact
9. 10. 11.	Attach a description Attach a routine ins Attach a contringen Attach geological/h fresh water. Depth	pection and main cy plan for report ydrological evide to and quality of	itenance plan to ensure per ting and clean-up of spills or nce demonstrating that dis ground water must be inclu	r releases. posal of oil field waste ded.	es will not adversely impact ther OCD rules, regulations
9. 10. 11. 12.	Attach a description Attach a routine ins Attach a contringen Attach geological/h fresh water. Depth Attach such other in	pection and main cy plan for report ydrological evide to and quality of	itenance plan to ensure per ting and clean-up of spills cu nce demonstrating that dis ground water must be inclu	r releases. posal of oil field waste ded.	
9. 10. 11. 12. 13.	Attach a description Attach a routine ins Attach a contringen Attach geological/h fresh water. Depth Attach such other in and/or orders. CERTIFICATION	pection and main cy plan for report ydrological evide to and quality of nformation as is i	Itenance plan to ensure per ting and clean-up of spills or nce demonstrating that dis ground water must be inclu necessary to demonstrate o	r releases. posal of oil field waste ded. compliance with any of	
9. 10. 11. 12. 13.	Attach a description Attach a routine Ins Attach a contringen Attach geological/h fresh water. Depth Attach such other in and/or orders. CERTIFICATION I hereby certify that	pection and main cy plan for report ydrological evide to and quality of nformation as is the information s	tenance plan to ensure per ting and clean-up of spills or nce demonstrating that dis ground water must be inclu- necessary to demonstrate c	r releases. posal of oil field waste ded. compliance with any of	ther OCD rules, regulations

DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VI. Form (Optional)

<u>Materials Stored or Used at the Facility</u> - For each category of material listed below provide information on the general composition of the material or specific information (including brand names if requested), whether a solid or liquid, type of container, estimated volume stored and location. Submit MSD information for chemicals as requested. Use of this form is optional, but the information requested must be provided.

	eneral Makeup or Specific Brand Name (if requested)	Solids(S) or Liquids(L)?	Type of Container (tank drum, etc.)	Estimated Volume Stored	Location (yard, shop, drum storage, etc.)
 Drilling Fluids (include general makeup & type: special additives [e.g. oil, chrome, etc.]) 					
2. Brines - (KCl, NaCl, e	tc.) NONE				
3. Acids/Caustics (Provide names & MSD sheets)	Sulfuric Ac Hydrochlori Nitric Acid Acetic Acid Sodium Hydr	c Acid (L) (L) (L)	Orig. gla Orig. gla Orig. gla Orig. gla L) Orig. con	ss 1 gallon ss 1 gallon ss 8 gallon	Lab Lab Lab Lab Lab
4. Detergents/Soaps	Alconox	(S)	Orig. con	l gallon (L) tainer 20 lbs.	Lab Lab
 Solvents & Degreasers (Provide names & MSD sheets) Paraffin Treatment/ 	Freon 113 Methylene Chlo Methyl Isobuty Hexane Isopropanol Methanol n-Propanol	3 (L) ride (L) lkeytone (L) (L) (L) (L) (L)	Orig. gla Orig. gla Orig. gla Orig. gla Orig. gla Orig. gla Orig. gla	ss 15 gallon ss 4 gallon ss 1 gallon ss 1 gallon ss 1 gallon ss 4 gallon	Lab Lab Lab Lab Lab Lab Lab
Emulsion Breakers (Provide names & MSD sheets)	NONE				
7. Biocides (Provide name & MSD sheets)	s NONE				
 8. Others - (Include other liquids & solids, e.g. cement etc.) 			rum w/lid le ST	ss than 100 gallor 500 gallon	ns Lab& Yar Yard

5796 Hwy 64-3014 Farmington, NM Off DISCHARGE PLAN APPLICATION **Oilfield Service Facilities** Part VII. Form (Optional) Sources and Quantities of Effluent and Waste Solids Generated at the Facility - For each source include types of effluents (e.g. salt water, hydrocarbons, sewage, etc.), estimated quantities in barrels or gallons per month, and types and volumes of major additives (e.g. acids, biocides, detergents, degreasers, etc.). Use of this form is optional, but the information requested must be provided. Major Additives (e.g. Volume degreaser fluids from General Composition and Source (solvents from small parts cleaning, Per Month truck washing, soap Waste Type oil filters from trucks, etc.) (bbl or gal) in steam cleaners) 1. Truck Wastes (Describe types of original NONE contents trucked [e.g. brine, produced water, drilling fluids, oil wastes, etc]) 2. Truck, Tank & Drum Washing NONE 3. Steam Cleaning of Parts, NONE Equipment, Tanks 4. Solvent/Degreaser Use Lab Waste 2-3 gallons soil/water lab samples containing Methylene Chloride, Freon113 or Methanol as solvent for extrac tion minor quantities of contaminates.

5. Spent Acids, Caustics, or Completion Fluids Lab waste (Describe)

less than 1/2 gal.

Various Acids used in extraction and Analysis from lab samples.

		General Composition and Source (solvents from small parts cleaning, oil filters from trucks, etc.)	Volume Per Month (bbl or gal)	Major Additives (e.g degreaser fluids from truck washing, soap in steam cleaners
6.	Waste Slop Oil	NONE	;	
7.	Waste Lubrication and Motor Oils	NONE		
8.	Oil Filters	NONE 4/week combined betwe	een 5726 and 5796 locat	ion
9.	Solids and Sludges from Tanks (Describe types of materials [e.g. crude oil tank bottoms, sand, etc.])	NONE		
10	. Painting Wastes	NONE		
11	. Sewage (Indicate if other wastes mixed with sewage; if no commingling, domest sewage under jurisdiction of the NMED)	Domestic Sewage only to sep	tic tank and leach fiel	Ld
12	. Other Waste Liquids (Describe in detail)	Combined solids/liquids mak section	e up lab waste listed :	in 4 and 5 of this
	. Other Waste Solids (Cement, construction materials, used drums)	Combined solids/liquids mak section.	e up lab waste listed :	in 4 and 5 of this

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materials, used drums)

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5796 Hwy 64-3014 Farmington, NM DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VIII. Form (Optional)

<u>Summary Description of Existing Liquid and Solids Waste Collection and Disposal</u> - For each waste type listed in Part VII, provide summary information about onsite collection and disposal systems. Information on basic construction features, specific descriptions, and wastewater schematics should be provided as required in the Guidelines. The use of this form is optional, but the summary information requested must be provided.

Waste Type	Tank(T)/ Drum(S)	Floor Drain/(F) Sump(S)	Pits- Lined(L) or Unlined(U)	Onsite Injection Well	Leach Field	Offsite Disposal
1. Truck Wastes	NONE					
2. Truck, Tank and Dr Washing	um NONE					
 Steam Cleaning of F Equipment, Tanks 	Parts, NONE					
4. Solvent/Degreaser U	Jse Drums	collected at poir	nt of use N/A	NO	NO Hazan facil	rdous wast Lity
5. Spent Acids, Caustic or Completion Fluid		collected at poir	nt of use N/A	NO	NO Hazan facil	rdous wast lity
5. Waste Slop Oil	NONE					

Waste Type	Tank(T)/ Drum(S)	Floor Drain/(F) Sump(S)	Pits- Lined(L) or Unlined(U)	Onsite Injection Well	Leach Field	Offsite Disposa
7. Waste Lubrication and Motor Oils	I NONE					
3. Oil Filters	None g	enerated at this s	site, generate	d at 5726.		
 Solids and Sludges from Tanks 	NONE					
0. Painting Wastes	NONE					
1. Sewage	Septic	Tank/Leach field	(F) N/A	-	Yes	NO
2. Other Waste Liquids	Combir	ed solids and lig	uids make up]	.ab waste li	sted in qu	estions
3. Other Waste Solids	> 4 and	5 of this section				

5726 Hwy. 64 Farmington, NM SHOP

DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VI. Form (Optional)

<u>Materials Stored or Used at the Facility</u> - For each category of material listed below provide information on the general composition of the material or specific information (including brand names if requested), whether a solid or liquid, type of container, estimated volume stored and location. Submit MSD information for chemicals as requested. Use of this form is optional, but the information requested must be provided.

Name	General Makeup or Specific Brand Name (if requested)	Solids(S) or Liquids(L)?	Type of Container (tank drum, etc.)	Estimated Volume Stored	Location (yard, shop, drum storage, etc.)
1. Drilling Fluids (inclu- general makeup & ty special additives [e.g oil, chrome, etc.])	pes none				
2. Brines - (KCl, NaCl	, etc.) none				
3. Acids/Caustics (Prov names & MSD sheet			Automoțive Batteries	less than 1 gal.	Shop inside
4. Detergents/Soaps	Hand soap	only			
5. Solvents & Degrease (Provide names & M sheets)		Solvent (L)	drum	20 gallons	Shop inside
6. Paraffin Treatment/ Emulsion Breakers (Provide names & M sheets)	NONE SD				
7. Biocides (Provide na & MSD sheets)	mes NONE				
8. Others - (Include oth liquids & solids, e.g. cement etc.)		aint (L)	various c less than	ontainers 1 gal. 20 gal	. Shop inside

5726 Hwy 4 Farmington Shop DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VII. Form (Optional)

Sources and Quantities of Effluent and Waste Solids Generated at the Facility - For each source include types of effluents (e.g. salt water, hydrocarbons, sewage, etc.), estimated quantities in barrels or gallons per month, and types and volumes of major additives (e.g. acids, biocides, detergents, degreasers, etc.). Use of this form is optional, but the information requested must be provided.

Waste Type	General Composition and Source (solvents from small parts cleaning, oil filters from trucks, etc.)	Volume Per Month (bbl or gal)	Major Additives (e.g. degreaser fluids from truck washing, soap in steam cleaners)
 Truck Wastes (Describe types of original contents trucked [e.g. bri produced water, drilling oil wastes, etc]) 	ne,	N/A	N/A
2. Truck, Tank & Drum W	ashing N/A	N/A	N/A
. Steam Cleaning of Parts, Equipment, Tanks	N/A	N/A	N/A
. Solvent/Degreaser Use	Stoddard Solvent Aliphatichydrocarbons Sent to recycler when spent	1 gallon	NONE
. Spent Acids, Caustics, or Completion Fluids (Describe)	Lead-Acid Batteries	1-2 batteries	H ₂ SO ₄

Waste Type	General Composition and Source (solvents from small parts cleanir oil filters from trucks, etc.)	Volume ng, Per Month (bbl or gal)	Major Additives (e.g. degreaser fluids from truck washing, soap in steam cleaners)
6. Waste Slop Oil	N/A	N/A	N/A
7. Waste Lubrication and Motor Oils	Used motor oil	20 gal. used as fuel excess is recycled	none
8. Oil Filters	Used Filters le	ess than 16, sent to landfill	none
 Solids and Sludges from Tanks (Describe types of materials [e.g. crude oil tank bottoms, sand, etc.]) 	N/A	N/A	N/A
10. Painting Wastes	N/A	N/A	N/A
 Sewage (Indicate if other wastes mixed with sewag if no commingling, dome sewage under jurisdiction of the NMED) 	e; stic	?	hand soap
12. Other Waste Liquids (Describe in detail)	NONE	NONE	NONE
 Other Waste Solids (Cement, construction materials, used drums) 	Occasional oil fuel leak from equip. on soi not reportable quantiti		

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SHOP

DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VIII. Form (Optional)

<u>Summary Description of Existing Liquid and Solids Waste Collection and Disposal</u> - For each waste type listed in Part VII, provide summary information about onsite collection and disposal systems. Information on basic construction features, specific descriptions, and wastewater schematics should be provided as required in the Guidelines. The use of this form is optional, but the summary information requested must be provided.

Wast		Tank(T)/ Drum(S)	Floor Drain/(F) Sump(S)	Pits- Lined(L) or Unlined(U)	Onsite Injection Well	Leach Field	Offsite Disposa
1. Tri	uck Wastes	N/A					
	uck, Tank and Drum ashing	N/A					
	am Cleaning of Part uipment, Tanks	a s, N/A					
4. Sol	vent/Degreaser Use	2	er draws solvent s ecycling. No forma	straight from in l approval need	n-service 20 led.) gal. tank	for off-
	ent Acids, Caustics, Completion Fluids	Spent A battery	cid is stored in . No formal appro	original batter oval needed.	ry until rec	ycler picks	up entir
6. Wa	iste Slop Oil	N/A					

 Waste Lubrication and Motor Oils Oil Filters 	Steel drum 55 gal.	drain pan then transferred to				
. Oil Filters		drum		;	our hea rec	d as fuel i used oil ter. Excess ycled. No roval requi
	Hot drained used motor o				of 16 p/: landfill location	d to dispos month at cr . For both s. Excess u in heater o
. Solids and Sludges from Tanks	N/A					
0. Painting Wastes	N/A					
1. Sewage	domestic sew field.	age floor drai	n collect ar	nd channel i	nto septic	tank & leac
2. Other Waste Liquids	N/A					
3. Other Waste Solids	characteriza	inated from oil tion annually. Facility — Land	Collected so	oils are pla	ced at Envi	

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and the second SCALE IN FEET

ASSOCIATES, INC.

AFA IN TATISTIC LIAS IN

4-174



PROPERTY SURVEY FOR ENVIROTECH INC. E 1/2 NW 1/4 SEC. 27 T29N R12W NMPM SAN JUAN COUNTY, NEW MEXICO

That part of the East One-Half of the Northwest Quarter (E1/2 NW1/4) of Section 27, in T29N RIZW, N.M.P.M., described as follows:

BEGINNING East 702.65 feet and South 925.13 feet from the Northwest Corner of the NET/4 NW1/4 of said Section 27, being a point on the Lost line of a fract of land conveyed to Myton Sanchez, et us by warranty deed recorded in Book 826, Page 531 of the Records of San Jour County, New Mexico;

- S00'04'E for a distance of 154.48 feet, along the East line of said Scharez THENCE: tract to a point on the Northeasterly line of a tract of land conveyed to doe D Gherardine by warranty deed recorded in Book 754, Page 593 ct the Records of San Juan County, New Mexico;
- THENCE: S7527'E for a distance of 19.82 feet, to the northeastery Corner at said Gherardine tract;
- S00'01'E for a distance of 196.20 feet, along the eat one of suid Gnerardur tract to a point on the northerly right—of—way line of Highway 64; S78'04'E for a distance of 330.08 feet, along the northery right of way of THENCE:
- THENCE: Highway 64;
- THENCE: NDC35'E for a distance of 420.40 feet;
- THENCE: N89'25'W for a distance of 346.67 feet to the paint at beginning

I, GEORGE T. WALTERS , A REGISTERED PROFESSIONAL SUBJENCE WILLER THE LAWS OF THE STATE AT WHICH THIS SURVEY WAS PERFORMED DERIGHT CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD HOTES OF AN ALTON. SURVEY MEETING THE MITHINUM RECORDENENTS OF THE STATUDATUS FOR LAND SURVEYS AND IS TRUE AND CORRECT TO THE BEST OF MITHING ALLES FOR BELLEF, AND THAT NO ENCRUACHMENTS EXIST EXCEPT AS IN FEE ASSACE AND THAT ALL IMPROVEMENTS ARE SHOWN IN THEIR CORRECT LOCATION BELATIVE RECORD BOUNDARIES AS LOCATED BI THIS SURVEI

DATE	CEORGE T WALTERS
9-22-92	PROFESSIONAL SURVEYOR # 5+59 STATE OF NEW MEAROD

REVISION		
HORTGAGE PLATT NO	FROPERTI SURVEYT IES	HERREITS LETT IE.
DRAWN BY GTW	FAFIA CHEF CRI	AFFRONED ON
CATE: 9-22-92	DATE OF FIELD SURVEN 9-21-92	DEED UNADIAN
BASIS OF BEARING VEST PL		FRONCE NO MISSO FALL

Edgar L. Risenhoover

Registered Land Surveyor New Mexico • Colotado • Arizona Route 2, Box 105 + 655 County Road 1191 Farmington, New Mexico 87401 Phone (505) 325-3904

PRAX TRUJILLO

Lot 5 of Section 28 in T-29-N, R-12-W, N.M.P.M., San Juan County, New Mexico, same being situated in the NW4NE4 of said Section 28, containing 3.83 acres, more or less, and subject to all right-of-ways, easements, restrictions and reservations of record or in existance.



	formington, NM 87401			ARDOUS WASTES
	CUSTOMER INFORMATION			MAJOR ACCOUNT
NAME EN	JUIROTECH	LOCATION ID	BILLING STATUS	SERVICE DECREASE
STREET NUMBER	5796 STREET NAME	1464-3014	EFFECTIVE DATE	RATE INCREASE
R 7	un m. tom	CORPORATED COUNTY STATE/PROVINCE	ZIPIPOSTAL CODE 7 TEMP SERV	CANCEL
		1		OTHER UPDATE
PHONE /2	2-0615 CONVERSENT	INDUSTRY SEGMENT	ALIAS	UNITS
	CE CV		SECURITY	REQUIRED
ERVICE	SPECIFICATIONS SER	VICE START/DELIVERY DATE:	SERVICE EFFECT	IVE DATE:
	N DESCRIPTION/COMPENTS			SERVICE DAYS
	Y DESCRIPTION/COMMENTS	C C S A Y O U H S P N S A T E NUMBI T T A E NUMBI	LE PROFILE IÒ E ER EXPIRES Q	
-	1 300/6		000 m	A MALLI
	DIR STREET NAME STATE/PROVINCE E OF CHARGES DESCRIPTION I- 390 JL	ZIP/POSTAL CODE		
	CONDITIONS ON REVERSE SIDE AND THE ATT	DISTRUCTION S DEFINITION OF SPE REPRESENTATIVE'S SIGNATURE	Litters 3- Hial waste are part of CONTRACTOR	4 WK THIS AGREEMENT
1 NAME ROA	OFT M YOUNG		• 	Bicker
nt <u>134, 170</u>	manufactore Beauting DATE - 4	18/94 GM REVIEW	<u> </u>	ALES DATE

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PAGE: 1 DATE: 05/28/92 ACCT: 146965-01 INDEX: 02921490654 CAT NO: A510-212 P0 NBR: 627	PAGE: 2 DATE: 05/28/92 ACCT: 146965-01 INDEX: 02921490654 CAT NO: A510-212 PO NBR: 627
*SULFURICEACID *SULFURICEACID *SULFURICEACID **SULFURICEACID MATERIAL SAFETY DATA SHEET	OXIDIZER: OXIDIZERS DECOMPOSE, ESPECIALLY WHEN HEATED, TO YIELD OXYGEN OR Other gases which will increase the burning rate of combustible matter. Contact with easily oxidizable. Organic, or other combustible materials May result in ignition, violent combustion or explosion.
SHER SCIENTIFIC EMERGENCY NUMBER: (201) 796-7100 EMICAL DIVISION CHEMTREC ASSISTANCE: (800) 424-9300 REAGENT LANE	FIREFIGHTING MEDIA: Dry Chemical or Carbon Dioxide (1990 Emergency Response Guidebook, Dot P 5800.5).
R LAWN NJ 07410 1) 795-7100	FOR LARGER FIRES, FLOOD AREA WITH WATER FROM A DISTANCE (1990 Emergency Response Guidebook, Dot P 5800.5).
S INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST ORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF CHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO H INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS ULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE ORMATION FOR THEIR PARTICULAR PURPOSES.	FIREFIGHTING: DO NOT GET WATER INSIDE CONTAINER. DO NOT GET SOLID STREAM OF WATER ON SPILLED MATERIAL. MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5 GUIDE PAGE 39).
SUBSTANCE IDENTIFICATION CAS-NUMBER 7664-93-9 BSTANCE: **SULFURIC ACID**	USE AGENT SUITABLE FOR TYPE OF FIRE; USE FLOODING AMOUNTS OF WATER AS A FOG. Cool containers with flooding amounts of water, apply from as far a distance as possible. Avoid breathing corrosive vapors, keep upwind.
ADE NAMES/SYNONYMS: DIL OF VITRIDL; BOV; DIPPING ACID; VITRIDL BROWN DIL; HYDROGEN SULFATE;	TRANSPORTATION DATA
IORDHADSEN ACID; DIHYDROGEN SULFATE; SULPHURIC ACID; MATTING ACID; DITHIONIC ACID; STCC4930040; UN 1830; A300; A300C; A300SI; A300S;	DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101: Corrosive Material
298; AŠIO; A468; SOA174; A484; SA17O; SA176; A3O2; A3O5; H2O4S; ACC2235O Mical Family: Rganic Acid	DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND Subpart E: Corrosive
ECULAR FORMULA: H2-S-04	DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49 CFR 173.272 Exceptions: 49 CFR 173.244
CULAR WEIGHT: 98.07 LA RATINGS (SCALE 0-3): HEALTH=3 FIRE=0 REACTIVITY=2 PERSISTENCE=0 RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=2	FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), Docket Numbers HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90)
COMPONENTS AND CONTAMINANTS PONENT: SULFURIC ACID PERCENT: 70.0-100.0 CAS# 7664-93-9	EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 10/18/91)
ONENT: WATER PERCENT: 0-30.0	U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101:
ER CONTAMINANTS: NONE.	SULFURIC ACID-UN 1830 U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101:
SURE LIMITS: URIC Acid: Mg/M3 Osha Twa	8 - CORROSIVE MATERIAL
MG/M3 ACGIH TWA; 3 MG/M3 ACGIH STEL Mg/M3 Niosh Recommended Twa Mg/M3 DFG Mak Twa;	U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG II
MG/M3 DFG MAK 5 MINUTE PEAK, MOMENTARY VALUE, 8 TIMES/SHIFT EASUREMENT METHOD: SILICA GEL TUBE; SODIUM BICARBONATE/SODIUM CARBONATE; ON CHROMATOGRAPHY; (NIOSH VOL. 111 # 7903, INORGANIC ACIDS).	U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: Corrosive
00 POUNDS SARA SECTION 302 THRESHOLD PLANNING QUANTITY 00 Pounds Sara Section 304 Reportable Quantity 00 Pounds Cercla Section 103 Reportable Quantity	U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: Exceptions: None Non-Bulk Packaging: 49 CFR 173.202 Bulk Packaging: 49 CFR 173.242
JBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING	U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: Passenger Aircraft or Railcar: 1 L
	CARGO AIRCRAFT ONLY: 30 L
RIPTION: ODORLESS, CLEAR, COLORLESS, DENSE HYGROSCOPIC OILY LIQUID WITH RKED ACID TASTE WHEN PURE. BOILING POINT: 626 F (330 C)	TOXICITY
TING POINT: 50 F (10 C) SPECIFIC GRAVITY: 1.84	SULFURIC ACID: Irritation data: 1380 ug eye-rabbit severe; 5 mg/30 seconds rinsed eye-rabbit
POR PRESSURE: <0.001 @ 20 C PH: <3 SOLUBILITY IN WATER: SOLUBLE	SEVERE. TOXICITY DATA: 3 MG/M3/24 WEEKS INHALATION-HUMAN TCLO; 510 MG/M3/2 HOURS
R THRESHOLD: >1 MG/M3 (MIST) VAPOR DENSITY: 3.4	INHALATION-RAT LC5O; 320 MG/M3/2 HOURS INHALATION-NOUSE LC5O; 18 MG/M3 Inhalation-guinea Pig LC5O; 2140 Mg/kg Oral-Rat LD5O; 135 Mg/kg Unreported-man LDLO; Mutagenic Data (rtecs); reproductive effects Data
LVENT SOLUBILITY: DECOMPOSES IN ALCOHOL.	(RTECS). Carcinogen Status: None. An epidemiological study of workers at a refinery
340 C IT DECOMPOSES INTO SULFUR TRIOXIDE AND WATER	AND CHEMICAL PLANT SUGGESTS AN INCREASED RISK OF LARYNGEAL CANCER FROM Exposure to high concentrations of sulfuric acid.
FIRE AND EXPLOSION DATA	LOCAL EFFECTS: CORROSIVE- INHALATION, SKIN, EYE AND INGESTION. Acute Toxicity Level: Highly Toxic by Inhalation; Moderately Toxic by
IRE AND EXPLOSION HAZARD: Gligible fire hazard when exposed to heat or flame.	INGESTION. Target effects: no data available.

DATE: 05/28/92 INDEX: 02921490654	ACCT: 146965-01 Cat No: A510-212	PAGE: 3 Po NBR: 627 、	DATE: INDEX:	05/28/92 02921490654	ACCT: CAT NO:	146965-01 A510-212	PAGE: 4 PO NBR: 627
HEALTH INHALATION: SULFURIC ACID: CORROSIVE/HIGHLY TOXIC. &O ACUTE EXPOSURE- INHALATIO PRINCIPALLY AFFECTING I	N OF MISTS MAY CAUSE MU	COUS MEMBRANE IRRITATION	CARBONIZ BROWNISH Thirst, Pulse, S Occur. A	ATION OF TISSUE OR YELLOWISH S DIFFICULT SWALL Hallow Breathin Lbumin, blood a	MAY OCCU TAINS MAY Owing, Ac G, Shock ND Casts	R WITH ESCHARS BE FOUND AROU IDEMIA, STOMAT AND POSSIBLE C IN URINE, ANUR	. DEHYDRATION AND ON THE LIPS AND MOU ND THE MOUTH, INTENS ITIS, RAPID AND WEAK ONVULSIONS AND DEATH IA, ESOPHAGEAL AND D ERFORATION OF THE

- ACUTE EXPOSURE- INHALATION OF MISTS MAY CAUSE MUCOUS MEMBRANE IRRITATION PRINCIPALLY AFFECTING THE RESPIRATORY TRACT EPITHELIUM. LOW CONCENTRATIONS, 0.35-5 MG/M3, MAY CAUSE INCREASED PULMONARY AIR FLOW RESISTANCE AND SUBSEQUENT SHALLOWER AND MORE RAPID BREATHING. HOT CONCENTRATED MISTS MAY CAUSE RAPID LOSS OF CONSCIDUSNESS WITH POSSIBLE DAMAGE TO LUNG TISSUE. VAPORS MAY CAUSE NASAL SECRETIONS, SNEEZING, A BURNING OR TICKLING SENSATION IN THE NOSE AND THROAT AND RETROSTERNAL REGION, FOLLOWED BY COUGH, RESPIRATORY DISTRESS, TRACHEOBRONCHITIS, CHEMICAL PNEUMONITIS AND POSSIBLE SPASM OF THE VOCAL CORDS. HIGH CONCENTRATIONS MAY PRODUCE BLOODY NASAL SECRETIONS AND SPUTUM, HEMATEMESIS GASTRITIS, AND PULMONARY EDEMA. A SINGLE OVEREXPOSURE MAY LEAD TO LARYNGEAL, TRACHEOBRONCHIAL AND PULMONARY EDEMA. ONE INDIVIDUAL SPRAYED IN THE FACE WITH SULFURIC ACID LIQUID EXPERIENCED DELAYED SYMPTOMS OF PULMONARY FIBROSIS, RESIDUAL BRONCHITIS, AND PULMONARY EDEMA. ONE INDIVIDUAL SPRAYED IN THE FACE WITH SULFURIC ACID LIQUID EXPERIENCED DELAYED SYMPTOMS OF PULMONARY FIBROSIS, RESIDUAL BRONCHITIS, AND PULMONARY EMPTONS OF PULMONARY FIBROSIS, RESIDUAL BRONCHITIS, AND PULMONARY EDEMA. OOSE REPORTED IN RATS IS 510 MG/M3/2 HOURS. CHRONIC EXPOSURE- REPEATED EXPOSURE TO THE MIST MAY CAUSE INFLAMMATION OF THE UPPER RESPIRATORY TRACT, CHRONIC BRONCHITIS AND ETCHING OF THE DEPERTED EXCESSIVE EXPOSURE OVER LONG PERIDDS OF TIME HAVE RESULTED IN BRONCHITIC SYMPTOMS, RHINORRHEA, FREQUENT RESPIRATORY TRACT INFECTIONS, EMPHYSEMA, STOMATITIS AND DIGESTIVE DISTUBANCES. CHRONIC INHALATION MAY CAUSE ALKALINE DEPLETION OF THE BODY PRODUCING AN ACTOOSIS WHICH AFFECTS THE NERVOUS SYSTEM AND PRODUCES AGITATION, MA CAUSE ALKALINE DEPLETION OF THE BODY PRODUCING AN ACTOOSIS WHICH AFFECTS THE PLAN BUGGESTS AN INCREASED RISK OF LARVINGEAL CANCER FROM EXPOSURE TO HIGH CONCENTRATIONS OF SULFURIC ACID. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN NIMALS.

FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY, IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRATION OF OXYGEN SHOULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION INMEDIATELY.

SKIN CONTACT: SULFURIC ACID:

CORROS I VE

DAROSIVE. ACUTE EXPOSURE- CONTACT WITH CONCENTRATED SULFURIC ACID MAY CAUSE SEVERE SECOND AND THIRD DEGREE SKIN BURNS WITH NECROSIS DUE TO ITS AFFINITY FOR WATER AND SUBSEQUENT SEVERE DEHYDRATING ACTION, AND ITS EXOTHERMIC REACTION WITH MOISIURE. POSSIBLE CHARRING MAY OCCUR LEADING TO SHOCK AND COLLAPSE DEPENDING ON THE AMOUNT OF TISSUE INVOLVED. THE RESULTING WOUNDS MAY BE LONG IN HEALMO AND MAY CAUSE EXTENSIVE SCARRING THAT MAY RESULT IN FUNCTIONAL INHIBITION. CONTACT WITH DILUTE SOLUTIONS MAY CAUSE SYIM IMPITATIONAL CAUSE SKIN IRRITATION.

CHRONIC EXPOSURE A REPAILED CONTACT WITH LOW CONCENTRATIONS MAY CAUSE Skin desiccation and ulceration of the Hands, and Panaris or Chronic Purulent inflammation around the Nails. Repeated contact with dlute SOLUTIONS MAY CAUSE DERMATITIS.

FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF CHEMICAL BURNS, COVER AREA WITH STERIEF, DRY DRESSING. BANDAGE SECURELY, BUT NOT TOO TIGHTLY. GET MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT: SULFURIC ACID:

CORROSIVE.

ACUTE EXPOSURE - EXPOSURE TO THE VAPORS MAY CAUSE A BURNING OR STINGING COLE EAPOSONE" EAPOSONE TO THE VAPORS MAY LADGE A BURNING OK STINGING SENSATION IN THE EYES WITH LACRIMATION, BLURRED VISION AND CONJUNCTIVAL CONGESTION, SPLASHES OF ACID IN THE EYES MAY PRODUCE DEEP CORNEAL ULCERATION, KERATO-CONJUNCTIVITIS AND PALPEBRAL LESIONS WITH SEVERE SEQUELAE. IRREPARABLE CORNEAL DAMAGE AND BLINDNESS AS WELL AS SCARRING OF THE EYELIDS MAY OCCUR. SEVERE SULFURIC ACID EYE BURNS HAVE INCLUDED GLAUCOMA AND CATARACT AS COMPLICATIONS IN THE MOST SEVERE CASES. CONTACT WITH OTLUTED ACID MAY PRODUCE MORE PROSEDUCEEFTS FERM WHICH OF THE DAMAGE AND CATARACT AS COMPLICATIONS IN THE MOST SEVERE CASES. CONTACT WITH DILUTED ACID MAY PRODUCE MORE TRANSIENT EFFECTS FROM WHICH RECOVERY MAY BE COMPLETE. CHRONIC EXPOSURE- REPEATED EXPOSURE MAY RESULT IN LACRIMATION AND CHRONIC

CONJUNCTIVITIS

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). CONTINUE IRRIGATING WITH NORMAL SALINE UNTIL THE PH HAS RETURNED TO NORMAL (30-60 MINUTES). COVER WITH STERILE BANDAGES. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION: SULFURIC ACID: CORROSIVE.

ACUTE EXPOSURE- INGESTION MAY CAUSE BURNING PAIN IN THE MOUTH, THROAT, ESOPHAGUS AND ABDOMEN, A SOUR TASTE AND NAUSEA FOLLOWED BY VOMITING

ойтн. NSE DELAYED GASTROINTESTINAL TRACT MAY RESULT IN PERITONITIS. CHRONIC EXPOSURE- NO DATA AVAILABLE. FIRST AID- DO NOT USE GASTRIC LAVAGE OR EMESIS. DILUTE THE ACID IMMEDIATELY BY DRINKING LARGE QUANTITIES OF WATER OR MILK. IF VOMITING PERSISTS, ADMINISTER FLUIDS REPEATEDLY. INGESTED ACID MUST BE DILUTED APPROXIMATELY 100 FOLD TO RENDER IT HARMLESS TO TISSUES. MAINTAIN AIRWAY AND TREAT SHOCK (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD BELOW HIPS TO HELP PREVENT ASPIRATION. ANTIDOTE: NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. REACTIVITY REACTIVITY: SULFURIC ACID: VIOLENT EXOTHERMIC REACTION WITH WATER. INCOMPATIBILITIES: INCOMPATIBLITIES: SULFURIC ACID: ACETALDEHYDE: VIOLENTLY POLYMERIZED BY CONCENTRATED ACID. ACETIC ANHYDRIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ACETIONE + NITRIC ACID: VIOLENT DECOMPOSITION. ACETONE + POTASSIUM DICHROMATE: IGNITION. ACETONE + POTASSIUM DICHROMATE: IGNITION. ACETONE (YANHYDRIN: PRESSURE INCREASE WITH POSSIBLE EXPLOSIVE RUPTURE OF VESSEL. ACETONITRILE: VIOLENT EXOTHERM ON HEATING; SULFUR TRIOXIDE REDUCES . INITIATION TEMPERATURE, ACRULEIN: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ACRYLONITRILE: VIGOROUS EXOTHERMIC POLYMERIZATION. ALCOHOL: EXOTHERMIC REACTION AND CONTRACTION OF VOLUME. ALCOHOL: EXOTHERMIC REACTION AND CONTRACTION OF VOLUME. ALCOHOL: SADH HYDROGEN PEROXIDE: POSSIBLE EXPLOSION. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ALLYL NITRATES: MAY CAUSE VIOLENT REACTION. 2-AMINGETHANOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. HEATING. AMMONIUM TRIPERCHROMATE: FIRE OR EXPLOSION HAZARD. ANILINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. BASES: VIOLENT REACTION. BENZYL ALCOHOL: MAY DECOMPOSES EXPLOSIVELY AT ABOUT 180 C. BROMATES + METALS: POSSIBLE IGNITION. BROMINE PENTAFLUORIDE: VIOLENT REACTION WITH POSSIBLE IGNITION. TERT-BUTYL-M-XYLENE: VIOLENT EXOTHERMIC REACTION WITHOUT AGITATION. N-BUTYRALDEHYDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CARRIDES: HAZARDOUS MIXTURE. HEATING TERT-BUTYL-M-XYLENE: YIDLENT EXDIMENMIC MEACLIUM WITHOUT AUITATION. N-BUTYRALDEHYDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CARBIDES: HAZARDOUS MIXTURE. CESIUM ACETYLIDE: IGNITION ON CONTACT. 1-CHLORO-2,3-EPOXYPROPAME: VIDLENT INTERACTION. 4-CHLORONITROBENZENE AND SULFUR TRIOXIDE: POSSIBLE EXPLOSIVE REACTION. CHLORATES: ALL CHLORATES, WHEN BROUGHT IN CONTACT WITH SULFURIC ACID MAY GIVE OFF EXPLOSIVE CHLORINE DIOXIDE GAS. A VIDLENT EXPLOSION IS USUAL. CHLORATES: ALL CHLORATES, WHEN BROUGHT IN CONTACT WITH SULFURIC ACID MAY GIVE OFF EXPLOSIVE CHLORINE DIOXIDE GAS. A VIDLENT EXPLOSION IS USUAL. CHLORATES + METALS: POSSIBLE IGNITION. CHLORATES + METALS: POSSIBLE IGNITION. CHLORATES: FIRE AND EXPLOSION HAZARD. COMBUSTBLE MATERIALS (FINELY DIVIDED): MAY IGNITE. COMPER: EVOLUTION OF SULFUR DIOXIDE. CUPPORS EVOLUTION OF SULFUR DIOXIDE. CUPPER: EVOLUTION OF SULFUR DIOXIDE. 2-CYANO-4-NITROBENZENEDIAZONIUM HYDROGEN SULFATE: EXOTHERMIC REACTION. 2-CYANO-2-PROPANOL: VIDLENT REACTION MITH INCREASE IN PRESSURE. CYCLOPENTANONE OXIME: VIDLENT REACTION. DIETHYLAMNE: EXOTHERMIC REACTION. DIETHYLAMNE: EXOTHERMIC REACTION. J.S.DIAZIDBERZENE: IUNITION FOLLOWED BT EARLOSTE REALTION. DIETHYLAMINE: EXOTHERMIC REACTION. DISOBUTYLENE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. DIMETHYLENZYLCARBINOL + HYDROGEN PEROXIDE: EXPLODES. DIMETHOXYANTHRAQUINONE: EXOTHERMIC REACTION ABOVE 150 C. DIMETHOXYANTHRAQUINONE: EXOTHERMIC REACTION ABOVE 150 C. 4-DIMETHYLAMINOBENZALDEHYDE: EXOTHERMIC REACTION. 2,5-DINITRO-3-METHYLBENZOIC ACID + SODIUM AZIDE: EXPLOSIVE REACTION. 1,5-DINITRONAPHTHALENE + SULFUR: EXOTHERMIC REACTION. EPICHLOROHYDRIN: VIDLENT REACTION. ETHOXYLATED NONVLPHENDL: POSSIBLE IGNITION. ETHOXYLATED NONVLPHENDL: POSSIBLE IEXPLOSION. ETHYLENE CYANOHYDRIN: VIOLENT REACTION. ETHYLENE CIAMINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ETHYLENE GLYCOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ETHYLENIMINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER.

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ISOPRENE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. 1991). STORE IN A TIGHTLY CLOSED CONTAINER. ISOPREME: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. LITHIUM SILICIDE: INCANDESCENT REACTION. MERCURY NITRIDE: EXPLOSION ON CONTACT. MESITYL OXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. METALS: MAY LIBERATE FLAMMABLE HYDROGEN GAS. METALS (POMDERED): EXTREMELY HAZARDOUS MIXTURE. METALS (POMDERED): EXTREMELY HAZARDOUS MIXTURE. METAL CHUQRATES: IGNITION REACTION. METAL CHUQRATES: YIQLENT EXPLOSION UNLESS PROPERLY COOLED. METAL CHUQRATES: FORMATION OF EXPLOSIVE PERCHLORIC ACID. 4-METHYLPYRIDINE: EXOTHERMIC REACTION. NITRATES: INCOMPATIBLE. NITRATES: INCOMPATIBLE. AVOID DIRECT SUNLIGHT. STORE AWAY FROM INCOMPATIBLE SUBSTANCES. THRESHOLD PLANNING QUANTITY (TPQ): THRESHOLD PLANNING QUANTITY (TPQ): THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 302 REQUIRES THAT EACH FACILITY WHERE ANY EXTREMELY HAZARDOUS SUBSTANCE IS PRESENT IN A QUANTITY EQUAL TO OR GREATER THAN THE TPO ESTABLISHED FOR THAT SUBSTANCE NOTIFY THE STATE EMERGENCY RESPONSE COMMISSION FOR THE STATE IN WHICH IT IS LOCATED, SECTION 303 OF SARA REQUIRES THESE FACILITIES TO PARTICIPATE IN LOCAL EMERGENCY RESPONSE PLANNING (40 CFR 355.30). NITRIC ACID + GLYCERIDES: EXPLOSION. MITRIC ACID + GUTCERIDES: EAFLOSION. MITRIC ACID + ORGANIC MATERIAL: MAY CAUSE VIOLENT REACTION. NITRIC ACID + TOLUENE: POSSIBLE VIOLENT REACTION OR EXPLOSION. MITROBENZENE: EXOIMERMIC REACTION AT ELEVATED TEMPERATURES. **DISPOSAL ** DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF NITROBENZENE: EXOTHERMIC REACTION AT ELEVATED TEMPERATURES. 3-NITROBENZENESULFONIC ACID: EXOTHERMIC REACTION. NITROMETHANE: EXPLOSIVE EXOLOPOSITION. 4-NITROMETHYLAMINE: EXPLOSIVE DECOMPOSITION. 4-NITROMETHYLAMINE: EXPLOSIVE DECOMPOSITION. 4-NITROMETHYLAMINE: EXPLOSIVE AT 80 C. ORGANICS: VIOLENT EXOTHERMIC REACTION. PENTASILVER TRIHYDROXYDIAMIDOPHOSPHATE: EXPLOSION ON CONTACT. PERCHLORIC ACID: FORMATION OF DANGEROUS ANHYDROUS PERCHLORIC ACID. PERMANGANATES: FORMATION OF DERMANGANIC ACID. PERMANGANATES: FORMATION OF PERMANGANIC ACID. 1-PHENYL-2-METHYL-PROPYL ALCOHOL + HYDROGEN PEROXIDE: POSSIBLE EXPLOSION. 1-PHENYL-2-METHYL-PROPYL ALCOHOL + HYDROGEN PEROXIDE: POSSIBLE EXPLOSION. PHOSPHORUS (WHITE OR YELLOW): IGNITION IN CONTACT WITH BOILING ACID. PHOSPHORUS TRIOXIDE: VIOLENT REACTION. PICRATES: EXTRMELY HAZARDOUS MIXTURE. PICATES: EXTRMELY HAZARDOUS MIXTURE. POLYSICYLENE: EACLOSION ON CONTACT. HAZARDOUS WASTE, 40 CFR 262, EPA HAZARDOUS WASTE NUMBER DOO2. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY. CONDITIONS TO AVOID MAY IGNITE OTHER COMBUSTIBLE MATERIALS (WOOD, PAPER, OIL, ETC.). VIOLENT REACTION WITH WATER. FLAMMABLE, POISONOUS GASES MAY ACCUMULATE IN CONFINED SPACES. RUNOFF TO SEWER MAY CREATE FIRE OR EXPLOSION HAZARD. SPILL AND LEAK PROCEDURES SOIL SPILLS DIG HOLDING AREA SUCH AS LAGOON. POND OR PIT FOR CONTAINMENT. PLASTICS: ATTACKED. POLYSILYLENE: EXPLOSION ON CONTACT. POTASSIUM: EXPLOSIVE INTERACTION. POTASSIUM: EXPLOSIVE INTERACTION. POTASSIUM PERMANGANATE: POSSIBLE FIRE AND EXPLOSION. POTASSIUM PERMANGANATE: POSSIBLE EXPLOSION IN THE PRESENCE OF MOISTURE. POTASSIUM PERMANGANATE: POTASSIUM CHLORIDE: VIOLENT EXPLOSION. PROPICACTOME (BETA): TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. PROPYLENE OXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. 3-PROPYLENE OXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. 3-PROPYLENE OXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. PROPIDIME: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. REDUCING AGENTS: REACTS. RUBBER: ATTACKED. DIKE FLOW OF SPILLED MATERIAL USING SOIL OR SANDBAGS OR FOAMED BARRIERS SUCH AS POLYURETHANE OR CONCRETE. USE CEMENT POWDER OR FLY ASH TO ABSORB LIQUID MASS. NEUTRALIZE SPILL WITH SLAKED LIME, SODIUM BICARBONATE OR CRUSHED LIMESTONE. APPLY WATER SPRAY TO KNOCK DOWN AND REDUCE VAPORS. KNOCK-DOWN WATER IS CORROSIVE AND TOXIC AND SHOULD BE DIKED FOR CONTAINMENT AND LATER DISPOSAL. REDUCING AGENTS: REACTS. RUBBER: ATTACKED. RUBBER: ATTACKED. RUBDER: ATTACKED. RUBDER: ATTACKED. SILVER PERMANGANATE (MOIST): EXPLOSIVE REACTION. SILVER PEROXOCHROMATE: (MOIST): EXPLOSIVE REACTION. SODIUM CARBONATE: VIOLENT REACTION. SODIUM CARBONATE: VIOLENT REACTION. SODIUM CARBONATE: VIOLENT, EXPLOSION. SODIUM CARBONATE: VIOLENT, EXPLOSION. SODIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. SODIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. SODIUM TETRANHYDROBORATE: VIOLENT, EXOTHERMIC REACTION. SODIUM TETRANHYDROBORATE: VIOLENT, EXOTHERMIC REACTION. STEL: POSSIBLE EXPLOSION DUE TO HYDROGEN GAS FROM THE ACIO-METAL REACTION. STRELE POSSIBLE EXPLOSION DUE TO HYDROGEN GAS FROM THE ACIO-METAL REACTION. SUCROSE: FORMATION OF CARBON MONOXIDE. TETRAMETHYLBENZENES: VIOLENT REACTION IN CLOSED CONTAINER. 1.2.4.5 -TETRAZINE: VIOLENT REACTION IN CONTACT. 1.3.5 -TETRAINE: YIOLENT REACTION IN CONTACT. 1.3.5 -TEINITROSOMEXAHYDRO.1,3,5 -TRIAZINE: EXPLOSE MONOSITION ON CONTACT. NEUTRALIZE WITH AGRICULTURAL LIME, SLAKED LIME, CRUSHED LIMESTONE, OR SODIUM BICARBONATE . OCCUPATIONAL SPILL: OCCUPATIONAL SPILL: KEEP COMBUSTIBLES (WOOD, PAPER, OIL, ETC.) AWAY FROM SPILLED MATERIAL. DO NOT TOUCH SPILLED MATERIAL. DO NOT GET WATER INSIDE CONTAINER. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. DO NOT PUT WATER ON LEAK OR SPILL AREA. CLEAN UP ONLY UNDER THE SUPERVISION OF AN EXPERT. DIKE SPILL FOR LATER DISPOSAL. DO NOT APPLY WATER UNLESS DIRECTED TO DO SO. KEEP UNNECESSER PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY. VENTILATE CLOSED SPACES BEFORE ENTERING. REPORTABLE QUANTITY (RQ): 1000 POUNDS THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6). CONTACT. VINUL ACETATE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ZINC CHLORATE: LIKELY TO CAUSE FIRES AND EXPLOSIONS. ZINC IODIDE: VIOLENT INTERACTION. DECOMPOSITION: _____ THERMAL DECOMPOSITION MAY RELEASE TOXIC OXIDES OF SULFUR. PROTECTIVE EQUIPMENT VENTILATION: POLYMERIZATION: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL PROVIDE LOCAL EXHAUST OR PROCESS ENCLOSURE VENTILATION TO MEET PUBLISHED TEMPERATURES AND PRESSURES. EXPOSURE LIMITS. RESPIRATOR _____ THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS STORAGE AND DISPOSAL THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1910 SUBPART Z. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA). OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.

STORAGE

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SULFURIC ACID: 25 MG/M3- ANY POWERED AIR-PURIFYING RESPIRATOR WITH AN ACID GAS CARTRIDGE(S)		
AND HAVING A HIGH-EFFICIENCY PARTICULATE FILTER. ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS FLOW MODE.		
50 MG/M3- ANY CHEMICAL CARTRIDGE RESPIRATOR WITH A FULL FACEPIECE AND ACID GAS Cartridge(s) in combination with a high-efficiency particulate		
FILTER. Any self-contained breathing apparatus with a full facepiece.		
ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE. Any Air-Purifying full facepiece respirator (gas mask) with a Chin-Style or Front- or back-mounted acid gas canister having a High-Efficiency particulate filter.		
80 MG/M3- ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE AND OPERATED IN A Pressure-demand or other positive pressure mode.		
ESCAPE- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A Chin-Style or Front- or back-mounted acid gas canister having a High-Efficiency particulate filter. Any appropriate escape-type self-contained breathing apparatus.		
FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:		
ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS Operated in a pressure-demand or other positive-pressure mode.		
ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	•	
CLOTHING: Wear Appropriate protective clothing to avoid any possibility of skin contact with liquids containing more than 1% sulfuric acid. Avoid repeated or prolonged skin contact with liquids containing 1% or less sulfuric acid.		
GLOVES: Employee must wear appropriate protective gloves to prevent contact with this Substance.		
EYE PROTECTION; Employee must wear splash-proof or dust-resistant safety goggles and a Faceshield to prevent contact with this substance.		
EMERGENCY WASH FACILITIES: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE Exposed to This Substance, the employer should provide an eye wash fountain and quick drench shower within the immediate work area for emergency use.		
AUTHORIZED - FISHER SCIENTIFIC, INC. Creation Date: 11/28/84		
-ADDITIONAL IMFORMATION- THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.		٢

DATE: 10/30/91 ACCT: 146965-01 PAGE: 1	SOLUBILITY IN WATER: SOLUBLE VAPOR DENSITY: 1.3
INDEX: 02912330409 CAT NO: A144500 PO NBR: N/A	FIRE AND EXPLOSION DATA
ATERIAL SAFETY DATA SHEET	FIRE AND EXPLOSION HAZARD: NEGLIGIBLE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.
	FIREFIGHTING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM
ISMER SCIENTIFIC EMERGENCY NUMBER: (201) 796-7100 MEMICAL DIVISION CHEMTREC ASSISTANCE: (800) 424-9300 REAGENT LANE CHEMTREC ASSISTANCE: (800) 424-9300 AIR LAWN NJ 07410 CHEMTREC ASSISTANCE: (800) 424-9300	(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5). For larger fires, use water spray, fog or regular foam
201) 796-7100	
HIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST NFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF ERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO UCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS HOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE NFORMATION FOR THEIR PARTICULAR PURPOSES.	
SUBSTANCE IDENTIFICATION	
CAS-NUMBER 7647-01-0 UBSTANCE: **HYDROCHLORIC ACID, CONCENTRATED (36-37%)**	
RADE NAMES/SYNONYMS: CHLOROHYDRIC ACID; HYDROCHLORIDE; MURIATIC ACID; SPIRITS OF SALT; HYDROCHLORIC ACID, CONCENTRATED; HYDROGEN CHLORIDE, 23 EB; UN 1789; A142; A144; A508; A466; A481; ACCI1155	
HEMICAL FAMILY:	
NORGANIC ACID OLECULAR FORMULA: H-CL	
OLECULAR WEIGHT: 36.46	
ERCLA RATINGS (SCALE O-3): HEALTH=3 FIRE=0 REACTIVITY=1 PERSISTENCE=0 FPA RATINGS (SCALE O-4): HEALTH=3 FIRE=0 REACTIVITY=0	
COMPONENTS AND CONTAMINANTS	
OMPONENT: HYDROGEN CHLORIDE PERCENT: 35.0-38.0 CAS# 7647-01-0	
OMPONENT: WATER PERCENT: 62.0-65.0	
THER CONTAMINANTS: NONE	
XPOSURE LIMITS: YDROGEN CHLORIDE (HYDROCHLORIC ACID): 5 PPM (7.6 MG/M3) ACGIH CEILING 5 PPM (7.6 MG/M3) ACGIH CEILING 5 PPM (7.6 MG/M3) ADGH RECOMMENDED CEILING 5 PPM (7.6 MG/M3) DFG MAK 5 MINUTE PEAK, MOMENTARY VALUE, 8 TIMES/SHIFT 10 PPM (15.2 MG/M3) DFG MAK 5 MINUTE PEAK, MOMENTARY VALUE, 8 TIMES/SHIFT	
MEASUREMENT METHOD: SILICA GEL TUBE; SODIUM BICARBONATE/SODIUM CARBONATE; Ion Chromatography; (NIOSH Vol. III # 7903, Inorganic Acids).	
500 POUNDS SARA SECTION 302 THRESHOLD PLANNING QUANTITY (GAS) 5000 POUND SARA SECTION 304 REPORTABLE QUANTITY (GAS) 5000 POUNDS CERCLA SECTION 103 REPORTABLE QUANTITY (LIQUID) SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING	
PHYSICAL DATA ESCRIPTION: COLORLESS OR SLIGHTLY YELLOW FUMING LIQUID WITH A PUNGENT	
DOR. BOILING POINT: 384 F (196 C) SPECIFIC GRAVITY: 1.2	
APOR PRESSURE: NOT AVAILABLE PH: 1.1 (0.1 N)	

Date: 10/30/81 ACT: 145865-01 PAGE: 3 INDEX: 0/33/2330403 ACT: 145865-01 PO NBR: N/A Solutions May Cause Demantits. Photosensitization May Occur. FIRST AD. Renve Vectorianization Cause State	CHUDDOULFUNIC ACID: VIDLENT REACTION. I. DIFLUDOOF HVIENT RATE HEARE V EXOTEMATIC DECOMPOSITION REACTION. DEVICE UNAMES VIDLENT REACTION. FLUDENT INTERIOR DIFLUTENT REACTION. HEAL THEN DISLICIDE INFORMESSES. HEAL THEN DISLICIDE INFORMATION OF FLAMMABLE HVIDAGEN GAS. MECHAL SUPARTE VIDLENT REACTION. METAL ACETVIDESS VIDLENT REACTION. METAL ACETVIDESS VIDLENT REACTION. METAL ACETVIDESS VIDLENT REACTION. NOTOIDERS (STRONG): VIDLENT REACTION. OXIDIZERS (STRONG): VIDLENT REACTION. OXIDIZERS (STRONG): VIDLENT REACTION. OXIDIZERS (STRONG): VIDLENT REACTION. OXIDIZERS (STRONG): MOLENT REACTION. METAL ACET MOLENT REACTION. OXIDIZERS (STRONG): MOLENT REACTION. OXIDIZERS (STRONG): MOLENT REACTION. METAL ACET MOLENT REACTI
CESIUM ACETVLIDE: IGNITES ON CONTACT. CESIUM ACETVLIDE: IGNITES ON CONTACT. CHLORINE + DINITROAMILINES: VIGOROUS REACTION WITH RELEASE OF FLAMMABLE HYDROGEN GAS FUMES.	

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DATE:	10/30/91	ACCT :	146965-01	PAGE: 5	SHOUL
	02912330409	CAI NO:	A144500	PO NBR: N/A	
	PR	DTECTIVE E			
VENTILATION PROVIDE LOCA EXPOSURE LIM	AL EXHAUST OR PI	ROCESS ENC	LOSURE VENTI	LATION TO MEET PUBLISHED	
PHYSICAL [ORDER FROM THE SPECIFIC IN THE WORKIN NATIONAL]	DATA TOVICITY	AND HEALTH (IMUM RESP LECTED MUS BE BASED OU E RESPIRATO CCUPATIONAL	EFFECTS SEC IRATORY PROT I BE BASED O N THE SPECIF DR AND MUST L SAFETY AND	ON INFORMATION FOUND IN THE TIONS, THEY ARE RANKED IN ECTION. N CONTAMINATION LEVELS FOUND IC OPERATION, MUST NOT EXCEED BE JOINTLY APPROVED BY THE D HEALTH AND THE MINE SAFETY	
HYDROGEN CHL	ORIDE (HYDROCH	ORIC ACID):		
AN	Y SUPPLIED-AIR F Y SELF-CONTAINER Y CHEMICAL CARTF PROTECTION AGAIN	BREATHING	3 APPARATUS.	CARTRIDGE(S) PROVIDING	
				A CONTINUOUS FLOW MODE. FACEPIECE. WITH A FULL FACEPIECE. RATOR (GAS MASK) WITH A CANISTER PROVIDING PROTECTION A FULL FACEPIECE AND NST HYDROCHLORIC ACID. NST HYDROCHLORIC ACID.	
ESCAPE - ANY	AIR-PURIFYING, CHIN-STYLE, FROM	FULL FACE	ORIC ACID. PIECE RESPI	A FULL FACEPIECE AND NST HYDROCHLORIC ACID. TH CARTRIDGE(S) PROVIDING Rator (GAS MASK) With A ID GAS CANISTER. NED BREATHING APPARATUS.	
				TO LIFE OR HEALTH CONDITIONS:	
		_		S A FULL FACEPIECE AND IS	
				IVE-PRESSURE MODE.	
AUXILIAH	ED-AIR RESPIRAT DEMAND OR OTHE SELF-CONTAINE POSITIVE-PRESS	U BHEATHIN	AS A FULL FA E-PRESSURE M AG APPARATUS	CEPIECE AND IS OPERATED IN A ODE IN COMBINATION WITH AN OPERATED IN PRESSURE-DEMAND	
CLOTHING: Employee Mus to prevent A	T WEAR APPROPRI	ATE PROTEC	TIVE (IMPER) NTACT WITH	VIOUS) CLOTHING AND EQUIPMENT This substance.	
GLOVES: EMPLOYEE MUS SUBSTANCE.	T WEAR APPROPRI	ATE PROTEC	TIVE GLOVES	TO PREVENT CONTACT WITH THIS	
EYE PROTECTI Employee Mus Faceshield T	ION: T WEAR SPLASH-F O PREVENT CONTA	ROOF OR DU	JST-RESISTAN (IS SUBSTANC	T SAFETY GOGGLES AND A E.	
WHERE THERE EXPOSED TO T	ASH FACILITIES: IS ANY POSSIBIL THIS SUBSTANCE, RENCH SHOWER WIT	ITY THAT A THE EMPLOY HIN THE IN	AN EMPLOYEE' 'ER SHOULD P #MEDIATE WOR	S EYES AND/OR SKIN MAY BE Rovide an eye wash fountain K area for emergency use.	
CF	AUTHORIZED - REATION DATE: 04	/30/85	REVIS	ION DATE: 07/02/91	
THIS INFORMA INFORMATION MERCHANTABIL SUCH INFORMA	TION IS BELIEVE CURRENTLY AVAIL ITY OR ANY OTHE TION, AND WE AS	D TO BE AC ABLE TO US R WARRANT	AL INFORMATI COURATE AND 5. HOWEVER, 7. EXPRESS O ABILITY RES	ON- REPRESENTS THE BEST WE MAKE NO WARRANTY OF R IMPLIED, WITH RESPECT TO ULTING FROM ITS USE. USERS	
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"" SHOULD MAKE" THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.

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Έ:	10/30/91	ACCT:	146965-01		

CAT NO: A144500 SOLUTIONS MAY CAUSE DERMATITIS, PHOTOSENSITIZATION MAY OCCUR.

FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF CHEMICAL BURNS, COVER AREA WITH STERILE, DRY DRESSING, BANDAGE SECURELY, BUT NOT TOO TIGHTLY. GET MEDICAL ATTENTION IMMEDIATELY.

EVE CONTACT

HYDROGEN CHLORIDE (HYDROCHLORIC ACID):

INDEX: 02912330409

ACUTE EXPOSURE- CONTACT MAY CAUSE SEVERE IRRITATION, CONJUNCTIVITIS, ACUTE EXPOSURE- CONTACT MAY CAUSE SEVERE IRRITATION, CONJUNCTIVITIS, CORNEAL NECROSIS AND BURNS WITH IMPAIRMENT OR PERMAMENT LOSS OF VISION. A DROP OF HYDROCHLORIC ACID SPLASHED IN THE EYE AND IMMEDIATELY WASHED OUT HAS PRODUCED A WHITE COAGULATION OF THE CORNEAL AND CONJUNCTIVAL EPITHELIUM. ANIMALS EXPOSED TO VAPOR CONCENTRATIONS OF 1350 PPM FOR ONE AND A HALF HOURS SHOWED CLOUDING OF THE CORNEA AND 300 PPM FOR 6 HOURS SHOWED SLIGHT EROSION OF THE CORNEAL EPITHELIUM. CONTACT WITH A COMPRESSED GAS MAY CAUSE FROSTBITE. CHRONIC EXPOSURE- ANIMALS EXPOSED TO VAPOR AT 100 PPM FOR 6 HOURS DAILY FOR 50 DAYS SHOWED ONLY SLIGHT UNREST AND IRRITATION OF THE EYES, BUT NO OCULAR INJURY. EFFECTS ARE DEPENDENT UPON CONCENTRATION AND DURATION OF EXPOSURE. CONJUNCTIVITIS OR EFFECTS SIMILAR TO THOSE FOR ACUTE EXPOSURE MAY OCCUR. COPPOSIVE

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). CONTINUE IRRIGATING WITH NORMAL SALINE UNTIL THE PH HAS RETURNED TO NORMAL (30-60 MINUTES). COVER WITH STERILE BANDAGES. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:

HYDROGEN CHLORIDE (HYDROCHLORIC ACID):

HYDROGEN CHLORIDE (HYDROCHUDRIC ACID): CORROSIVE. ACUTE EXPOSURE- INGESTION OF THE ACID MAY CAUSE BURNS OF THE MOUTH, THROAT, ESOPHAGUS AND STOMACH WITH CONSEQUENT PAIN, UNEASINESS, NAUSEA, SALIVATION, VOMITING, DIARRHEA, CHILLS, SHOCK AND INTENSE THIRST. NEPHRITIS, FEVER AND PERFORATION OF THE INTESTINAL TRACT, AND CIRCULATORY COLLAPSE MAY OCCUR. DEATH MAY BE DUE TO ESOPHAGEAL OR GASTRIC NECROSIS. CHRONIC EXPOSURE- NO DATA AVAILABLE.

FIRST AID- DO NOT USE GASTRIC LAYAGE OR EMESIS. DILUTE THE ACID IMMEDIATELY BY DRINKING LARGE QUANTITIES OF WATER OR MILK. IF VOMITING PERSISTS, ADMINISTER FLUIDS REPEATEDLY. INGESTED ACID MUST BE DILUTED APPROXIMATELY 100 FOLD TO REMDER IT HARMLESS TO TISSUES. MAINTAIN AIRWAY AND TREAT SHOCK (DREISBACH, HANDBOOK OF POISONING, 12TH ED.), GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD BELOW HIPS TO HELP PREVENT ASPIRATION.

ANT LOOTE

NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

REACTIVITY

PO NBR: N/A

REACTIVITY:

REACTS EXOTHERMICALLY WITH WATER OR STEAM TO PRODUCE TOXIC AND CORROSIVE ETIME S

- INCOMPATIBILITIES: HYDROGEN CHLORIDE (HYDROCHLORIC ACID): ACETIC ANHYDRIDE: VIOLENT REACTION. ALCOHOLIC HYDROGEN CYANIDE: EXPLOSIVE REACTION. ALUMINUM: EXPLOSION. ALUMINUM-TITANIUM ALLOYS: IGNITES OR INCANDESCES WHEN HEATED. 2-AMINOETHANOL: VIOLENT REACTION. AMMONIUM HYDROXIDE: VIOLENT REACTION. AMMONIUM HYDROXIDE: VIOLENT REACTION. BASES: VIOLENT REACTION. BRASS: CORRODES. BRONZE: CORRODES. CALCIUM CARBIDE: REACTS WITH INCANDESCENCE. CALCIUM HYPOCHLORITE: IGNITION. CESIUM ACETYLIDE: IGNITES ON CONTACT. CHLORINE + DINITROANILINES: VIGOROUS REACTION WITH RELEASE OF FLAMMABLE HYDROGEN GAS FUMES.

CHICROSULFONIC ACID: VIOLENT REACTION. 1,1-DIFLUORDETHYLENE: EXTREMELY EXOTHERMIC DECOMPOSITION REACTION. DOWICIL 100: DECOMPOSES. ETHYLENE DIAMINE: VIOLENT REACTION. ETHYLENE IMINE: VIOLENT REACTION. FLUORINE: IGNITES ON CONTACT. HEXALITAIUM DISLICIDE: INCANDESCES. IRON: CORRODES WITH EVOLUTION OF FLAMMABLE HYDROGEN GAS. MAGNESIUM BORIDE: PRODUCES A SPONTANEOUSLY FLAMMABLE GAS. MERCURIC SULFATE: VIOLENT REACTION A 125 C. METAL ACETYLIDES: VIOLENT REACTION. METALS SEVERE CORROSION WITH EVOLUTION OF FLAMMABLE HYDROGEN GAS. OLEUM: VIOLENT REACTION. OXIDIZERS (STRONG): VIOLENT REACTION. OXYGEN + PLATINUM: IGNITES ON CONTACT.

CHLOROSULFONIC ACID: VIOLENT REACTION

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DATE: 05/28/92 ACCT: 146965- INDEX: 02921490654 CAT ND: A509-21		PAGE: 2 DATE: 05/28/92 ACCT: 146965-01 INDEX: 02921490654 CAT NO: A509-212 PO NBR: 627
	2 FU NDR: 027	
**NITRIC ACID **NITRIC ACID **NITRIC ACID **NITRIC ACID		CONTACT WITH EASILY OXIDIZABLE, ORGANIC, OR OTHER COMBUSTIBLE MATERIALS May result in ignition, violent combustion or explosion.
MATERIAL SAFETY DATA SH	IEET	FIREFIGHTING MEDIA:
	GENCY NUMBER: (201) 796-7100	WATER, DRY CHEMICAL OR SODA ASH (1990 Emergency response guidebook, dot p 5800.5).
HEMICAL DIVISION CHEM REAGENT LANE AIR LAWN NJ 07410 201) 795-7100	ITREC ASSISTANCE: (800) 424-9300	FOR LARGER FIRES, FLOOD AREA WITH WATER FROM A DISTANCE (1990 Emergency response guidebook, dot p 5800.5).
THIS INFORMATION IS BELIEVED TO BE ACCURATE INFORMATION CURRENTLY AVAILABLE TO US. HOWE MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRE Such Information, and we assume no liability should make their own investigations to dete Information for their particular purposes.	VER, WE MAKE NO WARRANTY OF SS OR IMPLIED, WITH RESPECT TO Resulting from its use. Users	FIREFIGHTING: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS. FOR MASSIVE FIRE IN CARGO AREA, USE UNMANNED HOSE HOLDER OR MONITOR NOZZLES; IF THIS IS IMPOSSIBLE, WITHORAW FROM AREA AND LET FIRE BURN (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 44).
SUBSTANCE IDENTIFICATIO	ON CAS-NUMBER 7697-37-2	USE FLOODING AMOUNTS OF WATER AS FOG. COOL CONTAINERS WITH FLOODING AMOUNTS OF WATER, APPLY FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING CORROSIVE VAPORS, KEEP UPWIND, CONSIDER EVACUATION OF DOWNWIND AREA IF MATERIAL IS LEAKING.
UBSTANCE: **NITRIC ACID** RADE NAMES/SYNONYMS:	•	TRANSPORTATION DATA
AQUA FORTIS; WFNA; RFNA; HYDROGEN NITRATE; NITAL; STCC 4918528; UN 2031; A200; A200C; A200S; A202; A206C; A509; A46 ACC16550		DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101: OXIDIZER
CHENICAL FAMILY: INORGANIC ACID		DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND Subpart E: OXIDIZER AND CORROSIVE
HOLECULAR FORMULA: H-N-03		DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49 CFR 173.268 EXCEPTIONS: NONE
AOLECULAR WEIGHT: 63.01		FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180),
CERCLA RATINGS (SCALE O-3): HEALTH=3 FIRE= NFPA RATINGS (SCALE O-4); HEALTH=3 FIRE=0 COMPONENTS AND CONTAMIN	REACTIVITY=0	DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204. Effective date october 1, 1991. However, compliance with the regulations is Authorized on and After January 1, 1991. (55 Fr 52402, 12/21/90)
COMPONENT: NITRIC ACID	PERCENT: 70	EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE Effective date for Hazard communication requirements is extended to
COMPONENT: WATER	PERCENT: 30	OCTOBER 1, 1993. (56 FR 47158, 10/18/91)
DTHER CONTAMINANTS: NONE		U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: NITRIC ACID-UN 2031
EXPOSURE LIMITS: NITRIC ACID: 2 PPM (5 Mg/M3) OSHA TWA; 4 PPM (10 Mg/M3) 2 PDM (5 Mg/M3) Accil TWA: 4 PDM (10 Mg/M3)	OSHA STEL	U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 8 - Corrosive Material
2 PPM (5 MG/M3) ACGIH TWA; 4 PPM (10 MG/M3 2 PPM (5 MG/M3) NIOSH RECOMMENDED TWA; 4 PPM (10 MG/M3) NIOSH RECOMMENDED STEL 10 PPM (25 MG/M3) DFG MAK TWA;		U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG I
20 PPM (50 MG/M3) DFG MAK 5 MINUTE PEAK, M Measurement Method: Silica gel Tube; Sodiu Ion Chromatography; (NIDSH Vol. 111 # 7903	M BICARBONATE/SODIUM CARBONATE;	U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: Corrosive
1000 POUNDS SARA SECTION 302 THRESHOLD PLA 1000 POUNDS SARA SECTION 304 REPORTABLE QU 1000 POUNDS CERCLA SECTION 103 REPORTABLE	NNING QUANTITY ANTITY	U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: Exceptions: None Non-Bulk packaging: 49 CFR 173.158 Bulk packaging: 49 CFR 173.243
SUBJECT TO SARA SECTION 313 ANNUAL TOXIC C	HEMICAL RELEASE REPORTING	U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: FORBIDDEN
PHYSICAL DATA Description: colorless to pale yellow liquid		CARGO AIRCRAFT ONLY: 2.5 L
		TOXICITY
	SSURE: 47.9 MMHG @ 20 C	NITRIC ACID: Toxicity data:
	Y IN WATER: VERY SOLUBLE	ANHYDROUS: 49 PPM/4 HOURS INHALATION-RAT LC50 (VAN WATER & ROGERS, INC MSDS): 2500 PPM/1 HOUR INHALATION-RAT LC50 (DUPONT MSDS): 430 MG/KG
VAPOR DENSITY: 3.2		ORAL-HUMAN LDLO; 50-500 MG/KG ORAL-UNSPECIFIED SPECIES LD50 (DUPONT MSDS); 110 MG/KG UNREPORTED-MAN LDLO; REPRODUCTIVE EFFECTS DATA (RTECS).
SOLVENT SOLUBILITY: SOLUBLE IN ETHER.		MONOHYDRATE: NO DATA AVAILABLE. Trihydrate: No data available. Carcinogen Status: None.
FIRE AND EXPLOSION DA	TA	LOCAL EFFECTS: CORROSIE- INHALATION, SKIN, EYES, INGESTION. ACUTE TOXICITY LEVEL: HIGHLY TOXIC BY INHALATION; TOXIC BY INGESTION. TARGET EFFECTS: NO DATA AVAILABLE.
FIRE AND EXPLOSION HAZARD: Negligible fire hazard when exposed to heat	OR FLAME.	AT INCREASED RISK FROM EXPOSURE: PERSONS WITH IMPAIRED PULMONARY FUNCTION, PRE-EXISTING EYE AND SKIN DISORDERS.

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INHALATION: NITRIC ACID: CORROSIVE/HIGHLY TOXIC. 100 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSURE- INHALATION OF ACIDIC SUBSTANCES MAY CAUSE SEVERE RESPIRATORY IRRITATION WITH COUGHING, CHOKING, AND POSSIBLY YELLOWISH BURNS OF THE MUCOUS MEMBRANES. OTHER INITIAL SYMPTOMS MAY INCLUDE DIZZINESS, HEADACHE,	DELAYED FOR MONTHS OR EVEN YEARS. DEATH MAY RESULT WITHIN A SHORT TIME FROM ASPHYXIA, CIRCULATORY COLLAPSE OR ASPIRATION OF EVEN MINUTE AMOUNTS. LATER DEATH MAY BE DUE TO PERITONITIS, SEVERE NEPHRITIS OR PNEUMONIA. COMA AND CONVULSIONS SOMETIMES OCCUR TERMINALLY. CHRONIC EXPOSURE- DEPENDING ON THE CONCENTRATION, REPEATED INGESTION OF ACIDIC SUBSTANCES MAY RESULT IN INFLAMMATORY AND ULCERATIVE CHANGES IN THE MUCOUS MEMBRANES OF THE MOUTH AND OTHER EFFECTS AS IN ACUTE INGESTION.
MUCOUS MEMBRANES. OTHER INITIAL SYMPTOMS MAY INCLUDE DIZZINESS, HEADACHE, NAUSEA, AND WEAKNESS. PULMONARY DEDMA MAY BE IMMEDIATE IN THE MOST SEVERE EXPOSURES, BUT MORE LIKELY WILL OCCUR AFTER A LATENT PERIOD OF 5-72 HOURS. THE SYMPTOMS MAY INCLUDE TIGHTNESS IN THE CHEST, OVSPNEA, OLZZINESS, FROTHY SPUTUM, AND CYANOSIS, PHYSICAL FINDINGS MAY INCLUDE HYPOTENSION, WEAK, RAPID PULSE, MOIST RALES, AND HEMOCONCENTRATION. IN NON-FATAL CASES, COMPLETE RECOVERY MAY OCCUR WITHIN A FEW DAYS OR WEEKS OR, CONVALESCENCE MAY BE PROLONGED WITH FREQUENT RELAPSES AND CONTINUED DYSPNEA AND OTHER SIGNS AND SYMPTONS OF PULMENARY INSUFFICIENCY. IN SEVERE EXPOSURES, DEATH	REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. FIRST AID- DO NOT USE GASTRIC LAVAGE OR EMESIS. DILUTE THE ACID IMMEDIATELY BY DRINKING LARGE QUANTITIES OF WATER OR MILK. IF VOMITING PERSISTS, ADMINISTER FLUIDS REPEATEDLY. INGESTED ACID MUST BE DILUTED APPROXIMATELY 100 FOLD TO RENDER IT HARMLESS TO TISSUES. MAINTAIN AIRWAY AND TREAT SHOCK
SIGNS AND SYMPTONS OF PULMONARY INSUFFICIENCY IN SEVERE EXPOSURES, DEATH DUE TO ANOXIA MAY OCCUR WITHIN A FEW HOURS AFTER ONSET OF THE SYMPTOMS OF PULMONARY EDEMA OR FOLLOWING A RELAPSE. CHRONIC EXPOSURE- DEPENDING ON THE CONCENTRATION AND DURATION OF EXPOSURE, Repeated or prolonged Exposure to an actoic substance may cause erosion of The teeth, inflammatory and ulcerative changes in the mouth, and possibly JAW NECROSIS. BRONCHIAL IRRITATION WITH COUGH AND FREQUENT ATACKS OF BRONCHIAL PNEUMONIA MAY OCCUR. GASTROINESTINAL DISTURBANCES ARE ALSO	(OREISBACH, HANDBOOK OF POISONING, 12TH ED.), GET MEDICAL ATTENTION Immediately. If vomiting occurs, keep head below hips to help prevent Aspiration. Antidote: No specific antidote. Treat symptomatically and supportively.
POSSIBLE.	REACTIVITY REACTIVITY:
FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRATION OF OXYGEN SHOULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION IMMEDIATELY.	REACTS EXOTHERMICALLY WITH WATER. Incompatibilities: Nitric Acid: Acetic Acid: May react explosively. Acetic Acid: May react explosive reaction by friction or impact. Acetore: May react explosive reaction by friction or impact.
SKIN CONTACT: NITRIC ACID: CORROSIVE. ACUTE EXPOSURE- DIRECT CONTACT WITH LIQUID OR VAPOR MAY CAUSE SEVERE PAIN, BURNS AND POSSIBLY YELLOWISH STAINS. BURNS MAY BE DEEP WITH SHARP EDGES AND HEAL SLOWLY WITH SCAR TISSUE FORMATION. DILUTE SOLUTIONS OF NITRIC ACID MAY PRODUCE MILD IRRITATION AND HARDEN THE EPIDERMIS WITHOUT DESTROYING IT. CONCENTRATED ACID SOLUTIONS APPLIED TO OVER 25% OF THE SKIN AREA IN RATS PRODUCED LEVATED METHEMOGLOBIN AND BLOOD NITRATE	ACETONITRILE: EXPLOSIVE MIXTURE. 4-ACEIOXY-3-METHOXYBENZALDEHYDE: EXOTHERMIC REACTION. ACROLEIN: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ACRYLONITRILE: EXPLOSIVE REACTION AT 90 C. ACRYLONITRILE-METHACRYLATE COPOLYMER: INCOMPATIBLE. ALCOHOLS: POSSIBLE VIOLENT REACTION OR EXPLOSION; FORMATION OF EXPLOSIVE COMPOUND IN THE PRESENCE OF HEAVY METALS. ALKANETHIOLS: EXOTHERMIC REACTION WITTH POSSIBLE IGNITION. 2-ALKOXY-1,3-DITHIA-2-PHOSPHOLANE: IGNITION REACTION.
LEVELS. CHRONIC EXPOSURE - EFFECTS DEPEND ON THE CONCENTRATION AND DURATION OF EXPOSURE. REPEATED OR PROLONGED CONTACT WITH ACIDIC SUBSTANCES MAY RESULT IN DERMATITIS OR EFFECTS SIMILAR TO ACUTE EXPOSURE.	ALLYL ALCOHOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. Allyl Chloride: Temperature and pressure increase in closed container. Amines (Allphantic or Aromatic): Possible Ignition Reaction. 2-Aminoethanol: Temperature and pressure increase in closed container.
IN DERMAITTIS OR EFFECTS SIMILAR TO ALDIE EXPOSURE. FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF CHEMICAL BURNS, COVER AREA WITH STERILE, DRY DRESSING. BANDAGE SECURELY, BUT NOT TOO TIGHTLY. GET MEDICAL ATENTION IMMEDIATELY.	2-AMINOTHIAZOLE: EXPLOSIVE REACTION. AMMONIA (GAS): BURNS IN AN ATMOSPHERE OF NITRIC ACID VAPOR. AMMONIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM NITRATE: FORMS EXPLOSIVE MIXTURE. ANILINE: IGNITES ON CONTACT. ANILINE: IGNITES ON CONTACT. ANILINE: ATTATE: FORMS EXPLOSIVE SOLUTION. ANION EXCHANGE RESINS: POSSIBLE VIOLENT EXOTHERMIC REACTION.
EYE CONTACT: Nitric Acid: Corrosive.	ANTIMONY: VIOLENT REACTION. ARSINE: EXPLOSIVE REACTION. ARSINE-BORON TRIBROMIDE: VIOLENT OXIDATION. BASES: REACTS.
ACUTE EXPOSURE - DIRECT CONTACT WITH ACIDIC SUBSTANCES MAY CAUSE PAIN AND LACRIMATION, PHOTOPHOBIA, AND BURNS, POSSIBLY SEVERE. THE DEGREE OF INJURY DEPENDS ON THE CONCENTRATION AND DURATION OF CONTACT. IN MILD BURNS, THE EPITHELIUM REGENERATES RAPIDLY AND THE EVE RECOVERS COMPLETELY. IN SEVERE CASES, THE EXTENT OF INJURY MAY NOT BE FULLY APPARENT FOR SEVERAL WEEKS. ULTIMATELY, THE WHOLE CORNEA MAY BECOME DEEPLY VASCULARIZED AND OPAQUE RESULTING IN BLINDNESS. IN THE WORST CASES, THE EVE MAY BE TOTALLY DESTROYED. CONCENTRATED NITRIC ACID MAY IMPART A YELLOW COLOR TO THE EYE UPON CONTACT. CHRONIC EXPOSURE - EFFECTS DEPEND ON THE CONCENTRATION AND DURATION OF EXPOSURE. REPEATED ON PROLONGED EXPOSURE TO ACIDIC SUBSTANCES MAY CAUSE CONJUNCTIVITIS ON EFFECTS AS IN ACUTE EXPOSURE.	BENZENE: EXPLOSIVE REACTION. BENZIDINE: SPONTANEOUS IGNITION. BENZONITRILE: POSSIBLE EXPLOSION. BENZOTHIOPHENE DERIVATIVES: FORMATION OF POSSIBLY EXPLOSIVE COMPOUNDS. N-BENZVI-N-ETHYLANILINE: VIGOROUS DECOMPOSITION. 1,4-BIS(METHOXYMETHYL)2,3,5,6-TETRAMETHYLBENZENE: GAS EVOLUTION. BISMUTH: INTENSE EXOTHERMIC REACTION OR EXPLOSION. 1,3-BIS(TRIFLUOROMETHYL)BENZENE: POSSIBLE EXPLOSION. BORON: VIOLENT REACTION WITH INCANDESCENCE. BORON PHOSPHIDE: EGNITION REACTION. BORON PHOSPHIDE: IGNITION REACTION.
FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). CONTINUE IRRIGATING WITH NORMAL SALINE UNTIL THE PH HAS RETURNED TO NORMAL (30-60 MINUTES). COVER WITH STERILE BANDAGES. GET MEDICAL ATTENTION IMMEDIATELY.	N-BUTYL MERCAPTAN: IGNITION REACTION N-BUTYRALDEHYDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. Cadmium Phosphide: Explosive reaction. Calcium Hypophosphite: Ignition reaction. Carbon (Pulverized): Violent Reaction. Cellulose: Forms Easily Combustible Ester. Chuorates: Reacts.
INGESTION: NITRIC ACID: Corrosive/Toxic.	CHLORINE: INCOMPATIBLE. Chlorine Trifluoride: Violent Reaction. Chlorobenzeme: Possible Explosion.
ACUTE EXPOSURE - ACIDIC SUBSTANCES MAY CAUSE CIRCUMORAL BURNS WITH YELLOW DISCOLORATION AND CORROSION OF THE MUCOUS MEMBRANES OF THE MOUTH, THROAT AND ESOPHAGUS. THERE MAY BE IMMEDIATE PAIN AND DIFFICULTY OR INABILITY TO SWALLOW OR SPEAK. EPIGLOITAL EDEMA MAY RESULT IN RESPIRATORY DISTRESS AND POSSIBLY ASPHYXIA. MARKED THIRST, EPIGASTRIC PAIN, NAUSEA, VOMITING AND DIARRHEA MAY OCCUR. DEPENDING ON THE DEGREE OF ESPOHAGEAL AND GASTRIC CORROSION, THE VOMITUS MAY CONTAIN FRESH OR DARK PRECIPITATED BLOOD AND LARGE SHREDS OF MUCOSA. SHOCK WITH MARKED HYPOTENSION, WEAK, RAPID PULSE,	4-CHLORO-2-MITROANILINE: FORMS EXPLOSIVE COMPOUND. CHLOROSULFONIC ACID: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. COAL: EXPLOSIVE MIXTURE. COATINGS: MAY BE ATTACKED. CRESOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CROTONALDEHYDE: VIOLENT DECOMPOSITION WITH IGNITION. CUMPRE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CUMPRE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CUMPRE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER.
LARGE SHREDS OF MUCUSA. SHOCK WITH MARKED HYDTENSION, WEAK, RAPID PULSE, SHALLOW RESPIRATION, AND CLAMMY SKIN MAY OCCUR. CIRCULATORY COLLAPSE MAY ENSUE AND IF UNCORRECTED, LEAD TO RENAL FAILURE. IN SEVERE CASES, GASTRIC, AND TO A LESSER DEGREE, ESOPHAGEAL PERFORATION AND SUBSEQUENT PERITONITIS MAY OCCUR AND BE ACCOMPANIED BY FEVER AND ABDOMINAL RIGIDITY. ESOPHAGEAL, GASTRIC ANC PYLORIC STRICTURE MAY OCCUR WITHIN A FEW WEEKS, BUT MAY BE	CUPRIC NITRIDE: EXPLOSIVE REACTION. CUPROUS NITRIDE: VIOLENT REACTION. CYANATES: POSSIBLE EXPLOSIVE REACTION. CYCLOHEXANONE: VIOLENT REACTION. CYCLOHEXYLANINE: FORMS EXPLOSIVE COMPOUND. CYCLOPENTADIENE: EXPLOSIVE REACTION.

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PAGE: 7 PAGE: 8 ACCT: 146965-01 DATE: 05/28/92 INDEX: 02921490654 DATE 05/28/92 ACCT: 146965-01 CAT NO . 4509-212 PO NBR: 627 INDEX: 02921490654 CAT NO: A509-212 PO NBR: 627 DECOMPOSITION : **RESPIRATOR:** THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF NITROGEN. RESPIRATOR: THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF POLYMERIZATION: LABOR, 29 CFR 1910 SUBPART Z. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA). HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES. STORAGE AND DISPOSAL OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE, FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE NITRIC ACID: ENVIRONMENTAL PROTECTION AGENCY. 50 PPM- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS-FLOW MODE. 100 PPM- ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE. ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE. Any AIR-PURIFYING, FULL-FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE, FRONT- OR BACK-MOUNTED CANISTER PROVIDING PROTECTION AGAINST NITRIC ACID * ANY CHEMICAL CARTAIDGE RESPIRATOR WITH A FULL FACEPIECE AND CHEMICAL CARTAIDGE RESPIRATOR WITH A FULL FACEPIECE AND **STORAGE** PROTECT AGAINST PHYSICAL DAMAGE. SEPARATE FROM METALLIC POWDERS, CARBIDES, Hydrogen Sulfide, Turpentine, organic Acios, and All Combustible, organic or other readily oxidizable materials. Provide Good Ventilation and Avoid Direct Sunlight (NFPA 49, Hazardous Chemicals Data, 1975). CARTRIDGE(S) PROVIDING PROTECTION AGAINST NITRIC ACID. + ESCAPE- ANY AIR-PURIFYING, FULL-FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE, FRONT- OR BACK-MOUNTED CANISTER PROVIDING PROTECTION Against Nitric Acid.* STORE AWAY FROM INCOMPATIBLE SUBSTANCES. THRESHOLD PLANNING QUANTITY (TPO): THRESHOLD PLANNING QUANTITY (TPQ): THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 302 REQUIRES THAT EACH FACILITY WHERE ANY EXTREMELY HAZARDOUS SUBSTANCE IS PRESENT IN A QUANTITY EQUAL TO OR GREATER THAN THE TPQ ESTABLISHED FOR THAT SUBSTANCE NOTIFY THE STATE EMERGENCY RESPONSE COMMISSION FOR THE STATE IN WHICH IT IS LOCATED. SECTION 303 OF SARA REQUIRES THESE FACILITIES TO PARTICIPATE IN LOCAL EMERGENCY RESPONSE PLANNING (40 CFR 355.30). ANY APPROPRIATE ESCAPE-TYPE, SELF-CONTAINED BREATHING APPARATUS. * ONLY NONOXIDIZABLE SQRBENTS ARE ALLOWED (NOT CHARCOAL). FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS: ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS **DISPOSAL** OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262. EPA HAZARDOUS WASTE NUMBER DOO2. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY. ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A T SUFFLIED-AIN RESTRATOR INAL TAS A FULL FALEFILE AND IS OFFALLD IN A PRESSURE DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE. CONDITIONS TO AVOID CLOTHING: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT ANY POSSIBILITY OF SKIN CONTACT WITH THIS SUBSTANCE. MAY IGNITE OTHER COMBUSTIBLE MATERIALS (WOOD, PAPER, OIL, ETC.). REACTS VIOLENTLY WITH WATER AND FUELS. FLAMMABLE, POISONOUS GASES MAY ACCUMULATE IN TANKS AND HOPPER CARS. RUNOFF TO SEWER MAY CREATE FIRE OR EXPLOSION HAZARD. EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS CONSULT NEPA PUBLICATION 43A, STORAGE OF LIQUID AND SOLID OXIDIZING MATERIALS. SUBSTANCE. FOR STORAGE REQUIREMENTS. EYE PROTECTION: Employee Must Wear Splash-proof or Dust-Resistant Safety Goggles and a Faceshield to prevent contact with this substance. SPILL AND LEAK PROCEDURES SOIL SPILL: DIG A HOLDING AREA SUCH AS A PIT, POND OR LAGOON TO CONTAIN SPILL AND DIKE SURFACE FLOW USING BARRIER OF SOIL, SANDBAGS, FOAMED POLYURETHANE OR FOAMED CONCRETE. ABSORB LIQUID MASS WITH FLY ASH OR CEMENT POWDER. EMERGENCY WASH FACILITIES: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE. NEUTRALIZE SPILL WITH SLAKED LIME. SODIUM BICARBONATE OR CRUSHED LIMESTONE. AUTHORIZED - FISHER SCIENTIFIC, INC. TON DATE: 12/04/84 REVISION DATE: 02/25/92 CREATION DATE: 12/04/84

-ADDITIONAL INFORMATION-

-ADDITIONAL INFORMATION-THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.

AIR SPILL: Apply water spray to knock down and reduce vapors. Knock-down water is CORROSIVE AND TOXIC AND SHOULD BE DIKED FOR CONTAINMENT AND LATER DISPOSAL.

WATER SPILL: ADD SUITABLE AGENT TO NEUTRALIZE SPILLED MATERIAL TO PH-7.

OCCUPATIONAL SPILL:

OCCUPATIONAL SPILL: KEEP COMBUSTIBLES (WOOD, PAPER, OIL, ETC.) AWAY FROM SPILLED MATERIAL. DO NOT TOUCH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. DO NOT GET WATER INSIDE CONTAINER. FOR SMALL SPILLS, FLUSH AREA WITH FLOODING AMOUNTS OF WATER. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY. VENTILATE CLOSED SPACES BEFORE ENTERING.

REPORTABLE QUANTITY (RQ): 1000 POUNDS THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).

PROTECTIVE EQUIPMENT

VENTILATION: PROCESS ENCLOSURE RECOMMENDED TO MEET PUBLISHED EXPOSURE LIMITS.

PAGE: 1 PAGE: 2 DATE: 07/25/92 INDEX: 02522060518 ACCT: 146965-01 DATE 07/25/92 ACCT : 146965-01 CAT NO: A507-500 PO NBR: 1217 AIR INDEX: 02922060518 CAT NO: A507-500 PO NBR: 1217 AIR *ACETICACID ACETICACID GLACIAL** *ACETICACID GLACIAL** FIRE AND EXPLOSION HAZARD: MODERATE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME. MATERIAL SAFETY DATA SHEET VAPOR-AIR MIXTURES ARE EXPLOSIVE ABOVE FLASH POINT. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE FISHER SCIENTIFIC EMERGENCY NUMBER: (201) 796-7100 OF IGNITION AND FLASH BACK. CHEMICAL DIVISION 1 REAGENT LANE FAIR LAWN NJ 07410 (201) 796-7100 CHEMTREC ASSISTANCE: (800) 424-9300 FLASH POINT: 103 F (39 C) (CC) UPPER EXPLOSIVE LIMIT: 16.0% @ 92 C LOWER EXPLOSIVE LIMIT: 4.0% @ 59 C AUTOIGNITION TEMP.: 867 F (464 C) THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATI. N. AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATIO-4 FOR "MEIR PARTICULAR PURPOSES. FLAMMABILITY CLASS(OSHA) + IT FIREFIGHTING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5). FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5). ------SUBSTANCE IDENTIFICATION ALCOHOL FOAM (NFPA 325M, FIRE HAZARD PROPERTIES OF FLAMMABLE LIQUIDS, GASES, AND VOLATILE CAS-NUMBER 64-19-7 SUBSTANCE: **ACETIC ACID. GLACIAL** SOLIDS, 1991). TRADE NAMES/SYNONYMS: FIREFIGHTING: RADE NAMES/SYNONYMS: ACUYIC ACID; GLACIAL ACETIC ACID; ETHANOIC ACID; VINEGAR ACID; ETHYLIC ACID; PYP7LIGNEUS ACID; METHANECARBOXYLIC ACID; ACETIC ACID, HPLC GRADE; ST.C. 4931303; UN 2789; A37; A38; A38C; A38P; A38SI; A38S; A507; A465; A35; A38FP; BP1185; C2H402; FIREFIGHTING: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. DO NOT GET WATER INSIDE CONTAINER, APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE, ISOLATE FOR 1/2 MILE IN ALL DIRECTIONS IF TANK, RAIL CAR OR TANK TRUCK IS INVOLVED IN FIRE (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800,5, GUIDE PAGE 29). ACC00120 CHEMICAL FAMILY: CARBCXYLIC ACID, ALIPHATIC USE FLOODING AMOUNTS OF WATER AS A FOG; SOLID STREAMS MAY BE INEFFECTIVE. Cool containers with flooding amounts of water from as far a distance as Possible. Use water spray to absorb corrosive vapors. Avoid breathing Corrosive vapors; keep upwind. MOLECULAR FORMULA: C-H3-C-02-H MOLECULAR WEIGHT: 60.05 CERCLA PATINGS (SCALE 0-3): HEALTH=2 FIRE=2 REACTIVITY=0 PERSISTENCE=0 FIRE FIGHTING PHASES: USE WATER SPRAY, DRY CHEMICAL, ALCOHOL FOAM, OR CARBON DIOXIDE. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL. IF A LEAK OR SPILL HAS NOT IGNITED, USE WATER SPRAY TO DISPERSE THE VAPORS AND TO PROTECT THE MEM ATTEMPTING TO STOP A LEAK. WATER SPRAY MAY BE USED TO FLUSH SPILLS AWAY FROM EXPOSURES AND TO DILUTE SPILLS TO NONFLAMMABLE MIXTURES (NFPA 49, HAZARDOUS CHEMICALS DATA 1975) NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=2 REACTIVITY=0 COMPONENTS AND CONTAKINANTS COMPONENT: ACETIC ACID PERCENT: 80.0-100.0 CHEMICALS DATA, 1975). CAS# 64-19-7 COMPONENT: WATER PERCENT: 0-20.0 TRANSPORTATION DATA OTHER CONTAMINANTS: NONE DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49-CFR 172.101: CORROSIVE MATERIAL EXPOSURE LIMITS: ACETIC ACID, GLACIAL: 10 PPM (25 MG/M3) OSHA TWA 10 PPM (25 MG/M3) ACGIH TWA; 15 PPM (37 MG/M3) ACGIH STEL 10 PPM (25 MG/M3) NIOSH RECOMMENDED TWA; 15 PPM (37 MG/M3) NIOSH STEL DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49-CFR 172.101 AND SUBPART E: CORROSIVE 10 PPM (25 MG/M3) DFG MAK TWA; DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49-CFR 173.245 20 PPM (50 MG/M3) DFG MAK 5 MINUTE PEAK, MOMENTARY VALUE, 8 TIMES/SHIFT EXCEPTIONS: 49-CFR 173,244 MEASURENENT METHOD: CHARCOAL TUBE; FORMIC ACID; GAS CHROMATOGRAPHY WITH FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), FLAME ICHIZATION DETECTION; (NIOSH VOL. III # 1603). DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181C, HM-181D AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90) 5000 POUNDS CERCLA SECTION 103 REPORTABLE QUANTITY EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 09/18/91) PHYSICAL DATA DESCRIPTION: CLEAR, COLORLESS LIQUID WITH A STRONG, PUNGENT, CHARACTERISTIC U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: ODOR OF VINEGAR AND WHEN WELL DILUTED WITH WATER, AN ACID TASTE. ACETIC ACID. GLACIAL-UN 2789 BOILING POINT: 244 F (118 C) MELTING POINT: 62 F (17 C) U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 8 - CORROSIVE MATERIAL SPECIFIC GRAVITY: 1,0492 VAPOR PRESSURE: 11.8 MMHG @ 20 C U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172,101: EVAPORATION RATE: (BUTYL ACETATE=1) 0.97 PH: 2.4 (1.0 M SOL.) PGIT SOLUBILITY IN WATER: VERY SOLUBLE ODOR THRESHOLD: 1.0 PPM U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: CORROSIVE VAPOR DENSITY: 2.07 SOLVENT SOLUBILITY: SOLUBLE IN ETHANOL, GLYCEROL, ETHER, ACETONE, BENZENE, CARBON TETRACHLORIDE; INSOLUBLE IN CARBON DISULFIDE, CHLOROFORM, DIMETHYL U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: EXCEPTIONS: 49 CFR 173.154 NON-BULK PACKAGING: 49 CFR 173.202 BULK PACKAGING: 49 CFR 173.242 SULFOXIDE VISCOSITY: 1.22 CPS @ 20 C U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 1 L CARGO AIRCRAFT ONLY: 30 L FIRE AND EXPLOSION DATA

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TOXICITY CETIC ACID, GLACIAL: RRITATION DATA: 50 MG/24 HOURS SKIN-HUMAN MILD: 525 MG OPEN SKIN-RABBIT SEVERE: 50 MG/24 HOURS SKIN-RABBIT MILD: 20 MG/24 HOURS SKIN-RABBIT MODERATE: 50 UG OPEN EYE-RABBIT SEVERE: 5 MG/30 SECONDS RINSED EYE-RABBIT MILD. OXICITY DATA: 816 PPM/3 MINUTES INHALATION-HUMAN TCLO: 16,000 PPM/4 HOURS INHALATION-RAT LCLO: 5620 PPM/1 HOUR INHALATION-MOUSE LC50: 1060 MG/KG SKIN-RABBIT LD50: 1470 UG/KG ORAL-HUMAN TDLO: 3310 MG/KG ORAL-RAT LD50; GOO MG/KG ORAL-RABBIT LDLO: 600 MG/KG SUBCUTANEOUS-RABBIT LDLO: 525 MG/KG INTRAVENOUS-MOUSE LD50; GOO MG/KG RECIAL-RABBIT LDLO: 308 MG/KG	ACUTE EXPOSURE- IN CASES OF ACCIDENTAL INGESTION, SEVERE ULCERONECROTIC LESIONS OF THE UPPER DIGESTIVE TRACT, STRICTURE OF THE ESOPHAGUS, AND PERFORATION OF THE ESOPHAGUS AND PYLORUS HAVE BEEN OBSERVED WITH HEMATEMESIS, DIARRHEA, SHOCK, HEMOGLOBINURIA FOLLOWED BY ANURIA AND UREMIA. OTHER SYMPTOMS MAY INCLUDE VOMITING, ABDOMINAL SPASMS, THIRST, DIFFICULTY IN SWALLOWING, HYPOTHERMIA, RAPID AND WEAK PULSE, SLOW AND SHALLOW BREATHING, LARYNGITIS, BRONCHITIS, PULMONARY EDEMA, PNEUMONIA, HEMOLYSIS, ALBUMINURIA, HEMATURIA, TWITCHING, CONVULSIONS, CARDIOVASCULAR COLLAPSE, SHOCK AND DEATH. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. CHRONIC EXPOSURE- NO DATA AVAILABLE. FIRST AID- DO NOT USE GASTRIC LAVAGE OR EMESIS. DILUTE THE ACID IMMEDIATELY	
UNREPORTED-MAN LDLO; MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS). ARCINGGEN STATUS: NONE. DCAL EFFECTS: CORROSIVE- INHALATION, SKIN, EYE, INGESTION. CUTE TOXICITY LEVEL: MODERATELY TOXIC BY INHALATION, DERMAL ABSORPTION, INGESTION.	BY DRINKING LARGE QUANTITIES OF WATER OR MILK. IF VOMITING PERSISTS, ADMINISTER FLUIDS REPEATEDLY. INGESTED ACID MUST BE DILUTED APPROXIMATELY 100 FOLD TO RENDER IT HARMLESS TO TISSUES. MAINTAIN AIRWAY AND TREAT SHOCK (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD BELOW HIPS TO HELP PREVENT ASPIRATION.	
RGET EFFECTS: POISONING MAY AFFECT THE LIVER, KIDNEYS, AND CARDIOVASCULAR System. Increased Risk from Exposure: Persons with a History of Respiratory, skin or eye disease.	ANTIDOTE: NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.	-
HEALTH EFFECTS AND FIRST AID	REACTIVITY REACTIVITY: STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.	
ALATION: TIC ACID, GLACIAL: 0 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH.	INCOMPATIBILITIES: Acetic Acid. Glacial:	
ROSIVE. CUTE EXPOSURE- MAY CAUSE SEVERE IRRITATION OF THE RESPIRATORY TRACT. 50 PPM OR MORE IS INTOLERABLE TO MOST PERSONS AND RESULTS IN PHARYNGEAL EDEMA AND CHRONIC BRONCHITIS. OTHER SYMPTOMS MAY INCLUDE COUGHING, DYSPNEA, SHORTNESS OF BREATH, LARYNGITIS, PULMONARY EDEMA, BRONCHOPNEUMONIA AND HYPOTENSION.	ACETALDEHYDE: VIOLENT, EXOTHERMIC POLYMERIZATION REACTION. ACETIC ANHYDRIDE + WATER: VIOLENT, EXOTHERMIC REACTION. 2-AMINOETHANOL: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. AMMONIUM NITRATE: IGNITES ON WARMING, ESPECIALLY IF CONCENTRATED. 5-AZIDOTETRAZOLE: POSSIBLE EXPLOSIVE REACTION. BASES: EXOTHERMIC REACTION.	
HIDDICKING EXPOSURE- WORKERS REPEATEDLY EXPOSED TO CONCENTRATIONS UP TO 200 PPM HAVE BEEN FOUND TO SUFFER FROM PALPEBRAL EDEMA WITH HYPERTROPHY OF THE LYMPH NODES, CHRONIC PHARYNGITIS, CHRONIC BRONCHITIS AND IN SOME CASES, ASTHMATIC BRONCHITIS AND TRACES OF EROSION OF THE TEETH. COMPLAINTS OF DIGESTIVE DISORDERS WITH PYROSIS AND CONSTIPATION HAVE ALSO BEEN REPORTED.	BROWINE PENTAFLUORIDE: FIRE AND EXPLOSION HAZARD. CARBONATES: INCOMPATIBLE. CHLORINE TRIFLUORIDE: VIOLENT, POSSIBLY EXPLOSIVE REACTION. CHLOROSULFONIC ACID: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. CHROMIC ACID: EXPLOSIVE REACTION IF NOT KEPT COLD. CHROMIUM TRIOXIDE: POSSIBLE FIRE AND EXPLOSION HAZARD.	
AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD SSURE AND ADMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSON WARM AND REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ADMINISTRATION OF OXYGEN ULD BE PERFORMED BY QUALIFIED PERSONNEL. GET MEDICAL ATTENTION BEDIATELY.	DIALLYL METHYL CARBINOL AND OZONE: EXPLOSIVE REACTION. ETHYLENE DIAMINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. ETHYLENEIMINE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. HYDROGEN PEROXIDE: EXOTHERMIC REACTION ON HEATING WITH THE PRODUCTION OF PERACETIC ACID WHICH WILL EXPLODE AT 110 C. HYDROXIDES: INCOMPATIBLE. LEAD: CORRODES.	
I CONTACT: IC ACID, GLACIAL: IOSIVE. UTE EXPOSURE- DIRECT CONTACT MAY CAUSE SEVERE IRRITATION WITH PAIN, ERYTHEMA, BLISTERS, BURNS AND SUPERFICIAL DESTRUCTION OF THE SKIN WITH SLOW HEALING. THE SKIN MAY BECOME BLACKENED, HYPERKERATOTIC AND FISSURED. READILY ABSORBED THROUGH THE SKIN. READILY ABSORBED THROUGH THE SKIN. READILY ABSORBED THROUGH THE SKIN.	METALS: ATTACKS MOST METALS, INCLUDING ZINC. NITRIC ACID: EXPLOSIVE REACTION IF NOT KEPT COLD. NITRIC ACID AND ACETONE: EXPLOSIVE REACTION (DELAYED) IN CLOSED CONTAINER. OLEUM: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. OXIDIZERS: FIRE AND EXPLOSION HAZARD. PERCHLORIC ACID: EXPLOSIVE REACTION. PERMANGANATES: EXPLOSIVE REACTION IF NOT KEPT COLD. PHOSPHATES: INCOMPATIBLE. PHOSPHORUS ISOCYANATE: VIOLENT REACTION. PHOSPHORUS TRICHLORIDE: EXPLOSIVE REACTION. POTASSIUM HYDROXIDE: VIOLENT REACTION.	
N, IRRITATION AND DERMATITIS. ID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO NCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF CHEMICAL COVER AREA WITH STERILE, DRY DRESSING, BANDAGE SECURELY, BUT NOT IGHTLY. GET MEDICAL ATTENTION IMMEDIATELY.	POIASSIUM HYDRUAIDE: VIOLENT REACTION. POTASSIUM PERMAMGANATE: POSSIBLE EXPLOSION IF INADEQUATELY COOLED. POTASSIUM TERT-BUTOXIDE: IGNITION REACTION. SODIUM HYDROXIDE: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. SODIUM PEROXIDE: EXPLOSIVE REACTION IF NOT KEPT COLD. XYLENE: MAY FORM DETONABLE MIXTURES DURING TERPHTHALIC ACID PRODUCTION, THE PRESENCE OF WATER MAY DECREASE THE HAZARD.	6
CONTACT: IC ACID, GLACIAL: 1051VE.	DECOMPOSITION: Thermal decomposition products may include toxic oxides of carbon.	
EXPOSURE - DIRECT CONTACT CAUSES SEVERE IRRITATION, LACRIMATION, NEAL EROSION, OPACIFICATION, IRITIS AND POSSIBLY LOSS OF SIGHT IN MANS. REGENERATION OF THE EPITHELIUM MAY TAKE MANY MONTHS, BUT CORNEAL STHESIA AND OPACITY WILL USUALLY BE PERMANENT. IN LESS SEVERE CASES, JUNCTIVITIS, PHOTOPHOBIA, AND HYPEREMIA, OF THE CONJUNCTIVA OCCURRED. THE	POLYMERIZATION: Hazardous Polymerization has not been reported to occur under normal Temperatures and pressures.	-
YOR AND DILUTE SOLUTIONS MAY CAUSE CONJUNCTIVAL HYPEREMIA AND SOMETIMES JURY TO THE CORNEAL EPITHELIUM. NIC EXPOSURE- DEPENDING ON THE CONCENTRATION AND DURATION OF EXPOSURE.	STORAGE AND DISPOSAL	
FECTS SIMILAR TO ACUTE EXPOSURE MAY OCCUR. AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY Ing upper and lower lids, until no evidence of chemical remains (at	OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE Environmental protection agency.	
IS-20 MINUTES). CONTINUE IRAIGATING WITH NORMAL SALINE UNTIL THE PH Returned to Normal (30-60 minutes). Cover with sterile bandages. Get Cal Attention Immediately.	**STORAGE** Protect against physical damage. Detached storage is preferred. Separate from	
STION: IC ACID, GLACIAL:	OXIDĪZING MATERIALS ĀND AVOID STORĀGE NEĀR COMBŪSTIBLE MATERIĀLS, KEEP ĀBOVE Its freezing point (62 f) to avoid rupture of Carboys and glass containers (NFPA 49, Hazardous chemicals data, 1975).	
NGESTION: CETIC ACID, GLACIAL: ORROSIVE.	ITS FREEZING POINT (62 F) TO AVOID RUPTURE OF CARBOYS AND GLASS CONTAINERS	

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BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY, WHICH May be Ignited by Electrostatic Sparks, should be stored in containers Which meet The Bonding and Grounding Guidelines Specified in NFPA 77-1983, Recommended Practice on Static Electricity. Store Away From Incompatible Substances.	VAPOR CARTRIDGE(S). ANY SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE. ANY SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE. ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH CHIN-STYLE, FRONT- OR BACK-MOUNTED ORGANIC VAPOR CANISTER. ANY POWERED AIR-PURIFYING RESPIRATOR WITH A TIGHT-FITTING FACEPIECE AND ORGANIC VAPOR CARTRIDGE(S).
STORE IN ACCORDANCE WITH 29 CFR 1910.106.	1000 PPM- ANY SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE AND IS OPERATED IN
DISPOSAL DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262. EPA HAZARDOUS WASTE NUMBER DOO2. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY.	A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE. ESCAPE- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH CHIN-STYLE, FRONT- OR BACK-MOUNTED ORGANIC CANISTER. ANY APPROPRIATE, ESCAPE-TYPE SELF-CONTAINED BREATHING APPARATUS.
DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262. EPA HAZARDOUS WASTE NUMBER DOOI.	FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS: ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS
100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY. Conditions to avoid Avoid Contact with Heat, Sparks, Flames or other ignition sources. Vapors May	OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE. ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.
BE EXPLOSIVE. MATERIAL IS CORROSIVE; AVOID CONTACT WITH SKIN OR EYES. DO NOT Allow Contamination of Water Sources. USUAL Shipping Containers: Glass and Polyethylene Carboys and Polyethylene-lined drums, tank barges	CLOTHING: EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT ANY POSSIBILITY OF SKIN CONTACT WITH THIS SUBSTANCE.
(NFPA 49, HAZARDOUS CHEMICALS DATA, 1975). ************************************	GLOVES: Employee must wear appropriate protective gloves to prevent contact with this Substance.
SOIL SPILL: Dig a holding area such as a pit, pond or lagoon to contain spill and dike surface flow using barrier of soil, sandbags, foamed polyurethane or foamed concrete. Absorb liquid mass with fly ash or cement powder.	EYE PROTECTION: Employee must wear splash-proof or dust-resistant safety goggles and a Faceshield to prevent contact with this substance.
NEUTRALIZE WITH CAUSTIC SODA (NAOH) OR SOOA ASH (NA2CO3)	EMERGENCY WASH FACILITIES: Where there is any possibility that an employee's eyes and/or skin may be Exposed to this substance, the employer should provide an eye wash fountain
AIR SPILL: Knock down vapors with water spray. Keep upwind.	AND QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.
WATER USED TO KNOCK DOWN VAPORS MAY BECOME CORROSIVE OR TOXIC AND SHOULD BE Contained Properly for later disposal.	AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 09/06/84 REVISION DATE: 06/23/92
WATER SPILL: NEUTRALIZE WITH CAUSTIC SODA.	-ADDITIONAL INFORMATION- THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURPENTLY AVAILABLE TO US UNWEYED WE MARKE NO MARRANTY OF
OCCUPATIONAL SPILL: SHUT OFF IGNITION SOURCES. DO NOT TOUCH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. DO NOT GET WATER INSIDE CONTAINER. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING, FLAMES OR FLARES IN HAZARD AREA. KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND DENY ENTRY.	INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS Should make their own investigations to determine the suitability of the Information for their particular purposes.
REPORTABLE QUANTITY (RQ): 5000 POUNDS THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6).	
PROTECTIVE EQUIPMENT	
VENTILATION: Provide local exhaust ventilation to meet published exposure limits. Ventilation equipment must be explosion-proof.	
RESPIRATOR: THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1910 SUBPART Z. THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE. MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND	
IN THE WORK PLACE, MUST NOT EXCLED THE WORKING LIMITS OF THE RESPIRATOR AND Be jointly approved by the national institute for occupational safety and Health and the mine safety and health administration (NIOSH-MSHA).	
ACETIC ACID, GLACIAL: 250 PPM- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN CONTINUOUS FLOW MODE. Any powered AIR-purifying respirator with organic vapor Cartigge(S).	
500 PPM- ANY CHEMICAL CARTRIDGE RESPIRATOR WITH FULL FACEPIECE AND ORGANIC	

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SODIUM HYDROXIDE SOLUTIONS, 10N AND CO2 ABSORPTION **SODIUM HYDROXIDE SOLUTIONS, 10N AND CO2 ABSORPTION** **SODIUM HYDROXIDE, SOLUTIONS, 10N AND CO2 ABSORPTION**	Use egent suitable for type of fire; use flooding quantities of water as fog, apply from as far a distance as possible. Avoid breathing corrosive vapors, keep upwind.	
MATERIAL SAFETY DATA SHEET FISHER SCIENTIFIC EMERGENCY NUMBER: (201) 798-7100 CHEMICAL DIVISION CHEMTREC ASSISTANCE: (800) 424-9300 1 REAGENT LANE FAIR LAWN NJ 07410 (201) 796-7100 THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.	TRANSPORTATION DATA U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: Sodium hydroxide, solutions-UN 1824 U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 8 - Corrosive material U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG II	
SUBSTANCE IDENTIFICATION CAS-NUMBER 1310-73-2 SUBSTANCE: **SODIUM HYDROXIDE, SOLUTIONS, 10N AND CO2 ABSORPTION**	U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: Corrosive U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: EXCEPTIONS: 49 CFR 173.154 NON-BULK PACKAGING: 49 CFR 173.202 BULK PACKAGING: 49 CFR 173.242 U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 1 L CARGO AIRCRAFT ONLY: 30 L	6
TRADE NAMES/SYNONYMS: CAUSTIC SODA SOLUTION: LYE SOLUTION: SODA LYE: SODIUM HYDROXIDE SOLUTION; SODIUM HYDROXIDE LIQUID; WHITE CAUSTIC SOLUTION: SS255; SS267; UN 1824; ACC40175 CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=0 REACTIVITY=1 PERSISTENCE=0 NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=1 COMPONENTS AND CONTAMINANTS COMPONENT: SODIUM HYDROXIDE PERCENT: 26.7-30.8 CAS# 1310-73-2 PERCENT: 69.4-73.3 OTHER CONTAMINANTS: NONE EXPOSURE LIMITS: SODIUM HYDROXIDE: 2 mg/m3 OSHA ceiling 2 mg/m3 NOSH ceiling 2 mg/m3 NOSH recommended ceiling 2 mg/m3 NOSH recommended ceiling 2 mg/m3 NOSH recommended ceiling	CARGO AIRCRAFT ONLY: 30 L TOXICITY SODIUM HYDROXIDE: IRRITATION DATA: 500 mg/24 hours skin-rebbit severe; 1% eye-rebbit severe; 50 ug/24 hours eye-rebbit severe; 1 mg/24 hours eye-rebbit severe; 400 ug eye-rebbit mild; 1 mg/30 seconds rinsed eye-rebbit severe; 1%/24 hours eye-monkey severe. TOXICITY DATA: 1350 mg/kg skin-rebbit LD50 (Ven Waters & Rogers Inc. MSDS); 500 mg/kg orei-rebbit LD50; 104-340 mg/kg orei-ret LD50 (Ven Waters & Rogers inc. MSDS); 40 mg/kg intraperitoneal-mouse LD50; mutagenic data (RTECS). CARCINOGEN STATUS: None. LOCAL EFFECTS: Corrosive- Inhelation, skin, eye, ingestion. ACUTE TOXICITY LEVEL: Toxic by ingestion; moderately toxic by dermel absorption. TARGET EFFECTS: No data evallable. AT INCREASED RISK FROM EXPOSURE: Persons with pre-existing skin and eye conditions.	
Magana Dro MAX 5 minute peak, momentary value, 6 times/shift Measurement method: Particulate filter; hydrochloric acid; titration; (NIOSH Vol. III # 7401, Alkaline Dusts). 1000 pounds CERCLA Section 103 Reportable Quantity **OSHA revoked the final rule limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338)** PHYSICAL DATA DESCRIPTION: Clear liquid. BOILING POINT: 234 F (112 C) MELTING POINT: 5 F (-15 C) SPECIFIC GRAVITY: 1.3 PH: alkaline SOLUBILITY IN WATER: complete FIRE AND EXPLOSION DATA FIRE AND EXPLOSION DATA	HEALTH EFFECTS AND FIRST AID INHALATION: SODIUM HYDROXIDE: CORROSIVE.250 mg/m3 immediately Dangerous to Life or Health. ACUTE EXPOSURE- Effects due to inhelation of dusts or mist may vary from milid irritation of the nose at 2 mg/m3 to severe pneumonitis depending on the severity of exposure. Low concentrations may cause mucous membrane irritation with sore throat, coughing, and dyspnea. Intense exposures may result in destruction of mucous membranes and delayed pulmonary edema or pneumonitis. Shock may occur. CHRONIC EXPOSURE- Prolonged exposures to high concentrations of dusts or mists may cause disconflort and ulceration of the nasal passages. Repeated exposures of 5000 mg/L were hermiess to rats, but 10,000 mg/L led to nervousness, sore eyes, diarnhea and retarded growth. Rats exposed 30 minutes/day to unneasured concentrations of sodium hydroxide aerosols suffered pulmonary demage after 2-3 months. Death occurred in 2 of 10 rats exposed to an aerosol of 40% autoous dolum hydroxide for 30 minutes, twice a week for 3 weeks. Histopathological examination showed mostly normal lung lissue with foci of enlarged alveolar septae. emphysema, bronchial ulceration, and enlarged lymph adenoidal tissues. An epidemiologic study of 291 workers chronically exposed to caustic dusts for 30 years or more found no significant increase in mortality in reistion to duration or intensity of such exposures.	
Negligible fire hazerd when exposed to heat or flame. FIREFIGHTING MEDIA: Dry chemical, carbon dioxide, water spray or regular foam (1993 Emergency Response Guidebook, RSPA P 5800.8). For larger lires, use water spray, fog or regular foam (1993 Emergency Response Guidebook, RSPA P 5800.8). FIREFIGHTING: Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks (1993 Emergency Response Guidebook, RSPA P 5800.8, Guide Page 60).	FIRST AID- Remove from exposure area to fresh eir immediately. Perform artificiat respiration if necessary. Maintain eirway, blood pressure and respiration. Keep warm and at rest. Treat symptomatically and supportively. Get medical attention immediately. Qualified medical personnel should consider administering oxygen. SKIN CONTACT: SODIUM HYDROXIDE: CORROSIVE. ACUTE EXPOSURE- Upon contact with the skin, damage including redness, cutaneous burns, skin fissures and white eschars may occur without immediate pein. Exposure to solutions as weak as 0.03 N (0.12%) for 1 hour has caused Injury to healthy skin. With solutions of 0.4-4%, irritation does not occur until after several hours. Solutions of 25-50% caused no sensation of irritation within 3 minutes in human subjects. Skin biopsies from human subjects having 1 N sodium hydroxide applied to	

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their arms for 15 to 180 minutes showed progressive changes beginning	ALLYL ALCOHOL + BENZENE SULFONYL CHLORIDE: Possible explosion hazard
with dissolution of the cells in the horry layer and progressing through edema to total destruction of the epidermis in 60 minutes.	ALLYL ALCOHOL + BENZENE SULFONYL CHLORIDE: Possible explosion hazard. ALLYL CHLORIDE: Hydrolyzes. ALUMINUM: Vigorous reaction.
A 5% aqueous solution caused severe necrosis to the skin of rabbits when applied for 4 hours. Alkalies penetrate the skin slowly. The extent	ALUNINUM, ARSENIC TRIOXIDE, SODIUM ARSENATE: May generate flammable hydrogen
of injury depends on the duration of contact. If sodium hydroxide is not removed from the skin, severe burns with deep ulceration may occur.	AMMONIA + SILVER NITRATE: Precipitation of explosive silver nitride may occur.
Exposure to the dust or mist may cause multiple small burns and temporary	AMMONIUM SALTS: May react violently evolving ammonia gas.
loss of heir. Pathologic findings due to alkalies may include gelatinous, necrotic areas at the site of contact.	N,N-ENS(TRINITROETHYL)UREA: Formation of explosive compound.
CHRONIC EXPOSURE- Effects are dependent upon concentration and duration of exposure. Dermatitis or effects similar to those for acute exposure	CHLORINE TRIFLUORIDE: May cause violent reaction.
may occur.	OCCUF. AMMONIUM SALTS: May react violently evolving ammonia gas. BENZENE-1.4-DIOL: Exothermic reaction. N.N'-BIS(TRINITROETHYL)UREA: Formation of explosive compound. BROMINE: Possible explosion if not stirred continously. CHLORINE TRIFLUORIDE: May cause violent reaction. CHLOROFORM + METHYL ALCOHOL: Exothermic reaction. CHLOROFORM + METHYL ALCOHOL: Exothermic reaction. CHLOROHYDRIN: Mixing in a closed container causes an increase in temperature
FIRST AID- Remove contaminated clothing and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). If burns occur, proceed with the following: Cover affected area securely with sterile, dry, loose-fitting determine Trave affected area securely with sterile, dry, loose-fitting	and pressure. 4-CHLORO-2-METHYLPHENOL: Possible ignition. CHLORONITROTOLUENES: Possible explosion. CHLOROPICRIN: May cause violent reaction.
following: Cover affected area securely with sterile, dry, loose-fitting	CHLOROPICRIN: May cause violent reaction.
dressing. Treat symptomatically and supportively. Get medical attention immediately.	CHLOROSULFONIC ACID: Mixing in a closed container causes an increase in temperature and pressure. CINNAMALDEHYDE: Exothermic reaction.
EYE CONTACT:	CONTINGS: May be attacked. COATINGS: May be attacked. COPPER: Solutions may slowly corrode. CYANOGEN AZIDE: May form sodium 5-azidotetrazolide, which is explosive if
SODIUM HYDROXIDE: CORROSIVE	CYANOGEN AZIDE: May form sodium 5-azidotetrazolida, which is explosive if
ACUTE EXPOSURE- Contact may cause disintegration and sloughing of conjunctival and corneal epithelium, corneal opacification, marked edema	Isolated. 2,2-DICHLORO-3,3-DIMETHYLBUTANE: Hazardous reaction. 1,2-DICHLOROETHYLENE: May form separate soundly filmmable monophilorosectulose
conjunctival and corneal epithelium, corneal opacification, marked edema and ulceration. After 7 to 13 days either gradual recovery begins or there is progression of ulceration and corneal opacification. Complications of severe eye burns are symblepharon with ovargrowth of the cornea by a	2,2-DICHLORO-3,3-DIMETHYLBUTANE: Hazardous reaction. 1,2-DICHLOROETHYLENE: May form spontaneously flammable monochloroacetylene. DIBORANE AND OCTANAL OXIME: Exothermic reaction. ETHYLENE CYANOHYDRIN: Mixing in a closed container causes an increase in
severe eye burns are symblepharon with overgrowth of the corneal by a vascularized membrane, progressive or recurrent corneal ulceration and	EINTLENE UTANVOLUTIONINE MIXING IN A CLOSED CONTAINER CAUSES AN INCREASE IN temperature and pressure. ELA MARADE E TOULINE, Elas and exclanate terrat
vascularized membrane, progressive or recurrent corneal ulceration and permanent corneal opecification. Blindness may occur. CHRONIC EXPOSURE- Effects are, dependent upon concentration and duration	ELECTRANOPTIONIS: Mixing in a closed container causes an increase in temperature and pressure. FLAMMABLE LIQUIDS: Fire and explosion hazard. GLYCOLS: May cause exothermic decomposition with evolution of hydrogen gas. GLYOXAL: Mixing in a closed container increases temperature and pressure. HALOGENATED HYDROCARBONS: Violent reaction.
of exposure. Conjunctivitis or effects similar to those for acute exposure may occur.	HALOGENATED HYDROCARBONS: Violent reaction.
FIRST AID- Wash eyes immediately with large emounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (at	HYDROCHLORIC ACID: Mixing in a closed container causes an increase in temperature and pressure. HYDROFLUORIC ACID: Mixing in a closed container causes an increase in
least 15-70 minutes) ("Antinue (rigating with normal saling until the DM	temperature and pressure.
has returned to normal (30-80 minutes). Cover with sterile bandages. Get medical attention immediately.	HYDROQUINONE: Rapid decomposition of hydroquinone with evolution of heat. IRON: Solutions may slowly corrode.
INGESTION:	LEAD: May be attacked; flammable hydrogen gas may be liberated. LEATHER: May be attacked.
SODIUM HYDROXIDE: CORROSIVE/TOXIC.	MALEIC ANHYDRIDE: Explosive decomposition. METALS: Corrodes metals, reacting to form flammable hydrogen gas.
ACUTE EXPOSURE- The reported lethal dose in rats is 140-340 mg/kg.	HYDROQUINONE: Repid decomposition of hydroquinone with evolution of heat. IRON: Solutions may slowly corrode. LEAD: May be attacked; flemmable hydrogen gas may be liberated. LEATHER: May be attacked. MALEIC ANHYDRIDE: Explosive decomposition. METALS: Corrodes metals, reacting to form flemmable hydrogen gas. 4-METHYL-2-NITROPHENOL: Exothermic reaction. NITROBENZENE: Possibly explosive reaction upon heating in presence of NITROBENZENE: Possibly explosive reaction upon heating in presence of
Ingestion may cause a burning sensation in the mouth, corrosion of the lips, mouth, tongue and pharynx, and severe esophageal and abdominal pain, vomiting of blood and large pleces of mucosa, and	NITROBENZENE: Possibly explosive reaction upon heating in presence of water. NITROETHANE: Forms an explosive salt.
bloody diarrhea, Asphysia can occur from swelling of the throat. Mediastinitis, alkalemia, pallor, weak, slow pulse, cardiovascular collapse, shock, coma and death may occur. Perforation of the alimentary	I NI KOME I HANE: FORMS an explosive sait.
collapse, shock, come and death may occur. Perforation of the alimentary tract and constrictive scarring may result. Esophageal stricture may occur	NITROPARAFFINS: The nitroparaffins, in the presence of water, form dry salts with organic bases. The dry salts are explosive.
tract and constrictive scarring may result. Esophageal stricture may occur weeks, months, or even years later to make swallowing difficult. The estimated fatal dose in man is 5 grams. Cases of squamous cell carcinoma of the esophagus have occurred with latent periods of 12 to 42 years after	with organic bases. The dry saits are explosive. NITROPROPANE: Forms an explosive sait. O-NITROTOLUENE: Possible explosion.
ingestion. These cancers were believed to be sequela of tissue destruction	OLEUM: Mixing in a closed container causes an increase in temperature and pressure. ORGANIC PEROXIDES: Incompatible.
and possibly scar formation rather than the result of direct carcinogenic	ORGANIC PEROXIDES: Incompatible. PENTOL (3-METHYL-2-PENTENE-4-YN-1-OL): Possible explosion.
action of sodium hydroxide. CHRONIC EXPOSURE- Depending on the concentration, repeated ingestion of alkaline substances may result in inflammatory and ulcerative effects on	PENTOL (3-METHYL-2-PENTENE-4-YN-1-OL): Possible explosion. PHOSPHORUS: May form mixed phosphines which may ignite sponteneously in air. PHOSPHORUS PENTOXIDE: May react violently when heated. PLASTICS: May be attacked. B-PROPIOLACTONE: Mixing in a closed container causes an increase in b-proprior and externation
the oral mucous membranes and other effects as with acute ingestion.	PLASTICS: May be attacked. B-PROPIOLACTONE: Mixing in a closed container causes an increase in
FIRST AID- Give large amounts of water or milk immediately. Allow vomiting to occur. Do not perform gastric lavage or induce emesis. Esophagoscopy is the	
occur. Do not perform gastric tayage or induce emersis. Esophagoscopy is the only way to exclude th possibility of corrosion in the upper gastro- intestinal tract; if corrosion is suspected, esophagoscopy should usually be performed within 24 hours. (Dreisbach & Robertson; Handbook of Poisoning; 12th Ed.). Do not give anything by mouth if person is unconscious or otherwise unable to swallow. If vomiting occurs, keep head lower than hips to help prevent aspiration. Maintain airway and respiration. Treat	RUBBER: May be attacked. SODIUM TETRAHYDROBORATE: Dry mixtures with sodium hydroxide containing 15-40% of tetrahydroborate liberate hydrogen explosively at 230-270 C. SULFURIC ACID: Mixing in e closed container causes an increase in temperaure
be performed within 24 hours. (Dreisbach & Robertson; Handbook of Poisoning; 12th Ed.). Do not give anything by mouth if person is unconscious or	15-40% of tetrahydroborate liberate hydrogen explosively at 230-270 C. SULFURIC ACID: Mixing in e closed container causes an increase in temperaure
otherwise unable to swallow. If vomiting occurs, keep head lower than hips to help prevent aspiration. Maintain alrway and respiration. Treat	1.2 4.5 - TETRACHLOROBENZENE: Violent reaction.
symptomatically and supportively. Get insuical attention inimediately.	TETRACHLOROETNZENCEY METRIC ALCONC. POSIDIS SAPIDISIDI. TETRACHLOROETNYLENE: Possible explosion.
ANTIDOTE: No specific antidote. Treat symptomatically and supportively.	TETRAHYDROFURAN: Serious explosions can occur. TIN: Evolution of hydrogen gas which may form an explosive mixture. 1,1,1-TRICHLOROETHANOL: Explosion may occur.
••••••••••••••••••••••••••••••••••••••	1,1,1-TRICHLOROETHANOL: Explosion may occur. TRICHLOROETHYLENE: Formation of explosive mixtures of dichloroacetylene. TRICHLORONITROMETHANE + METHANOL: May cause violent reaction.
REACTIVITY	TRICHLORONITROMETHANE + METHANOL: May cause violent reaction. WOOL: May be attacked. ZINC (DUST): Fire and explosion hazard.
REACTIVITY: Reacts exothermically with water.	ZINC (DUST): Fire and explosion hazard. ZIRCONIUM: May cause explosive reaction upon heating.
•	DECOMPOSITION:
SODIUM HYDROXIDE: ACETALDEHYDE: May result in violent polymerization.	Thermal decomposition may release toxic fumes of sodium oxide.
INCOMPATIBILITIES: SODIUM HYDROXIDE: ACETALDEHYDE: May result in violent polymerization. ACETIC ACID: Mixing in closed container increases temperature and pressure. ACETIC ANHYDRIDE: Mixing in a closed container increases temperature and pressure	POLYMERIZATION: Hazardous polymerization has not been reported to occur under normal
	temperaturés and pressures.
ACIOS: May react violently. ACROLEIN: May result in an extremely violent polymerization. ACRYLONITRILE: May cause violent polymerization.	STORAGE AND DISPOSAL

PAGE: 5 PAGE: 6 DATE: 11/15/94 ACCT : 146965001 DATE: 11/15/94 ACCT : 146965001 INDEX: 943187833 CAT NO: 552551 PO N8R: 3301 INDEX: 943187833 CAT NO: 552551 PO NBR: 3301 Observe all federal, state and local regulations when storing or disposing GLOVES: Employee must wear appropriate protective gloves to arevent contact with this substance. of this substance CONDITIONS TO AVOID EYE PROTECTION: Employee must wear splash-proof or dust-resistant safety goggles and a faceshield to prevent contact with this substance. Avoid contact with or storage with water, acids, and other incompatibilities. Flammabla, poisonous gases may accumulate in tanks and hopper cars. Emergency wash facilities: Where there is any possibility that an employee's eyes and/or skin may be exposed to this substance, the employer should provide an eye wash fountain and quick drench shower within the immediate work area for emergency use. SPILL AND LEAK PROCEDURES SOIL SPILL: Dig holding area such as lagoon, pond or pit for containment. AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 07/19/85 REVISION DATE: 06/30/94 Use soil, sand bags, foamed polyurethane, or foamed concrete to dike surface flow -ADDITIONAL INFORMATION-THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. Use fly ash or cement powder to absorb bulk liquid. Use vineger or other dilute acid to neutralize WATER SPILL Add suitable agent to neutralize spilled material to pH-7. OCCUPATIONAL SPILL OCCUPATIONAL SMLL: Do not touch spilled material. Stop leak If you can do it without risk. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For small dry spills, with clean shovel place material into clean, dry container and cover. Move containers from spill area. For larger spills, dike far ahead of spill for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry. Reportable Quantity (RQ): 1000 pounds The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the National Response Center must be notified immediately at (800) 424-8802 or (202) 426-2675 in the metropolitan Washington, D.C. area (40 CFR 302.6). ------PROTECTIVE EQUIPMENT VENTILATION: Provide local exhaust or process enclosure ventilation to meet published exposure limits. RESPIRATOR RESPIRATOR: The following respirators and maximum use concentrations are recommendations by the U.S. Department of Health and Human Services. NIOSH Pocket Guide to Chemical Hazards; NIOSH criterie documents or by the U.S. Department of Labor, 29 CFR 1910 Subpart Z. The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA). SODIUM HYDROXIDE: 50 mg/m3- Any powered air-purifying respirator with a dust and mist filter. Any supplied-air respirator operated in a continuous flow mode. 100 mg/m3- Any self-contained breathing apparatus with a full facepiece. Any supplied-air respirator with a full facepiece and a supplied and the full facepiece respirator with a high afficiency particulate filter. 250 mg/m3- Any supplied-air respirator with a full faceplece and operated in a pressure-demand or other positive pressure mode. Escape- Any air-purifying full facepiece respirator with a high This are purposed in the provided for FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS: Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparetus operated in pressure-demand or other positive-pressure mode. CLOTHING

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Employee must wear appropriate protective (impervious) clothing and equipment to prevent any possibility of skin contact with this substance.

PAGE: 1	FIRE AND EXPLOSION DATA	
DATE: 08/31/91 ACCT: 146965-01 INDEX: 02912420177 CAT NO: T1804 PO NBR: VERBAL MIKE 08-30-91 AIR	FIRE AND EXPLOSION HAZARD: Negligible fire hazard when exposed to heat or flame.	
**************************************	AUTOIGNITION TEMP.: 1256 F (680 C)	
	FIREFIGHTING MEDIA:	
MATERIAL SAFETY DATA SHEET	DRY CHEMIČAL, ČARBON DIOXIDE, WATER SPRAY OR REGULAR FOAM (1990 Emergency Response Guidebook, dot p 5800.5).	
FISHER SCIENTIFIC EMERGENCY NUMBER: (201) 796-7100 CHEMICAL DIVISION CHEMIREC ASSISTANCE: (800) 424-9300 I REAGENT LANE FAIR LAWN NJ 07410 (201) 796-7100	FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM (1990 Emergency response guidebook, dot p 5800.5).	
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SUBSTANCE IDENTIFICATION		
CAS-NUMBER 76-13-1		÷.
SUBSTANCE: **1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE** TRADE NAMES/SYNONYMS:		
REFRIGERANT 113; TTE; UCON 113; FREON 113; FREON 113 TR-T; TRICHLOROTRIFLUOROETHANE; 1,1,2-TRIFLUORO-1,2,2-TRICHLOROETHANE; UCON FLUOROCARBON 113; T180; T178; C2CL3F3; ACC26370		
CHEMICAL FAMILY: HALOGEN COMPOUND, ALIPHATIC		
NOLECULAR FORMULA: C2-CL3-F3		
NOLECULAR WEIGHT: 187.37		
CERCLA RATINGS (SCALE 0-3): HEALTH=1 FIRE=0 REACTIVITY=0 PERSISTENCE=3 NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=0 REACTIVITY=0		
COMPONENTS AND CONTAMINANTS COMPONENT: 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE PERCENT: 100		
CAS# 76-13-1 THER CONTAMINANTS: NONE		
XPOSURE LIMITS: 1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE (FREON TF): 1000 PPM (7670 MG/M3) OSHA TWA; 1250 PPM (9590 M3/M3) OSHA STEL 1000 PPM (7670 MG/M3) ACGIH TWA; 1250 PPM (9590 MG/M3) ACGIH STEL 1000 PPM (7670 MG/M3) NIOSH RECOMMENDED TWA; 1250 PPM (9590 MG/M3) NIOSH RECOMMENDED TSEL 500 PPM (3832 MG/M3) DFG MAK TWA; 1000 PPM (3832 MG/M3) DFG MAK TWA;		
MEASUREMENT METHOD: CHARCOAL TUBE; CARBON DISULFIDE; GAS CHROMATOGRAPHY WITH		
FLAME IONIZATION DETECTION; (NIOSH VOL. III # 1020). Subject to sara section 313 Annual Toxic Chemical Release Reporting.		e
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PHYSICAL DATA DESCRIPTION: COLORLESS LIQUID WITH AN ODOR LIKE AMMONIA AT HIGH		
CONCENTRATIONS. BOILING POINT: 114.4 F (45.8 C)		
MELTING POINT: 55.8 F (13.2 C) SPECIFIC GRAVITY: 1.6 @ 77 F		
VAPOR PRESSURE: 284 MM HG @ 20 C EVAPORATION RATE: (ACETONE=1) 0.45		
SOLUBILITY IN WATER: 0.028% VAPOR DENSITY: APPROX 6		
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DA 38/31/91 ACCT: 146965-01 PAGE: 4 INI 02912420177 CAT NO: T1804 PO NBR: VERBAL MIKE 08-30-91 A	r
IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSNA).	
1, 1, 2-TRICHLORO-1, 2, 2-TRIFLUOROETHANE:	
4500 PPM- ANY SUPPLIED-AIR RESPIRATOR.	
ANY SELF-CONTAINED BREATHING APPARATUS. ESCAPE- ANY AIR-PURIFYING FULL FACEPIECE RESPIRATOR (GAS MASK) WITH A CHIN-STYLE OR FRONT OR BACK-MOUNTED ORGANIC VAPOR CANISTER.	
ANY APPROPRIATE ESCAPE-TYPE SELF-CONTANINED BREATHING APPARATUS. For firefighting and other immediately dangerous to life or health conditions:	
ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.	
CLOTHING: Employee must wear appropriate protective (impervious) clothing and equipment To prevent repeated or prolonged skin contact with this substance.	
GLOVES: Protective gloves are not required but recommended.	
EYE PROTECTION: Employee must wear splash-proof or dust-resistant safety goggles and a Faceshield to prevent contact with this substance.	
EMERGENCY WASH FACILITIES: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES AND/OR SKIN MAY BE Exposed to This Substance, the employer should provide an eye wash fountain And Quick Drench shower within the immediate work area for emergency use.	
AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 01/15/85 REVISION DATE: 05/03/91	
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ACC14930 PAGE 01 OF 08



MATERIAL SAFETY DATA SHEET

FISHER SCIENTIFIC CHEMICAL DIVISION 1 REAGENT LANE FAIR LAWN NJ 07410 (201) 796-7100

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EMERGENCY NUMBER: (201) 796-7100 CHEMTREC ASSISTANCE: (800) 424-9300

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SUBSTANCE IDENTIFICATION

CAS-NUMBER 75-09-2

SUBSTANCE: **METHYLENE CHLORIDE**

TRADE NAMES/SYNONYMS: METHANE, DICHLORO-; METHYLENE CHLORIDE; METHYLENE DICHLORIDE; METHANE DICHLORIDE; SOLAESTHIN; NARKOTIL; SOLMETHINE; DICHLOROMETHANE; RCRA U080; STCC 4941132; D150; D143; D142; D123; D35; D37; D37S; D37SK; D150SK; D143SK; D151; BP1186; D152: UN 1593; CH2CL2:

CHEMICAL FAMILY: Halogen compound, aliphatic

MOLECULAR FORMULA: C-H2-CL2

MOLECULAR WEIGHT: 84.93

CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=1 REACTIVITY=0 PERSISTENCE=1 NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=1 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: METHYLENE CHLORIDE CAS# 75-09-2 PERCENT: 100.0

OTHER CONTAMINANTS: NONE

EXPOSURE LIMITS: DICHLOROMETHANE (METHYLENE CHLORIDE): 500 ppm OSHA TWA; 1000 ppm OSHA ceiling; 2000 ppm/5 min in 2 hours OSHA peak 50 ppm (174 mg/m3) ACGIH TWA ACGIH A2- Suspected Human Carcinogen Lowest feasible limit NIOSH recommended exposure criteria 100 ppm (360 mg/m3) DFG MAK TWA; 500 ppm (1800 mg/m3) DFG MAK 30 minute peak, average value, 2 times/shift

Measurement method: Charcoal tube (2); carbon disulfide; gas chromatography with flame ionization detection; (NIOSH Vol. III # 1005).

PAGE 02 OF 08 ACC14930 1000 pounds CERCLA Section 103 portable Quantity Subject to SARA Section 313 An Partice Chemical Release Reporting Subject to California Proposition 65 cancer and/or reproductive toxicity warning and release requirements- (April 1, 1988) ~_____ PHYSICAL DATA DESCRIPTION: Clear, colorless liquid with an mild, chluroform-like odor BOILING POINT: 104 F (40 C) MELTING POINT: -139 F (-95 C) SPECIFIC GRAVITY: 1.3266 VOLATILITY: 100% VAPOR PRESSURE: 400 mmHg @ 24 C EVAPORATION RATE: (butyl acetate=1) 27.5 SOLUBILITY IN WATER: 1.32% @ 20 C DOOR THRESHOLD: 25-50 ppm VAPOR DENSITY: 2.9 SOLVENT SOLUBILITY: Soluble in alcohol, ether, dimethylformamide, phenols, aldehydes, ketones, glacial acetic acid, triethyl phosphate, acetoacetic acid, cyclohexylamine, chlorinated solvents. VISCOSITY: 0.441 cP @ 20 C ______ FIRE AND EXPLOSION DATA FIRE AND EXPLOSION HAZARD: Slight fire hazard when exposed to heat or flame. UPPER EXPLOSIVE LIMIT: 23% LOWER EXPLOSIVE LIMIT: 13% AUTOIGNITION TEMP.: 1033 F (556 C) FIREFIGHTING MEDIA: Dry chemical or carbon dioxide (1993 Emergency Response Guidebook, RSPA P 5800.6). For larger fires, use water spray, fog or regular foam (1993 Emergency Response Guidebook, RSPA P 5800.6). FIREFIGHTING: Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire (1993 Emergency Response Guidebook, RSPA P 5800.6, Guide Page 74). Extinguish using agents suitable for surrounding fire. Use flooding quantities of water to cool affected containers, applying from as far a distance as possible. Avoid breathing hazardous vapors, keep unwind. TRANSPORTATION DATA U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: Dichloromethane-UN 1593

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A Constraints

ACC14930 PAGE 03 OF 08 U.S. DEPARTMENT OF TRANSPORTATIO 6.1 - Poisonous materials U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG III U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: Keep away from food U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: EXCEPTIONS: 49 CFR 173,153 NON-BULK PACKAGING: 49 CFR 173.203 BULK PACKAGING: 49 CFR 173.241 U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 60 L CARGO AIRCRAFT ONLY: 220 L TOXICITY DICHLOROMETHANE (METHYLENE CHLORIDE): IRRITATION DATA; 162 mg eye-rabbit moderate; 10 mg eye-rabbit mild; 500 mg/24 hours eye-rabbit mild; 810 mg/24 hours skin-rabbit severe; 100 mg/24 hours skin-rabbit moderate. TOXICITY DATA: 500 ppm/1 year intermittent inhalation-human TCLo; 500 ppm/8 hours inhalation-human TCLo; 88000 mg/m3/30 minutes inhalation-rat LC50; 552 ppm/6 hours/5 days intermittent inhalation-rat TCLo; 14400 ppm/7 hours inhalation-mouse LC50; 10000 ppm/7 hours inhalation-rabbit LCLo; 5000 ppm/2 hours inhalation-guinea pig LCLo; 14108 ppm/7 hours inhalation-dog LCLo; 43400 mg/m3/4.5 hours inhalation-cat LCLo; 357 mg/kg oral-human LDLo; 1600 mg/kg oral-rat LD50; 1900 mg/kg oral-rabbit LDLo; 3 gm/kg oral-dog LDLo; 6460 mg/kg subcutaneous-mouse LD50; 2700 mg/kg subcutaneous-rabbit LDLo; 200 mg/kg intravenous-dog LDLo; 916 mg/kg intraperitoneal-rat LD50; 437 mg/kg intraperitoneal-mouse LD50; 950 mg/kg intraperitoneal-dog LDLo; 4770 mg/kg unreported-mouse LD50; 13000 ppm/6 hours/19 days intermittent inhalation-rat TCLo; 44 mg/m3/24 hours/96 days continuous inhalation-rat TCLo; 8400 ppm/6 hours/13 weeks intermittent inhalation-rat; 13000 ppm/6 hours/19 days intermittent inhalation-mouse TCLo; 8400 ppm/6 hours/13 weeks intermittent inhalation-mouse TCLo; 39270 mg/kg/17 weeks intermittent skin-rat TDLo; nutagenic data (RTECS); reproductive effects data (RTECS); tumorigenic data (RTECS), CARCINOGEN STATUS: Anticipated Human Carcinogen (NTP); Human Inadequate Evidence, Animal Sufficient Evidence (IARC Group-28). Exposure by inhalation increased the incidence of benign and malignant lung and liver tumors in mice of each sex and the incidence or multiplicity of benign mammary tumors in rats of each sex; in male rats, an increased incidence of sarcomas located in the neck was also observed. LOCAL EFFECTS: Irritant- inhalation. skin. eye ACUTE TOXICITY LEVEL: Moderately toxic by inhalation and ingestion.

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TARGET EFFECTS: Central nervous system depressant; chemical asphyxiant. Poisoning may affect the blood, liver and kidneys. AT INCREASED RISK FROM EXPOSURE: Persons with skin, liver, kidney,

cardiovascular disease or anemia. ADDITIUNAL DATA: Concurrent exposure to other sources of carbon monoxide, ACC14930 PAGE 04 OF 08 smoking, or physical activity monincrease the level of carboxyhemoglob in the blood resulting in addition effects. Alcohol may enhance the toxic effects. Stimulants such as epinephrine may induce cardiac arrhythmias. One study indicated that chronic exposure may be associated with an increased risk of spontaneous abortion. Dichloromethane crosses the placenta and is excreted in breast milk.

HEALTH EFFECTS AND FIRST AID

INHALATION:

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DICHLOROMETHANE (METHYLENE CHLORIDE):

IRRITANT/NARCOTIC/CHEMICAL ASPHYXIANT/CARCINOGEN.

ACUTE EXPOSURE- Human exposure to 100 ppm has resulted in upper respiratory tract irritation; concentrations as low as 200 ppm have produced temporary neurobehavioural effects; 500-1000 ppm for 1-2 hours has caused lightheadedness and elevated carboxyhemoglobin level; 2300 ppm for 30 minutes has caused nausea and narcosis; 5000 ppm has caused headache, fatigue, neurasthenic disorders and digestive disturbances. Other symptoms may include dizziness, tingling, numbness of the extremities, a sensation of heat, a sensation of fullness in the head, drunkenness, stupor, dullness and mental confusion. Massive exposure may cause pharyngeal erosion, pulmonary edema, staggering, hemolysis with gross hematuria, rapid unconsciousness and death. Recovery is generally complete if exposure is terminated before anesthetic death. Exposure to high levels may also cause cardiac arrhythmias.

CHRONIC EXPOSURE- More than 100 workers exposed to levels below 500 ppm have developed health problems including significant upper respiratory irritation, exacerbation of coronary artery disease, and a high incidence of neurotoxicity; increased complaints of chest pains were reported at concentrations of 10 to 35 ppm. Repeated human exposure to 500-3600 ppm has caused signs of toxic encephalopathy with acoustic in the second delusions and hallucinations. A case of serious cerebral deterioration was observed in an individual exposed for several years to dichloromethane. In a mortality study of two groups of workers, one exposed to acetone and the other to dichloromethane and acetone. a statistically significant difference in deaths from diseases of the circulatory system and from ischemic heart disease were reported from the dichloromethane and acetone group. In another mortality study of workers exposed to dichloromethane, a significant increase in hypertensive disease and a "suggestive excess" of pancreatic cancer were reported. Liver disease has been reported in workers. In one study, an increase in serum bilirubin was observed in exposed workers, but no other sign of liver injury or hemolysis was reported. Adverse liver effects were observed in several animal species chemically exposed. Testicular story was reconced on more exercise AUD commoner 1 years Repeated inhalation by rodents prior to and/or during gestation caused fetal skeletal abnormalities and behavioral effects in newborn offspring. Repeated inhalation increased the incidence of benign and malignant lung and liver tumors in mice of each sex and the incidence or multiplicity of benign mammary tumors in rats of each sex; in male rats, an increased incidence of sarcomas located in the neck was also observed.

FIRST AID- Remove from exposure area to fresh air immediately. Perform artificial respiration if necessary. Maintain airway, blood pressure and respiration. Keep warm and at rest. Treat symptomatically and supportively. Get medical attention immediately. Qualified medical personnel should consider administering oxygen.

SKIN CONTACT: DICHLOROMETHANE (METHYLENE CHLORID IRRITANT. ACUTE EXPOSURE- May cause effects ranging from mild irritation to severe pain, paresthesias, and possibly burns, depending on the intensity of contact. CHRONIC EXPOSURE- Prolonged or repeated contact may cause a dry, scaly and fissured dermatitis due to defatting action of liquid on skin. FIRST AID- Remove contaminated clothing and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately. EYE CONTACT: DICHLOROMETHANE (METHYLENE CHLORIDE): IRRITANT. ACUTE EXPOSURE- Vapor concentrations above 2000 ppm may cause irritation. Direct contact may cause pain and extreme irritation, but it is not likely to cause serious injury. 10 mg applied to rabbit eyes produced keratitis, iritis, increased corneal thickness, and inflammation of the conjunctiva and eyelids with some effects lasting up to two weeks. CHRONIC EXPOSURE- Repeated or prolonged exposure to irritants may cause conjunctivitis. FIRST AID- Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately. INGESTION: DICHLOROMETHANE (METHYLENE CHLORIDE): NARCOTIC/CHEMICAL ASPHYXIANT. Acute exposure: May cause rapid, then slowed respiration, glottal and pharyngeal edema, intravascular hemolysis with gross hematuria, gastrointestinal ulceration and hemorrhage, and carboxyhemoglobinemia. These symptoms may progress rapidly to unconsciousness and lack of response to painful stimuli. Pharyngeal erosions may disturb the swallowing mechanism resulting in aspiration pneumonia. In addition, symptoms of central nervous system depression may occur followed by convulsions and paresthesia of the extremities. Large doses may cause liver and kidney damage. The estimated lethal dose for an adult is 25 grams, CHRONIC EXPOSURE- Repeated ingestion by rats and mice resulted in histomorphological changes in the liver. FIRST AID- Remove by gastric lavage or emesis. Maintain blood pressure and airway. Give oxygen if respiration is depressed. Do not perform gastric lavage or emesis if victim is unconscious. Get medical attention immediately (Dreisbach, Handbook of Poisoning, 12th Ed.). Administration of gastric lavage or oxygen should be performed by qualified medical personnel. ANTIDOTE: No specific antidote. Treat symptomatically and supportively.

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REACTIVITY: Stable under normal temperatures and pressures. INCOMPATIBILITIES: DICHLOROMETHANE (METHYLENE CHLORIDE): ALKALI METALS: Possible explosive reaction. ALUMINUM: Violent, uncontrollable reaction above 95 C. CAUSTICS (STRONG): Vigorous, possibly violent reaction. COPPER: May corrode at elevated temperatures in the presence of moisture. DINITROGEN PENTOXIDE: Possible explosion. DINITROGEN TETROXIDE: Forms shock-sensitive mixture. IRON: May corrode at elevated temperatures in the presence of moisture. LITHIUM: Forms shock-sensitive mixture. MAGNESIUM: Possible explosion. NICKEL: May corrode at elevated temperatures in the presence of moisture. NITRIC ACID: Exothermic reaction yielding detonable solution. OXIDIZERS (STRONG): Fire and explosion hazard. OXYGEN (LIQUID): Explosive reaction on ignition. PLASTICS, RUBBER, AND COATINGS: May be attacked. POTASSIUM: Explosive reaction. POTASSIUM HYDROXIDE + N-METHYL-N-NITROSO UREA: Possible explosion. POTASSIUM TERT-BUTOXIDE: Ignition reaction. SODIUM: Forms shock-sensitive mixture. SODIUM-POTASSIUM ALLOY: Forms shock-sensitive mixture. STAINLESS STEEL: May corrode at elevated temperatures in the presence of moisture. TITANIUM: Possible violent reaction. ZINC: Possible violent reaction.

DECOMPOSITION:

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Thermal decomposition products may include toxic and hazardous phosgene gas, toxic and corrosive fumes of chlorides, and oxides of carbon.

POLYMERIZATION:

Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

STORAGE AND DISPOSAL

Observe all federal, state and local regulations when storing or disposing of this substance.

Storage

Protect against physical damage. Store in cool, dry, well ventilated location, away from any area where the fire hazard may be acute (NFPA 49, Hazardous Chemicals Data, 1975).

Store in a tightly closed container.

Store under nitrogen.

Store away from incompatible substances.

ACC14930 PAGE 07 OF 08



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Disposal must be in accordance with standards applicable to generators of hazardous waste, 40CFR 262. EPA Hazardous Waste Number U080. *********** CONDITIONS TO AVOID May burn but does not ignite readily. Container may explode in heat of fire. *********** SPILL AND LEAK PROCEDURES SOIL SPILL: Dig a holding area such as a pit, pond or lagoon to contain spill and dike surface flow using barrier of soil, sandbags, foamed polyurethane or foamed concrete. Absorb liquid mass with fly ash or cement powder. AIR SPILL: Apply water spray to knock down vapors. WATER SPILL: Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Use suction hoses to remove trapped spill material. The California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) prohibits contaminating any known source of drinking water with substances known to cause cancer and/or reproductive toxicity. OCCUPATIONAL SPILL: Shut off ignition sources. Stop leak if you can do it without risk. For small liquid spills, take up with sand, earth or other absorbent material. For larger spills, dike far ahead of spill for later disposal. No smoking, flames or flares in hazard area! Keep unnecessary people away. Reportable Quantity (RQ): 1000 pounds The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the National Response Center must be notified immediately at (800) 424-8802 or (202) 426-2675 in the metropolitan Washington, D.C. area (40 CFR 302.6). PROTECTIVE EQUIPMENT · Chi Leni Linn Process enclosure recommended to meet published exposure limits. RESPIRATOR: The following respirators and maximum use concentrations are recommendations by the U.S. Department of Health and Human Services, NIDSH Pocket Guide to Chemical Hazards; NIOSH criteria documents or by the U.S. Department of

ACC14930 PAGE 08 OF 08

Labor, 29 CFR 1910 Subpart Z. The specific respirator selected be based on contamination levels for in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA).

DICHLOROMETHANE (METHYLENE CHLORIDE): At any detectable concentration:

> Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape- Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister. Any appropriate escape-type, self-contained breathing apparatus.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

CLOTHING:

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Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

GLOVES:

Employee must wear appropriate protective gloves to prevent contact with this substance.

EYE PROTECTION:

Employee must wear splash-proof or dust-resistant safety goggles and a faceshield to prevent contact with this substance.

Emergency wash facilities:

Where there is any possibility that an employee's eyes and/or skin may be exposed to this substance, the employer should provide an eye wash fountain and quick drench shower within the immediate work area for emergency use.

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	J.T.BAKER INCO 222 RED SCHOOL LANE, PHICIPSBURG, NJ 08865 MATERIAL SAFETY DATA SHEET 24-HOUR EMERGENCY TELEPHONE (908) 859-2151
	CHEMTREC # (800) 424-9300 NATIONAL RESPONSE CENTER # (800) 424-8802
	88 MO4 PAGE: 1
	EFFECTIVE: 01/04/94 ISSUED: 01/15/94
	J.T.BAKER INC., 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08965
	* = = = = = = = = = = = = = = = = = = =
	SECTION I - PRODUCT IDENTIFICATION
	PRODUCT NAME: METHYL ISO-BUTYL KETONE
	COMMON SYNONYMS: 4-METHYL-2-PENTANONE; ISOPROPYLACETONE; HEXONE CHEMICAL FAMILY: KETONES
	FORMULA: CH3COCH2CH(CH3)2
	FORMULA WT.: 100-16
	CAS NO.: 108-10-1 NIOSH/RTECS NO.: SA9275000
	PRODUCT USE: LABORATORY REAGENT
	PRODUCT CODES: 5384+9212+9320+4855+9322+5384
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	BAKER SAF-T-DATA* SYSTEM
_	HEALTH - 2 MODERATE FLAMMABILITY - 3 SEVERE (FLAMMABLE)
	REACTIVITY - 1 SLIGHT
	CONTACT - 1 SLIGHT
	LABORATORY PROTECTIVE EQUIPMENT
-	GOGGLES; LAB CCAT; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
	U.S. PRECAUTIONARY LABELING
	0.5. FRECAGITUNARY LABELING
	WARNING
	FLAMMABLE. CAUSES IRRITATION. HARMFUL IF SWALLOWED OR INHALED. KEEP AWAY FROM HEAT, SPARKS, FLAME. AVOID CONTACT WITH EYES, SKIN, CLOTHING.
A	AVOID BREATHING VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE
	VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, USE ALCOHOL FOAM, DRY CHEMICAL, CARBON DIOXIDE - WATER MAY BE INEFFECTIVE. FLUSH SPILL
	AREA WITH WATER SPRAY.
	INTERNATIONAL LABELING
	AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH
	PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.
	SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)
	CONTINUED ON PAGE: 2

Particular Solution

J.T.BAKER INC 222 RED SCHOOL LANE, PHILE IPSBURG, NJ 03865 SAFETY DATA MATERIAL SHEET 24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151 CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (300) 424-8302 388 M04 METHYL ISO-BUTYL KETONE PAGE: 2 EFFECTIVE: 01/04/94 ISSUED: 01/15/94 SECTION II - COMPONENTS COMPONENT CAS NO. OSHA/PEL WEIGHT % ACGIH/TLV METHYL ISO-BUTYL KETONE 108 - 10 - 190 - 100PPM 50 50 PPM SECTION III - PHYSICAL DATA BOILING POINT: 116 C (240 F) VAPOR PRESSURE (MMHG): 15 (20 C) (AT 760 MM HG) MELTING POINT: -85 C (-121 F) VAPOR DENSITY (AIR=1): 3.5 (AT 760 MM HG) SPECIFIC GRAVITY: 0.79 EVAPORATION RATE: 1.6 (BUTYL ACETATE = 1) (H20=1)_UBILITY(H20): MODERATE (1-10%) % VOLATILES BY VOLUME: 100 (21 C) N/A ODOR THRESHOLD (P.P.M.): N/A PHYSICAL STATE: LIQUID COEFFICIENT WATER/OIL DISTRIBUTION: N/A 1. 18 . L APPEARANCE & ODOR: COLORLESS LIQUID. PLEASANT ODOR. SECTION IV - FIRE AND EXPLOSION HAZARD DATA FLASH POINT (CLOSED CUP): 15 C (60 F) NEPA 704M RATING: 2-3-0 AUTOIGNITION TEMPERATURE: 448 C (840 F) UPPER - 7.5 % FLAMMABLE LIMITS: LOWER - 1.4FIRE EXTINQUISHING MEDIA USE ALCOHOL FOAM, DRY CHEMICAL OR CARBON DIOXIDE. (WATER MAY 39 INSEFECTIVE.) **COECIAL FIRE-FIGHTING PROCEDURES** FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE US E MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. CONTINUED ON PAGE: 3

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J.T. BAKER INC 222 RED SCHOOL LANE, PHILIPSBURG, NJ 03865 SAFETY DATA MATERIAL SHEET 24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151 CHEMIREC # (300) 424-9300 -- NATIONAL RESPONSE CENTER # (300) 424-8802 METHYL ISO-BUTYL KETONE 188 MO4 PAGE: 3 EFFECTIVE: 01/04/94 ISSUED: 01/15/94 SECTION IV - FIRE AND EXPLOSION HAZARD DATA (CONTINUED) WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL. UNUSUAL FIRE & EXPLOSION HAZARDS VAPORS MAY FLOW ALONG SURFACES TO DISTANT IGNITION SCURCES AND FLASH BACK. CLCSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRE. TOXIC GASES PRODUCED CARBON MONOXIDE. CARBON DIOXIDE EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT NONE IDENTIFIED. EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE NONE IDENTIFIED. SECTION V - HEALTH HAZARD DATA THRESHOLD LIMIT VALUE (TLV/TWA): 205 MG/M (50 PPM) SHCRT-TERM EXPOSURE LIMIT (STEL): 300 MG/M (75 PPM) PERMISSIBLE EXPOSURE LIMIT (PEL): 205 MG/M (50 PPM) TOXICITY OF COMPONENTS ORAL RAT LD5C FOR METHYL ISO-BUTYL KETONE 2080 MG/KG 23 G/M INHALATION MOUSE LC50 FOR METHYL ISC-BUTYL KETONE MG/KG INTRAPERITONEAL MOUSE LD50 FOR METHYL ISO-BUTYL KETONE 258 CARCINGGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO CARCINCGENICITY NONE IDENTIFIED. REPRODUCTIVE EFFECTS NONE IDENTIFIED. CONTINUED ON PAGE:

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M A 1	R INCO 222 RED SCHOOL LANE, PHICE IPSBURG, NJ 09965 TERIAL SAFETY DATA SHEET 4-HOUR EMERGENCY TELEPHONE (908) 859-2151
	DO) 424-9300 NATIONAL RESPONSE CENTER # (300) 424-3302
388 M04 EFFECTIVE: 01/04/9	METHYL ISO-BUTYL KETONE PAGE: 4 94 ISSUED: 01/15/94:
	ECTION V - HEALTH HAZARD DATA (CONTINUED)
EFFECTS OF OVEREXPO	DSURE
INHALATION:	HEADACHE, NAUSEA, VOMITING, DIZZINESS, DROWSINESS, IRRITATION OF UPPER RESPIRATORY TRACT, UNCONSCIOUSNESS
SKIN CONTACT:	IRRITATION, DERMATITIS
EYE CONTACT:	IRRITATION
SKIN ABSCRPTION	N: NONE IDENTIFIED
INGESTION:	IRRITATION OF MUCOUS MEMBRANES, HEADACHE, NAUSEA, Vomiting, dizziness, gastrointestinal irritation, central Nervous system depression
CHRONIC EFFECTS	S: KIDNEY DAMAGE, LIVER DAMAGE
TARGET ORGANS RESPIRATORY SYS	STEM, EYES, SKIN, CENTRAL NERVOUS SYSTEM
	GENERALLY AGGRAVATED BY EXPOSURE SKIN DISORDERS, RESPIRATORY SYSTEM DISEASE
PRIMARY ROUTES OF E INHALATION, INC	ENTRY GESTION, EYE CONTACT, SKIN CONTACT
EMERGENCY AND FIRST	TAID PROCEDURES
	CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, GIVE LARGE A MOUNTS OF WATER. INDUCE VOMITING.
L. C.	IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE DXYGEN.
SKIN CONTACT:	IN CASE OF CONTACT, FLUSH SKIN WITH WATER.
	IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLEATY OF WATER FOR AT LEAST 15 MINUTES.
SARA	A/TITLE III HAZARD CATEGORIES AND LISTS
JTE: YES CHRONIC	: YES FLAMMABILITY: YES PRESSURE: NO REACTIVITY: NO
	CONTINUED ON PAGE: 5
	M A CHEMTREC # (9) 383 M04 EFFECTIVE: 01/04/9 EFFECTS OF OVEREXPONE INHALATION: SKIN CONTACT: EYE CONTACT: SKIN ABSORPTION INGESTION: CHRONIC EFFECTS TARGET ORGANS RESPIRATORY SYS MEDICAL CONDITIONS EYE DISORDERS: PRIMARY ROUTES OF E INHALATION; ING EMERGENCY AND FIRS INGESTION: SKIN CONTACT: 1 SKIN CONTACT: 1 SKIN CONTACT: 1 SARA

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	J.T.BAKER INC 222 RED SCHOOL LANE, PHILIPSBURG, NJ 08855 MATERIAL SAFETY DATA SHEET
	24-HOUR EMERGENCY TELEPHONE (908) 859-2151 CHEMTREC # (800) 424-9300 NATIONAL RESPONSE CENTER # (800) 424-8802
	98 M04METHYL ISO-BUTYL KETONEPAGE: 5EFFECTIVE: 01/04/94ISSUED: 01/15/94
	SECTION V - HEALTH HAZARD DATA (CONTINUED)
	EXTREMELY HAZARDOUS SUBSTANCE: NO. CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS METHYL ISOBUTYL KETONE (RQ = 5000 LBS)
	SARA 313 TOXIC CHEMICALS: YES CONTAINS METHYL ISOBUTYL KETONE GENERIC CLASS: GENERIC CLASS REMOVED FROM CFR: 7/1/91 TSCA INVENTORY: YES
	SECTION VI - REACTIVITY DATA
	STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
	CONDITIONS TO AVOID: HEAT, FLAME, OTHER SOURCES OF IGNITION INCOMPATIBLES: STRONG DXIDIZING AGENTS, STRONG BASES, AMINES AND
	AMMONIA, STRONG ACIDS
	SECTION VII - SPILL & DISPOSAL PROCEDURES
	STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. SHUT OFF IGNITION SOURCES; NO FLARES, SMOKING OR FLAMES IN AREA. STOP LEAK IF YOU CAN DO SO WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. TAKE UP
	WITH SAND OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND PLACE INTO CONTAINER FOR LATER DISPOSAL. FLUSH AREA WITH WATER.
	J. T. BAKER SOLUSORB(R) SOLVENT ADSORBENT IS RECOMMENDED FOR SPILLS OF THIS PRODUCT.
11.2.2	DISPOSAL PROCEDURE DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.
	EPA HAZARDOUS WASTE NUMBER: U161 (TOXIC WASTE)
	CONTINUED ON PAGE: 6

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J.T.BAKER INC 222 RED SCHOOL LANE, PHILEIPSBURG, NJ 08865
                          SAFETY DATA
                                             SHEET
             MATERIAL
               24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151
      CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802
    588 MO4
                       METHYL ISO-BUTYL KETONE
                                                         PAGE: 5
  EFFECTIVE: 01/04/94
                                                  ISSUED: 01/15/94
  SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT
  VENTILATION:
                    USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET THY
REQUIREMENTS.
  RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE
                    CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS UP TO
1000 PPM, A CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC
                    VAPOR CARTRIDGE IS RECOMMENDED. ABOVE THIS LEVEL, A
                     SELF-CONTAINED BREATHING APPARATUS IS RECOMMENDED.
  EYE/SKIN PROTECTION:
                     SAFETY GOGGLES, UNIFORM, APRON, POLYVINYL
                    ALCOHOLGLOVES ARE RECOMMENDED.
  SECTION IX - STORAGE AND HANDLING PRECAUTIONS
  -T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)
1000
   TORAGE REQUIREMENTS
     KEEP CONTAINER TIGHTLY CLOSED. STORE IN A COOL, DRY, WELL-VENTILATED,
     FLAMMABLE LIQUID STORAGE AREA.
SPECIAL PRECAUTIONS
     BOND AND GROUND CONTAINERS WHEN TRANSFERRING LIQUID.
1.0 101 101
  SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION
1000
  DOMESTIC (D.O.T.)
  PROPER SHIPPING NAME: METHYL ISOBUTYL KETONE
  HAZARD CLASS:
                    3
                                          PACKAGING GROUP: II
  UN/NA: UN1245
  LABELS: FLAMMABLE LIQUID
  REGULATORY REFERENCES: 49CFR 172.101
  INTERNATIONAL (I.M.O.)
1,525
  PROPER SHIPPING NAME: METHYL ISOBUTYL KETONE
                                          I.M.C. PAGE: 3257
  HAZARD CLASS:
                    3.2
  ''': UN1245
              MARINE POLLUTANTS: NO
                                          PACKAGING GROUP: II
    JELS: FLAMMABLE LIQUÍD
                         CONTINUED ON PAGE: 7
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	J.T. BAKER INC 222 RED SCHOOL LANE, PHILIPSBURG, NJ 03365 MATERIAL SAFETY DATA SHEET
Service of the servic	24-HOUR EMERGENCY TELEPHONE (908) 859-2151 CHEMTREC # (80C) 424-9300 -+ NATIONAL RESPONSE CENTER # (800) 424-3302
	388 M04METHYL ISD-BUTYL KETONEPAGE: 7EFFECTIVE: 01/04/94ISSUED: 01/15/94
	SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (CONTINUED)
	REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE AIR (I.C.A.D.)
	PROPER SHIPPING NAME: METHYL ISOBUTYL KETONE HAZARD CLASS: 3.2 UN: UN1245 PACKAGING GROUP: II
	LABELS: FLAMMABLE LIQUID REGULATORY REFERENCES: 49CFR PART 175; ICAO=== WE BELIEVE THE TRANSPORTATION DATA AND REFERENCES CONTAINED HEREIN TO BE FACTUAL AND THE OPINION OF QUALIFIED EXPERTS. THE DATA IS MEANT AS
	A GUIDE TO THE OVERALL CLASSIFICATION OF THE PRODUCT AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT BE TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH THE
	COMPANY ASSUMES LEGAL RESPONSIBILITY.=== THE INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION, AND VERIFICATION. ANY USE OF THE INFORMATION MUST BE DETERMINED BY THE USER TO BE IN
	ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS 49CFR 171.2, CERTIFICATION 172.204, AND EMPLOYEE TRAINING 49
	CFR 173.1(B). U.S. CUSTOMS HARMONIZATION NUMBER: 29141300006
	NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING. -N/A = NOT APPLICABLE, OR NOT AVAILABLE;
	N/E = NOT ESTABLISHED THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE
	CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN CUENTICAL MANDALING THE MADE TO PERSON TRAINED
	IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL
	OR BREATHING CHEMICAL VAPORS/FUMES. EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS THEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES CONTINUED ON PAGE: 8

LO BANK

CHEMTREC # (800) 424-9300 NATIONAL RESPONSE CENTER # (800) 424-980 88 M04 METHYL ISO-BUTYL KETONE PAGE	• T • BAKER INC 222 RED SCHOOL LANE, PHI PIPSBURG, NJ 03365 MATERIAL SAFETY DATA SHEET
EFFECTIVE: 01/04/94 ISSUED: 01/14 ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE. THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET. NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCY SINVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) FOR ASSISTANCE. 	24-HOUR EMERGENCY TELEPHONE (908) 859-2151 EC # (800) 424-9300 NATIONAL RESPONSE CENTER # (800) 424-9802
ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE. THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET. NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) FOR ASSISTANCE. 	
THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE. THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDEO. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET. NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY GUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) FOR ASSISTANCE. C ^PYRIGHT 1994 J.T.BAKER INC. IRADEMARKS OF J.T.BAKER INC. LAST PAGE	ED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE
THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET. NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) FOR ASSISTANCE. 	L MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL. AIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD UCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS
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A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) FOR ASSISTANCE. COPYRIGHT 1994 J.T.BAKER INC. RADEMARKS OF J.T.BAKER INC. === / ORVED BY QUALITY ASSURANCE DEPARTMENT. LAST PAGE	MATERIAL SAFETY DATA SHEET. REC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE
COPYRIGHT 1994 J.T.BAKER INC. TRADEMARKS OF J.T.BAKER INC. === TOROVED BY QUALITY ASSURANCE DEPARTMENT. LAST PAGE	AK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEFICALS. ALL CY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE
LAST PAGE	994 J.T.BAKER INC.
	QUALITY ASSURANCE DEPARTMENT.
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PAGE: 1 DATE: 07/01/92 ACCT: 146965-01 INDEX: 02921820210 CAT NO: H3031 PO NBR: 921019	PAGE: 2 DATE: 07/01/92 ACCT: 146965-01 INDEX: 02921820210 CAT NO: H3031 PO NBR: 921019
NEHEXANE* **NEHEXANE***	FLASH POINT: -7 F (-22 C) (CC) UPPER EXPLOSIVE LIMIT: 7.5%
ŧŧΝ ² HEXANE≰ŧ ŧ¥Ν ² HEXANEŧŧ	LOWER EXPLOSIVE LIMIT: 1.1% AUTOIGNITION TEMP.: 437 F (225 C)
MATERIAL SAFETY DATA SHEET	FLAMMABILITY CLASS(OSHA): IB
EISHER SCIENTIFIC EMERGENCY NUMBER: (201) 796-7100 CHEMICAL DIVISION CHEMTREC ASSISTANCE: (800) 424-9300 I REAGENT LANE	FIREFIGHTING MEDIA: Dry Chemical, Carbon Dioxide, Water Spray or Regular Foam (1990 Emergency Response Guidebook, Dot p 5800.5).
FAIR LAWN NJ 07410 (201) 796-7100	FOR LARGER FIRES, USE WATER SPRAY, FOG OR REGULAR FOAM (1990 Emergency response guidebook, dot p 5800.5).
THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY AERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE, USERS HOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.	FIREFIGHTING: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS. FOR MASSIVE FIRE IN CARGO AREA, USE UNMANNED HOSE HOLDER OR MONITOR NOZZLES; IF THIS IS IMPOSSIBLE, WITHDRAW FROM AREA AND LET FIRE BURN. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE. ISOLATE FOR 1/2 MILE IN ALL DIRECTIONS IF TANK, RAIL CAR OR TANK TRUCK IS INVOLVED IN FIRE
SUBSTANCE IDENTIFICATION	(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 27).
CAS-NUMBER 110-54-3 SUBSTANCE: **N-HEXANE** IRADE NAMES/SYNONYMS: HEXANE; NCI-CG0571; HEXYLHYDRIDE; NORMAL HEXANE; SKELLYSOLVE B;	EXTINGUISH ONLY IF FLOW CAN BE STOPPED; USE WATER IN FLOODING AMOUNTS AS FOG. Solid Streams may not be effective. Cool containers with flooding quantities of water. Apply from as far a distance as possible. Avoid breathing toxic vapors; keep upwind. Evacuate to a radius of 1500 feet for uncontrollable fires. Consider evacuation of downwind area if material is leaking.
STCC 4908183; UN 1208; H301; C6H14; ACC10950 Chemical Family: Iydrocarbon, Aliphatic	WATER MAY BE INEFFECTIVE (NFPA 325M, FIRE HAZARD PROPERTIES OF FLAMMABLE LIQUIDS, GASES, AND VOLATILE SOLIDS, 1991)
NOLECULAR FORMULA: C-H3-(C-H2)4-C-H3	TRANSPORTATION DATA
ADLECULAR WEIGHT: 86.18	DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101:
CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=3 REACTIVITY=0 PERSISTENCE=1 NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=3 REACTIVITY=0	FLAMMABLE LIQUID
COMPONENTS AND CONTAMINANTS	DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND SUBPART E: FLAMMABLE LIQUID
COMPONENT: N-HEXANE CAS# 110-54-3	DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49 CFR 173.119 EXCEPTIONS: 49 CFR 173.118
DTHER CONTAMINANTS: NONE.	FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180),
EXPOSURE LIMITS: A-HEXANE:	DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90)
50 PPM (180 MG/M3) OSHA TWA 50 PPM (180 MG/M3) ACGIH TWA 50 PPM (180 MG/M3) NIOSH RECOMMENDED TWA 50 PPM (180 MG/M3) DFG MAK TWA;	EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 10/18/91)
100 PPM (360 MG/M3) DFG MAK 30 MINUTE PEAK, AVERAGE VALUE, 4 TIMES/SHIFT Measurement method: charcoal tube; carbon disulfide; gas chromatography with Flame ionization detection; (Niosh Vol. III # 1500, Hydrocarbons).	U.S. DEPARTHENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: Hexanes-un 1208
PLAME INTERTION DETECTION, (NIGH VOL. 111 # 1960, INDROCARDING).	U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 3 - FLAMMABLE LIQUID
	U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101:
DESCRIPTION: CLEAR, COLORLESS MOBILE LIQUID WITH A MILD GASOLINE-LIKE ODOR. 30ILING POINT: 156 F (69 C) MELTING POINT: -139 F (-95 C)	PG II U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101
SPECIFIC GRAVITY: 0.6603 VISCOSITY: .32 CPS @ 25 C VOLATILITY: 100%	AND SUBPART E: FLAMMABLE LIQUID
APOR PRESSURE: 124 MMHG @ 20 C EVAPORATION RATE: (BUTYL ACETATE=1) 15.8	U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS:
PH: NEUTRAL : UBILITY IN WATER: 0.014% @ 20 C	EXCEPTIONS: 49 CFR 173.150 NON-BULK PACKAGING: 49 CFR 173.202
DDOR THRESHOLD: 64-244 PPM VAPOR DENSITY: 3.0	BULK PACKAGING: 49 CFR 173.242 U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101:
SOLVENT SOLUBILITY: SOLUBLE IN ALCOHOL, CHLOROFORM, ETHER, ACETONE, AND STHER ORGANIC SOLVENTS.	PASSENGER AIRCRAFT OR RAILCAR: 5 L Cargo Aircraft Only: 60 L
FIRE AND EXPLOSION DATA	TOXICITY
TIRE AND EXPLOSION HAZARD:	N-HEXANE: IRRITATION DATA: 10 MG EYE-RABBIT MILD.
DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME. Yapors are heavier than air and may travel a considerable distance to a source	TOXICITY DATA: 190 PPM/8 WEEKS INHALATION-HUMAN TCLO: 120 GM/M3
OF IGNITION AND FLASH BACK.	INHALATION-MOUSE LCLO; 28,710 MG/KG ORAL-RAT LD50; 831 MG/KG Intravenous-Mouse LDLO; 132 MG/KG Intravenous-Rabbit LDLO; 9100 MG/KG Intravendus-Mouse LDLO; MUTAGENIC DATA (RTECS); Reproductive effects
VAPOR-AIR MIXTURES ARE EXPLOSIVE.	DATA (RTECS). CARCINGEN STATUS: NONE.
DUE TO LOW ELECTROCONDUCTIVITY OF THE SUBSTANCE, FLOW OR AGITATION MAY GENERATE ELECTROSTATIC CHARGES RESULTING IN SPARKS WITH POSSIBLE IGNITION.	LOCAL EFFECTS: IRRITANT- SKIN, EYE. Acute toxicity level: relatively non-toxic by ingestion.

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INDEX: 02921820210 CAT NO: H3031 PO NBR: 921019 AT INCREASED RISK FROM EXPOSURE: PERSONS WITH SKIN, PULMONARY, LIVER, OR	INDEX: 02921820210 CAT NO: H3031 PO NBR: 921019
KIDNEY DISORDERS. Additional data: Alcohol may enhance the toxic effect. A low order of myocardial sensitization to epinephrine may occur. Acetone and methyl ethyl ketone may enhance the toxic effects.	REACTIVITY REACTIVITY: STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.
HEALTH EFFECTS AND FIRST AID INHALATION: N-HEXANE: IRRITANT/NARCOTIC/NEUROTOXIN.	INCOMPATIBILITIES: N-HEXANE: CALCIUM HYPOCHLORITE: FIRE AND EXPLOSION HAZARD. CHLORINE (LIQUID): FIRE AND EXPLOSION HAZARD. DINITROGEN TETRAOXIDE: POSSIBLE EXPLOSION HAZARD. OXIDIZERS (STRONG): FIRE AND EXPLOSION HAZARD.
5000 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. Acute Exposure - 880 PPM FOR 15 MINUTES HAS CAUSED UPPER RESPIRATORY TRACT IRRITATION. EXPOSURE TO 1000-5000 PPM MAY PRODUCE HEADACHE, NAUSEA, AND DIZZINESS OTHER FEFECTS MAY INCLUDE GIDDINESS CONGENTAG NUMBRESS IN THE	OXYGEN (CONCENTRATED): FIRE AND EXPLOSION HAZARD. PLASTICS, RUBBER, AND COATINGS: MAY BE ATTACKED. Sodium Hypochlorite: Fire and Explosion Hazard.
EXTREMITIES, DIFFICULTY WALKING, DEFECTS OF MEMORY, EXCITEMENT FOLLOWED BY DEPRESSION, AND UNCONSCIOUSNESS. ANESTHESIA OF SHORT DURATION WITHOUT SEQUELA IS POSSIBLE. PULMONARY EDEMA, CARDIAC ARRHYTHMIAS, BRAIN DAMAGE, CARDIAC ARREST AND DEATH MAY RESULT. HIGH CONCENTRATIONS MAY PRODUCE ASPHYXIA. CONVULSIONS HAVE BEEN PRODUCED IN ANIMALS. CHRONIC EXPOSURE- RESULTS IN AXONAL NEUROPATHY IS OF AN	DECOMPOSITION: THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON. POLYMERIZATION: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.
INSIDIOUS BILATERAL, SYMMETRICAL, SENSORIMOTOR, PERIPHERAL NATURE. 100 PPM DAILY MAY PRODUCE CHANGES IN MUSCLE STRENGTH. PROLONGED EXPOSURE MAY CAUSE FEFETCES AS IN ACUTE EXPOSIDE AS WELL AS MEMORY LOSS PROGRESSIVE	STORAGE AND DISPOSAL
PRODUCE ASPHYXIA. CONVULSIONS HAVE BEEN PRODUCED IN ANIMALS. CHRONIC EXPOSURE- RESULTS IN AXONAL NEUROPATHY. NEUROPATHY IS OF AN INSIDIOUS BILATERAL, SYMMETRICAL, SENSORIMOTOR, PERIPHERAL NATURE. 100 PPM DAILY MAY PRODUCE CHANGES IN MUSCLE STRENGTH. PROLONGED EXPOSURE MAY CAUSE EFFECTS AS IN ACUTE EXPOSURE AS WELL AS MEMORY LOSS, PROGRESSIVE WEAKNESS, ACHING MUSCLES, SENSORY LOSS IN FEET AND HANDS, CALF CRAMPS, FACIAL NUMBESS, IMPOTENCE, BLURRED VISION, COLOR VISION ABNORMALITIES, AND PARALYSIS OF MUSCLES USUALLY OF LOWER LIMBS. EXAMINATION REVEALS HYPOACTIVE DEEP KNEE REFLEXES, BLURTEN FOOTDROP, REDUCTION IN NERVE AND SENSITIVE CONDUCTION VELOCITIES, MODIFICATION, OF DIDATAL LATENCY,	OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.
DIMINISHING OF SENSORY POTENTIAL, AND NEUROGENIC ATROPHY OF SKELETAL Muscle. Reproductive effects have been reported in Animals.	**STORAGE**
FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY. SKIN CONTACT:	STORE IN ACCORDANCE WITH 29 CFR 1910.106. BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY, WHICH MAY BE IGNITED BY ELECTROSTATIC SPARKS, SHOULD BE STORED IN CONTAINERS WHICH MEET THE BONDING AND GROUNDING GUIDELINES SPECIFIED IN NFPA 77-1983, RECOMMENDED PRACTICE ON STATIC ELECTRICITY.
N-HEXANE: IRRITANT. ACUTE EXPOSURE- VAPOR MAY CAUSE IRRITATION WITH REDNESS. 2 ML/KG/4 HOURS ON	STORE AWAY FROM INCOMPATIBLE SUBSTANCES.
RABBIT SKIN RESULTED IN ATAXIA AND RESTLESSNESS. AT 5 ML/KG/4 HOURS SOME DEATHS OCCURRED. CHRONIEF- REPEATED OR PROLONGED CONTACT MAY CAUSE DERMATITIS OUE TO	STORE IN CLOSED CONTAINERS IN WELL-VENTILATED, COOL, DRY, DARK PLACE.
DEFATTING. BLISTER FORMATION, ITCHING, ERYTHEMA, PIGMENTATION AND PAIN HAVE BEEN REPORTED. SKIN EXPOSURES MAY ENHANCE NEUROTOXIC EFFECTS FROM Inhalation Exposure.	**DISPOSAL** DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF
FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO Evidence of chemical remains (approximately 15-20 minutes). Get medical Attention immediately.	HAZARDOUS WASTE, 40 CFR 262. EPA HAZARDOUS WASTE NUMBER DOO1. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY. ************************************
EYE CONTACT: N-HEXANE: IRRITANT.	AVOID CONTACT WITH HEAT, SPARKS, FLAMES, OR OTHER SOURCES OF IGNITION. VAPOR May be explosive. Avoid overheating of containers; containers may violently Rupture in heat of fire. Avoid contamination of water sources.
ACUTE EXPOSURE- CONTACT MAY CAUSE IRRITATION WITH REDNESS AND PAIN. VAPORS AT 880 PPM FOR 15 MINUTES CAUSED IRRITATION. CHRONIC EXPOSURE- REPEATED OR PROLONGED CONTACT WITH IRRITANTS MAY CAUSE CONJUNCTIVITIS.	**************************************
FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY. INGESTION:	OCCUPATIONAL SPILL: SHUT OFF IGNITION SOURCES. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATE SPRAY TO REDUCE VAPORS. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBE MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR LARGER SPILLS, DI FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING, FLAMES OR FLARES IN HAZAR AREA. KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND RESTRICT ENTRY.
N-HEXANE: NARCOTIC: ACUTE EXPOSURE- MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, HEADACHE, NAUSEA,	AREA. KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND RESTRICT ENTRY.
VOMITING, VERTIGO, BRONCHIAL AND GENERAL INTESTINAL IRRITATION WITH Abdominal Swelling and Pain. The Fatal Human dose may be about 50 grams. May Vaporize When Aspirated into the tracheobronchial tree with a Resultant Rapid Dilution of Alveolar air and Marked Fall in its oxygen Content, with consequent brain Damage or Cardiac Arrest.	PROTECTIVE EQUIPMENT VENTILATION: PROVIDE LOCAL EXHAUST VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS. VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF.
CHRONIC EXPOSURE- REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. FIRST AID- EXTREME CARE MUST BE USED TO PREVENT ASPIRATION. USE GASTRIC LAVAGE WITH ACTIVATED CHARCOAL AND A CUFFED ENDOTRACHEAL TUBE WITHIN 15 MINUTES. IN THE ABSENCE OF DEPRESSION OR CONVULSIONS OR IMPAIRED GAG REFLEX, IPECAC EMESIS CAN BE DONE. WHEN VOMITING BEGINS, KEEP HEAD LOWER	RESPIRATOR: THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1910 SUBPART Z.
THAN HIPS TO PREVENT ASPIRATION. AFTER VOMITING STOPS, GIVE 30-60 MILLILITERS OF FLEET'S PHOSPHO-SODA DILUTED 1:4 IN WATER. MAINTAIN AIRWAY, BLOOD PRESSURE AND RESPIRATION. (DREISBACH, HANOBOOK OF POISONING, 11TH ED.) TREATMENT MUST BE ADMINISTERED BY QUALIFIED MEDICAL PERSONNEL. GET MEDICAL ATTENTION.	THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AN BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).
ANTIDOTE: NO SPECIFIC ANTIDOTE, TREAT SYMPTOMATICALLY AND SUPPORTIVELY.	N-HEXANE: 500 PPM- ANY SUPPLIED-AIR RESPIRATOR. ANY SELF-CONTAINED BREATHING APPARATUS.

ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE: APPRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE. LOUBLING: WEIDTE: WEIDT:		
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PAGE: 3 PAGE: 4 DATE: 07/01/92 INDEX: 02921820210 DATE: 07/01/92 INDEX: 02921820210 ACCT: 14696 ACCT : 146965-01 146965-01 CAT NO: A4644 INDEX: 02921820210 CAT NO: A4644 PO NBR: 921019 EYE-RABBIT MODERATE; 100 MG/24 HOURS EYE-RABBIT MODERATE. TOXICITY DATA: 16,000 PPM/4 HOURS INHALATION-RAT LCLC; 12,800 FC.4/3 HOURS INHALATION-MOUSE LCLC; 12,800 MG/KG SKIN-RABBIT LD50; 5272 MG/KG ORAL-MAN LDLO; 14,432 MG/KG ORAL-MAN TDLO; 3570 MG/KG ORAL-HUMAN LDLO; 223 MG/KG ORAL-HUMAN TDLO; 5045 MG/KG ORAL-AT LD50; 3600 MG/KG ORAL-MUSE LD50; 5410 MG/KG ORAL-RABBIT LD50; 1537 MG/KG ORAL-DOG LDLO; 6 MG/KG SUBCUTANEOUS-MAMMAL LDLO; 6 GM/KG SUBCUTANEOUS-MOUSE LD50; 1088 MG/KG INTRAVENOUS-RABBIT LD50; 1509 MG/KG INTRAVENOUS-MOUSE LD50; 1088 MG/KG INTRAVENOUS-RABBIT LD50; 1509 MG/KG INTRAVENOUS-MOUSE LD50; 1088 MG/KG INTRAVENOUS-RABBIT LD50; 1509 MG/KG INTRAVENOUS-CAT LDLO; 1024 MG/KG INTRAVENOUS-DOG LDLO; 2735 MG/KG INTRAVENOUS-CAT LDLO; 1024 MG/KG INTRAVENOUS-DOB LDLO; 567 MG/KG INTRAVENOUS-CAT LDLO; 1024 MG/KG INTRAVENOUS-DOB LDLO; 567 MG/KG INTRAVENOUS-CAT LDLO; 1024 MG/KG INTRAVENOUS-DOB LDLO; 5735 MG/KG INTRAVENOUS-CAT LDLO; 1024 MG/KG INTRAVENOUS-DOB LDLO; 5667 MG/KG INTRAPERITONEAL-RABBIT LD50; 2560 MG/KG INTRAPERITONEAL-GUINEA PIG LD50; 3444 MG/KG INTRAVENOUS-LOGALDAL-GUINEA PIG LD50; 3444 MG/KG INTRAVENCAL-HAMSIER LD50; 2770 MG/KG UNREPORTED-MAN LDLO; MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS). CARCINOGEN STATUS: HUMAN INADEQUATE EYIDENCE, ANIMAL INADEQUATE EYIDENCE (IARC GROUP-3). STRONG ACID MANUFACTURING PROCESS: HUMAN SUFFICIENT EVIDENCE (IARC GROUP-3). STRONG ACID MANUFACTURING PROCESS: HUMAN SUFFICIENT EVIDENCE (IARC GROUP-3). STRONG ACID MANUFACTURING PROCESS: HUMAN SUFFICIENT EVIDENCE ACUTE TOXICITY LEVEL: SLIGHTLY TOXIC BY INGESTION, DERMAL ABSORPTION. TARGET EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSANT. AT INCREASED RISK FROM EXPOSURE: PERSONS WITH PRE-EXISTING SKIN DISORDERS; IMPAIRED LIVER, RENAL AND/OR PULMONARY FUNCTION, ADDITIONAL DATA: POTENTIATES THE EFFECT OF CARBON TETRACHLORIDE AND OTHER HEPATOTOXIC CHLORINATED ALIPHATIC HYDROCARBONS. PO NBR: 921019 PO NBR: 921019 ARCOTIC. ACUTE EXPOSURE- INGESTION MAY CAUSE ABDOMINAL PAIN, HEMATEMESIS, NAUSEA, VOMITING, AND HEMORRHAGE. CENTRAL NERVOUS SYSTEM DEPRESSION MAY OCCUR WITH HEADACHE, DIZZINESS, FLUSHING, INCOORDINATION, STUPOR, CONFUSION, HYPOTENSION, AREFLEXIA, AND REFRACTORY NARCOSIS. OLIGURIA FOLLOWED BY DIURESIS AND COMA MAY ALSO OCCUR. OTHER SYMPTOMS MAY INCLUDE HYPOGLYCEMIA, TENDERNESS AND EDEMA OF MUSCLES, AND ARRHYTHMIAS. VOMITING WITH ASPIRATION MAY CAUSE ASPIRATION PNEUMONIA. DEPRESSED RESPIRATION AND DEATH DUE TO RESPIRATORY PARALYSIS MAY UCCUR IN A FEW HOURS AFTER EXPOSURE. SEVERE AND PROLONGED SHOCK MAY LEAD TO SERIOUS OR FATAL RENAL DAMAGE AFTER SEVERAL DAYS, PATHOLOGIC FINDINGS HAVE INCLUDED EXTENSIVE HEMORRHAGIC TRACHEOBRONCHITIS, BRONCHOPNEUMONIA AND HEMORRHAGIC PULMONARY EDEMA. NARCOTIC EDEMA LOEMA. CHRONIC EXPOSURE- NO ADVERSE EFFECTS RESULTED IN HUMANS FOLLOWING DAILY INGESTION OF 2.6 AND 6.4 MG/KG FOR 6 WEEKS. RATS THAT INGESTED 0.5 TO 10.02 ISOPROPYL ALCOHOL IN DRINKING WATER FOR 27 WEEKS SHOWED DECREASED BODY WEIGHT. PROLONGED ORAL ADMINISTRATION IN RABBITS PRODUCED ANESTHESIA AND DEATH, REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. FIRST AID- IN RESPIRATORY DEPRESSION, GIVE OXYGEN BY ARTIFICIAL RESPIRATION. GIVE ACTIVATED CHARCOAL. GASTRIC LAVAGE WITH PROTECTED AIRWAY IS USEFUL EVEN IF DELAVED. DO NOT ATTEMPT EMESIS IF RESPIRATION IS DEPRESSED. MAINTAIN BLOOD PRESSURE. TREATMENT SHOULD BE ADMINISTERED BY QUALIFIED MEDICAL PERSONNEL (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). GET MEDICAL ATTENTION ANTIDOTE NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ------HEALTH EFFECTS AND FIRST AID INHALATION:
ISOPROPYL ALCOHOL (ISOPROPANOL; 2-PROPANOL):
IRRITANT/NARCOTIC. 12,000 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH.
ACUTE EXPOSURE - HUMAN SUBJECTS EXPOSED TO 400 PPM FOR 3-5 MINUTES HAD MILD IRRITATION OF THE NOSE AND THROAT. AT 800 PPM THE IRRITATION WAS NOT SEVERE BUT UNCOMFORTABLE. HIGHER CONCENTRATIONS MAY CAUSE EFFECTS AS DETAILED IN ACUTE INGESTION. THE LENGTH OF TIME REQUIRED TO PRODUCE DEEP NARCOSIS IN ANIMALS WAS INVERSELY PROPORTIONAL TO THE CONCENTRATION: THE ONSET OF DEEP NARCOSIS RANGED FROM 460 MINUTES AT 3250 PPM TO 100 MINUTES AT 24,500 PPM.
CHRONIC EXPOSURE - MICE SUBJECTED TO 10900 PPM ISOPROPYL ALCOHOL IN AIR FOR ABOUT 4 HOURS/DAY UNTIL THEY HAD ACCUMULATED 123 HOURS OF EXPOSURE WERE NARCOTIZED BUT SURVIVED. REVERSIBLE FATTY CHANGES WERE 0BSERVED IN THE LIVER. MALE MICE EXPOSED TO EITHER 1000 OR 5000 PPM OF ISOPROPYL ALCOHOL VAPOR FOR 6 HOURS A DAY FOR 9 EXPOSURES EXHIBITED HYALINE DROPLET NEPROPATHY. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. THERE HAS BEEN AN INCREASED INCIDENCE OF CANCER OF THE PARANASAL SINUSES, AND POSSIBLY OF THE LARYNX, IN THE MANUFACTURE OF ISOPROPYL ALCOHOL BY THE STRONG ACID PROCESS, INVOLVING THE FORMATION OF ISOPROPYL OILS. IT IS NOT CLEAR WHICH SUBSTANCES ARE RESPONSIBLE. REACTIVITY INHALATION: REACTIVITY: REACTIVITT: ISOPROPYL ALCOHOL (ISOPROPANOL; 2-PROPANOL): STABLE UNDER NORMAL TEMPERATURES AND PRESSURES. MAY SLOWLY PEROXIDISE ON EXPOSURE TO AIR UNDER NORMAL STORAGE CONDITIONS. AN EXPLOSION HAZARD MAY EXIST IF THE SUBSTANCE IS DISTILLED OR ALLOWED TO EVAPORATE TO DRYNESS. INCOMPATIBILITIES: ISOPROPYL ALCOHOL (ISOPROPANOL; 2-PROPANOL): ACIDS: INCOMPATIBLE. ACIDS: INCOMPATIBLE. ACIDS ANHYDRIDES: INCOMPATIBLE. ALUMINUM: DISSOLUTION IS EXOTHERMIC. BARIUM PERCHLORATE: FORMATION OF EXPLOSIVE COMPOUND. 2-BUTANONE (METHYL ETHYL KETONE): ACCELERATES THE PEROXIDATION OF THE ALCOHOL CHROMIUM TRIOXIDE (GRANULAR): IGNITION. COATINGS: MAY BE ATTACKED. DIOXIGENVL_TEIRAFLUOROBORATE: IGNITION AT AMBIENT TEMPERATURES. HALOGENS: INCOMPATIBLE. HYDROGEN + PALLADIUM (PARTICLES): IGNITION ON EXPOSURE TO AIR. HYDROGEN + PALLADIUM (PARTICLES): IGNITION ON EXPOSURE TO AIR. HYDROGEN PEROXIDE: FORMATION OF EXPLOSIVE COMPOUND. KETONES: MARKEDLY INCREASES THE POSSIBILITY OF PEROXIDATION. NITROFORM (TRINITROMETHANE): DISSOLVES LIBERATING HEAT AND POSSIBLY FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY. EXPLODING OLEUM: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. OLEUM: TEMPERATURE AND PRESSURE INCREASE IN CLOSED CONTAINER. OXIDIZERS (STRONG): FIRE AND EXPLOSION HAZARD. OXYGEN (GAS): AUTOXIDATION, ON EXPOSURE TO LIGHT, RESULTS IN FORMATION OF KETONES AND POTENTIALLY EXPLOSIVE HYDROGEN PEROXIDE. PHOSGENE: IN THE PRESENCE OF IRON SALTS, MAY EXPLODE. PLASTICS: MAY BE ATTACKED. POTASSIUM TERT-BUTOXIDE: IGNITION. RUBBER: MAY BE ATTACKED. SKIN CONTACT: ISOPROPYL ALCOHOL (ISOPROPANOL; 2-PROPANOL): NARCOTIC ACUTE EXPOSURE- CONTACT WITH THE SKIN MAY CAUSE SLIGHT IRRITATION. CONTACT ACUTE EXPOSURE- CONTACT WITH THE SKIN MAY CAUSE SLIGHT IRRITATION. CONTACT DERMATITIS HAS BEEN REPORTED IN A FEW SENSITIVE INDIVIDUALS. SUBSTANCE MAY BE DERMALLY ABSORBED RESULTING IN SYSTEMIC TOXICITY AS DETAILED IN ACUTE INGESTION. TOXIC EFFECTS MAY BECOME MORE MARKED IF ABSORPTION AND INHALATION OCCUR CONCURRENTLY. CHRONIC EXPOSURE- REPEATED OR PROLONGED EXPOSURE MAY CAUSE DERMATITIS DUE TO THE DEFATTING ACTION ON THE SKIN. REPEATED AND PROLONGED EXPOSURE TO THE SKIN OF RABBITS CAUSED SLIGHT ERYTHEMA, DRYING, AND SUPERFICIAL SODIUM DICHROMATE + SULFURIC ACID: EXOTHERMIC REACTION WITH POSSIBLE INCANDESCENCE . SEE ALSO ALCOHOLS. DESQUAMATION DECOMPOSITION: THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON. FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES), GET MEDICAL POLYMERIZATION: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES. ATTENTION IMMEDIATELY. FYE CONTACT: ------ISOPROPYL ALCOHOL (ISOPROPANOL; 2-PROPANOL): STORAGE AND DISPOSAL IRRITANT RRITANI, ACUTE EXPOSURE- 400-800 PPM MAY CAUSE IRRITATION. IN RABBIT EYES, A DROP CAUSED MILD TRANSITORY INJURY AND A 50% AQUEOUS SOLUTION AFTER 3 MINUTES CAUSED MODERATE IRRITATION. CONTACT WITH A 70% SOLUTION CAUSED CONJUNCTIVITIS, IRRITATION, CONTACT OPACITY. CHRONIC EXPOSURE- PROLONGED OR REPEATED EXPOSURE TO VAPORS MAY CAUSE OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY. CONJUNCTIVITIS. **STORAGE** FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY. PRESERVE IN TIGHT CONTAINERS, REMOTE FROM HEAT. (U.S. PHARMACOPEIA, NATIONAL FORMULARY, 1985). STORE IN ACCORDANCE WITH 29 CFR 1910.106. INGESTION: BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY, WHICH ISOPROPYL ALCOHOL (ISOPROPANOL: 2-PROPANOL);

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PAGE: 6 DATE: 07/01/92 ACCT: 146965-01 INDEX: 02921820210 CAT NO: A4644 PO NBR: 921019 EMERGENCY EYE WASH: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE. AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 02/26/85 REVISION DATE: 05/01/92 -ADDITIONAL INFORMATION-
THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANNY OF MERCHANTABILITY OR ANY OTHER WARRANTY. EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES.

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INDEX: 02921280616 CAT NO: A4544 PO NBR: 510	INDEX: 02921280616 CAT NO: A4544 PO NBR: 510 OF IGNITION AND FLASH BACK.
	VAPOR-AIR MIXTURES ARE EXPLOSIVE.
MATERIAL SAFETY DATA SHEET	FLASH POINT: 52 F (11 C) (CC) UPPER EXPLOSIVE LIMIT: 36.0%
	LOWER EXPLOSIVE LIMIT: 6.0% AUTOIGNITION TEMP.: 725 F (385 C)
ISHER SCIENTIFIC EMERGENCY NUMBER: (201) 796-7100 HEMICAL DIVISION CHEMIDEC ASSISTANCE: (800) 424-9300	FLAMMABILITY CLASS(OSHA): IB
REAGENT LANE AIR LAWN NJ 07410 201) 795-7100	FIREFIGHTING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL-RESISTANT FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).
HIS INFORMATE AN IS DELIGYED TO BE ACCURATE AND REPRESENTS THE BEST NFORMATION CORRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF ERCHANTABILITY OF ANY ATTACE WARRANTY, EXEMESS OR IMPLIED, WITH RESPECT TO UCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS HOULD WARE INFIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE	FOR LARGER FIRES, USE WATER SPRAY, FOG OR ALCOHOL-RESISTANT FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).
UCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS Hould make their own investigations to determine the suitability of the Information for their Praticular Purposes.	FIREFIGHTING: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. DIKE FIRE-CONTROL
	MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. DIKE FIRE-CONTROL WATER FOR LATER DISPOSAL; DO NOT SCATTER THE MATERIAL. APPLY COOLING WATER TO Sides. OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT.
SURSTANCE IDENTIFICATION CAS-NUMBER 67-56-1 SUBSTANCE: **METMANOL**	STAY AWAY FROM ENDS OF TANKS. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE. ISOLATE FOR 1/2 MILE IN ALL DIRECTIONS IF TANK, RAIL CAR OR TANK TRUCK IS INVOLVED IN FIRE (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 28).
PADE NAMES/SYNONYMS: METHYL ALCOHOL; WOOD ALCOHOL; METHYL HYDROXIDE; CARBINOL; MERHYDROXYMETHANE; WOOD SPIRIT; WOOD NAPHTHA; METHYLOL; COLONIAL SPIRIT; COLUMBIAN METHANE; YOOD SPIRIT; COULOMATIC (R) CONDITIONER SOLUTION; STANDARL WATER IN METHANOL; STCC 4909230; UN 1230; RCRA U154; A454; Koigi A36; A408; A947; A335; BP1105; A412; A411; A433P; SW2;; 	EXTINGUISH ONLY IF FLOW CAN BE STOPPED; USE WATER IN FLOODING AMOUNTS AS FOG, Solid Streams may not be effective. Cool containers with flooding quantities of water, apply from as far a distance as possible. Avoid breathing toxic vapors, keep upwind.
A454; 7.452; A936; A408; A947; A935; BP1105; A412; A411; A433P; SW2;; SC95; A452SK; A408SK; A412P; A434; A412SK; A450; A433S; CH40; ACC14280	TRANSPORTATION DATA
HEMICAL FAMILY: YDROXYL, ALIPHATIC	DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49 CFR 172.101: Flammable Liquid
IOLECULAR FORMULA: C-H3-O-H	DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49 CFR 172.101 AND
DLECULAR WEIGHT: 32.04	SUBPART E: Flammable liquid
ERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=3 REACTIVITY=0 PERSISTENCE=0 FPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=3 REACTIVITY=0	DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49 CFR 173.119 Exceptions: 49 CFR 173.118
COMPONENTS AND CONTAMINANTS OMPONENT: METHYL ALCOHOL (METHANOL) PERCENT: 100 CAS# 67-56-1	FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90)
THER CONTAMINANTS: NONE XPOSURE LIMITS:	EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES. THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 10/18/91)
HETHYL ALCOHOL (METHANOL): 200 PPM (262 MG/M3) OSHA TWA (3KIM); 250 PPM (328 MG/M3) OSHA STEL 200 PPM (262 MG/M3) ACGIH IMA (SKIM); 250 PPM (328 MG/M3) ACGIH STEL	U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: Methyl Alcohol-un 1230
2C7 PPM (262 MG/M3) NIOSH RECOMMENDED TVA (SKIN); 250 PPM (328 MG/M3) NIOSH RECOMMENDED STEL 200 PPM (262 MG/M3) DFG MAK TWA (SKIN); 400 PPM (524 MG/M3) DFG MAK 30 MINUTE PEAK, AVERAGE VALUE, 4 TIMES/SHIFT	U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 3 - FLAMMABLE LIQUID
MEASUREMENT METHOD: SILICA GEL TUBE; WATER; GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION; (NIGSH VOL. III # 2000, METHANOL).	U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG II
SORG POUNDS CERCLA SECTION 103 REPORTABLE QUANTITY SUBJECT TO SARA SECTION 313 ANNUAL TOXIC CHEMICAL RELEASE REPORTING	U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E: Flammable Liquid, Poison
PHYSICAL DATA	U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS: EXCEPTIONS: NONE
ESCRIPTION: CLEAR, COLORLESS LIQUID WITH A CHARACTERISTIC ALCOHOLIC ODOR.	NON-BULK PACKAGING: 49 CFR 173.202 Bulk Packaging: 49 CFR 173.243
BOILING POINT: 149 F (65 C) MELTING POINT: -137 F (-94 C)	U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 1 L
SPECIFIC GRAVITY: 0.7914 VAPOR PRESSURE: 97.25 MMHG @ 20 C	PASSENGER AIRCRAFT ON RAILCAR: I L Cargo Aircraft Only: 60 L
VAPORATION RATE: (BUTYL ACETATE=1) 4.6 SOLUBILITY IN WATER: VERY SOLUBLE	τοχιζιτή
DOOR THRESTOLD: 100 PPM VAPOR DENSITY: 1.11	METHYL ALCOHOL (METHANOL):
SOLVENT SOLUBILITY: Forder, BENZENE, ALCOHOL, ACETONE, CHLOROFORM, ETHANOL. VISCOSITY: 0.59 CPS @ 20 C	IRRITATION DATA: 20 MG/24 HOURS SKIN-RABBIT MODERATE; 40 MG EYE-RABBIT MODERATE; 100 MG/24 HOURS EYE-RABBIT MODERATE; 40 MG EYE-RABBIT TOXICITY DATA: 86,000 MG/M3 INHALATION-HUMAN TCLO; 300 PPM INHALATION-HUMAN TCLO; 64,000 PPM/4 HOURS INHALATION-RAT LCSO; 1000 PPM INHALATION-MONNEY LCLO; 50 GM/M3/2 HOURS INHALATION-ROUSE LCLO; 44,000 MG/M3/6 HOURS INHALATION-CAT LCLO; 15,800 MG/KG SKIN-RABIT LDSO; 393 MG/KG SKIN-MONNEY LDLO; 428 MG/KG ORAL-HUMAN LDLO; 143 MG/KG ORAL-HUMAN LDLO; 6422 MG/KG ORAL-MAN LDLO; 3429 MG/KG ORAL-MAN TDLO; 4 GM/KG ORAL-MOUNAT DLO; 7 GM/KG ORAL-MONKEY LD5O; 5628 MG/KG ORAL-RAT LDSO; 7300 MG/KG ORAL-MOUSE LD5O; 14,200 MG/KG ORAL-RABBIT LD5O; 7500 MG/KG ORAL-DOG LDLO; 9800 MG/KG SUBCUTANEOUS-MOUSE LD5O; 2131 MG/KG INTRAVENOUS-RAT LD5O; 4710 MG/KG
FIRE AND EXPLOSION DATA	LCLO; 50 GM/M3/2 HOURS INHALATION-MOUSE LCLO; 1000 PPM INHALATION-MOURET LCLO; 50 GM/M3/2 HOURS INHALATION-MOUSE LCLO; 44,000 MG/M3/6 HOURS INHALATION-CAT LCLO; 15 800 MG/KG SKIN-DARDIT LDCO; 33 MC/KG SKIN-MONYEY
IRE AND EXPLOSION HAZARD:	LDLO; 428 MG/KG ORAL-HUMAN LDLO; 143 MG/KG ORAL-HUMAN LDLO; 642 MG/KG ORAL-MAN LDLO; 3429 MG/KG ORAL-HUMAN LDLO; 64 GRAL-HUMAN LDLO; 642 MG/KG
ANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT, FLAME, OR OXIDIZERS.	ORAL-MONKEY LD50; 5628 MG/KG ORAL-RAT LD50; 7300 MG/KG ORAL-MOUSE LD50; 14.200 MG/KG ORAL-RABBIT (D50; 7500 MG/KG ORAL-D0G LD 0; 8600 MG/KG
APORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE	SUBCUTANEOUS-MOUSE LDSG: 2131 MG/KG INTRAVENOUS-RAT LDSG: 4710 MG/KG

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<pre>conduct CPRC 14 Visit Target 12 Visit Target 24 Visit Target 24 Visit CPRC 14 Visit Target 24 Visit CPRC 14 Visit Target 24 Visit CPRC 14 Visit CPRC 14</pre>	INTRAVENOUS-CAT LOLO: 7529 MC/KG INTRAPERITONEAL-RAT LOSO: 10.765 MG/KG 1	CHRONIC EXPOSURE- REPEATED INGESTION MAY CAUSE VISUAL IMPAIRMENT AND BLINDNESS AND OTHER SYSTEMIC EFFECTS AS DETAILED IN ACUTE INGESTION.
 I Inclusion in a formation in a construction of the c	ARCINGEN STATUS; NONE. OCAL EFFECTS: IRTITANT- SKIN, EYE. CUTE TORICITY LEVEL: SLIGHTLY TOXIC BY INHALATION, DERMAL ABSORPTION, INGESTION.	
<pre>Media the FFECTS AND FIRST AID ANTON: WIT ACTORS: WIT ACTORS:</pre>	INCREASED RISK FROM EXPOSURE: PERSONS WITH KIDNEY, EYE OR SKIN DISORDERS.	SHOULD BE PERFORMED BY QUALIFIED MEDICAL PERSONNEL (DREISBACH, HANDBOOK
Cute produce, Mar Cause Infiliation of the MCGNES MEMBANES, COUDDING. Cut And Standard Cut And Standard Cute Medianes, Country of the Cute Standard Cute Medianes Cause Standard Cute Mediane	HEALTH EFFECTS AND FIRST AID	THE FOLLOWING ANTIDOTE(S) HAVE BEEN RECOMMENDED. HOWEVER, THE DECISION AS TO WHETHER THE SEVERITY OF POISONING REQUIRES ADMINISTRATION OF ANY ANTIDOTE AND
DATE EAPOSUME: REPEATED OF PROJUNCED EXPOSUME MAY CAUSE EFFECTS AS IN AARCE DIMINUTION OF PROJUNCED EXPOSIME FOR TAXES TO THE LIVEN IN A WORKAN. AARCE DIMINUTION OF YISTON AND ENHANCEMENT OF THE LIVEN IN A WORKAN. AARCE DIMINUTION OF YISTON AND ENHANCEMENT OF THE LIVEN IN A WORKAN. ATO: REMOVE FORM EXPOSIME FOR TAXES TO FRESH AIR IMMEDIATELY. ATO: REMOVE FORM EXPOSIME AREA TO FRESH AIR IMMEDIATELY. ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION, SKIN ABSORPTION ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION, SKIN ABSORPTION ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION, SKIN ABSORPTION ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION, SKIN ABSORPTION ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION, SKIN ABSORPTION ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION, SKIN ABSORPTION ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION, SKIN ABSORPTION ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION, SKIN ABSORPTION ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION, SKIN ABSORPTION ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION, SKIN ABSORPTION ATO: REMOVE CONTACT INT LIQUID MAY CAUSE IRRITATION AND CRACE FAILING OF THE SKIN ARGUNITE CONTACT INT HE LIQUID MAY CAUSE FAILING OF THE SKIN ARGUNITE CONTACT INT AND CRACE FAILING OF CONTACT INT AND CRACE FAILI	IE EXPOSURE - MAY CAUSE IRRITATION OF THE MUCOUS MEMBRANES, COUGHING, PPRESSION IN THE CHEST, TRACHEITIS, BRONCHITIS, TINNITUS, UNSTEADY AIT, TWITCHING, COLIC, CONSTIPATION, NYSTAGMUS, AND BLEPHAROSPASM. YMPTOMS FROM OCCUPATIONAL EXPOSURE INCLUDE PARESTHESIAS, NUMBNESS AND MOOTING PAINS IN THE HANDS AND FOREARMS. METABOLIC ACIDOSIS, AND EFFECTS N THE EYES AND CENTRAL NERVOUS SYSTEM MAY OCCUR AS DETAILED IN ACUTE	GIVE ETHANOL, 50% (100 PROOF), 1.5 ML/KG ORALLY INITIALLY, DILUTED TO NOT MORE THAN 5% Solution, followed by 0.5-1.0 ML/KG Every 2 Hours Orally or Intravenously For 4 Days in order to reduce metabolism of methanol and to Allow Time For ITS excretion. Blood Ethanol Level Should be in the range of 1-1.5 MG/ML (DREISBACH, HANDBOOK OF POISONING, 12TH ED.). ANTIDOTE SHOULD
T ALD-REMOVE FROM ARTICLES AND FRESH AND LYN LEWEDIATELY. IF BREATHING STOPPED PERSON WARM AND AT REST. CALCUM FROM ARTICLES AND PRESSURES. THE FORGUME TO ALL ATTENTION MAD AT REST. STOPPED PERSON WARM AND AT REST. STOPPED PERSON WARM AND AT REST. CALCUM FROM ARTICLES AND PRESSURES. THE FORGUME STOPPED PERSON WARM AND AT REST. STOPPED PERSON WARMANN AND AT REST. STOPPED PERSON AND AND AND AND AT REST. STOPPED PERSON WARMANN AND AT REST. STOPPED PERSON AND AND AND AND AND AND AT REST. STOPPED PERSON AND AND AND AND AND AND AND AND AND AN	RONIC EXPOSURE- REPEATED OR PROLONGED EXPOSURE MAY CAUSE EFFECTS AS IN ACUTE INGESTION. REPEATED EXPOSURE TO 200-375 PPM CAUSED RECURRENT HEADACHES IN WORKERS. EXPOSURE FOR 4 YEARS TO 1200-8000 PPM RESULTED IN MARKED DIMINUTION OF VISION AND ENLARGEMENT OF THE LIVER IN A WORKMAN.	ORAL OR INTRAVENOUS ADMINISTRATION OF 4-METHYLPYRAZOLE INHIBITS ALCOHOL Dehydrogenase and has been used effectively as an antidote for methanol or Ethylene glycol poisoning (ellenhorn and barceloux, medical toxicology).
REAT STMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY. N CONTACT: IN CONTACT: N CONTACT: IN COMPACT: IN COMPACT	AS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST.	REACTIVITY
 HINT ALCONOL INETHANDLI: HIAT JARAFOLZ HIAT JAROLIC ACLOBEL METADOLIS HIAT JAROLICAL CONTROLLED IN ALCOND HIT LEGUID MAY CAUSE IRRITATION. SKIN ABSORPTION MERVOUS SYSTEM AS DEFINED IN ACLOUE INGESTION. HETMYL ALCOHOL (METHANOL): HINT ALCOHOL IN CLOUDE AND CAUSE IRRITATION. SKIN ABSORPTION MERVOUS SYSTEM AS DEFINED IN ACLIE INGESTION. HETMYL ALCOHOL (METHANOL): HINT ALCOHOL IN CONSULT INGESTION. HETMYL ALCOHOL (METHANOL): HINT ALCOHOL IN CONSULT INGESTION. HINT ALCOHOL IN CONSULT INGESTION. HETMYL ALCOHOL (METHANOL): HINT ALCOHOL INGE AND UNCES INMEDIATELY. HINT ALCOHOL INGENERATION AND EXPLOSION HAZARD. HINT ALCOHOL INGENERATION INGE AND UNCES INMEDIATELY. HINT ALCOHOL INGENERATION INGE AND UNCES INMEDIATELY. HINT ALCOHOL INGENERATION INGE INFLORMATION OF INTER UNTIL NO COLUMNATELY IS 20 MINUTES). HINT ALCOHOL INGENERATION INGE AND UNCES INMEDIATELY. HINT ALCOHOL INGENERATION INGEN	TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY.	REACTIVITY: Stable under normal temperatures and pressures.
ARST ALD- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREAULT OF CHEMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREAULT OF CHEMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREAULT OF CHEMINATION CLOTHING AND SHOES IMMEDIATELY IS-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY IS-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY SCORE AND AND CALLARD AND SUBSCIENT CONTACT: THYL ALCOHOL (METHANOL): TIAT: ACCOMPARIES IN ARCASS IN ARABITS. APPROVING OF THE CONJUNCTIVA AND EPITHELIAL DEFECTS ON THE CORREA. MILD IRRITATION MAY OCCUM WITH DILUTE SOLUTIONS; THE UNDILUTED LIQUID HAS PRODUCED MODERATE CORMEAL DFORMIC EXPOSIBLE IGNITION IN THE PRESSION ARABITS. APPROJUCED MODERATE CORMEAL DATAGET AND CONJUNCTIVAL REDUSSION HAZARD. CHRONIC EXPOSIBLE IGNITION IN THE PRESSION ARABITS. APPROJUCED MODERATE CORMEAL DATAGET AND CONJUNCTIVAL REDUSSION HAZARD. CHRONIC EXPOSIBLE IGNITION IN THE PRESSION ARABITS. APRODUCED MODERATE CORMEAL DATAGET AND CONJUNCTIVAL REDUSSION HAZARD. CHRONIC EXPOSIBLE IGNITION IN THE PRESSION ARABITS. APRODUCED MODERATE CORMEAL DATAGET AND CONJUNCTIVAL REDUSSION HAZARD. CHRONIC EXPOSIBLE IGNITION IN THE PRESSION AND CAUSE CONJUNCTIVITIS. REMAINS (APPROXIMATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, DCCASIONALLY LIFTING UPPER AND LOWER LIDS. UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, DCCASIONALLY LIFTING UPPER AND LOWER LIDS. UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, DCCASIONALY LIFTING UPPER AND LOWER LIDS. UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY IS-20 MINUTES). GET MEDICAL ATTENTION MANO CENT RAY POLYMERIZZION: CALOBITICS, NAUSER, YONTING, CCASSIONAL DIARMENTER, ANOREXIA, YOLDENT FAIN IN THE BACK, AB	THYL ALCOHOL (METHANOL): RITANT/NARCOTIC/NEUROTOXIN. ACUTE EXPOSURE- CONTACT WITH LIQUID MAY CAUSE IRRITATION. SKIN ABSORPTION MAY OCCUR AND CAUSE METABOLIC ACIDOSIS AND EFFECTS ON THE EYES AND CENTRAL NERYOUS SYSTEM AS DETAILED IN ACUTE INGESTION. CHRONIC EXPOSURE- REPEATED OR PROLONGED CONTACT WITH THE LIQUID MAY CAUSE DEFATITING OF THE SKIN RESULTING IN ERYTHEMA, SCALING, AND ECZEMATOID DERMAITIS CHRONIC ABSORPTION MAY RESULT METABOLIC ACIDOSIS AND EFFECTS	METHYL ALCOHOL (METHANOL): ACETYL BROMIDE: VIOLENT REACTION WITH FORMATION OF HYDROGEN BROMIDE. ALKYLALUMINUM SOLUTIONS: VIOLENT REACTION. ALMINUM: CORRODES. BARIUM PERCHLORATE: DISTILLATION YIELDS HIGHLY EXPLOSIVE ALKYL PERCHLORATE. BERYLLIUM HYDRIDE: VIOLENT REACTION, EVEN AT -196 C. BROMINE: VIGOROUSLY EXOTHERMIC REACTION. CALCIUM CARBIDE: VIOLENT REACTION. CALCIUM CARBIDE: VIOLENT REACTION. CALCIUM CARBIDE: VIOLENT REACTION. CHLORINE: POSSIBLE IGMITION AND EXPLOSION HAZARD.
LCOADL (METHANOL): EXPOSURE- VAPORS MAY CAUSE IRRITATION. HIGH CONCENTRATIONS HAVE REPORTED TO CAUSE VIOLENT INFLAMMATION OF THE CONJUNCTIVA AND HELIAL DEFECTS ON THE CORNEA. MILD TARTITATION MAY OCCUR WITH TE SOLUTIONS; THE UNDILLTED LIQUID HAS PRODUCED MODERATE CORNEAL TIY AND CONJUNCTIVAL REDNESS IN RABBITS, APPLICATION OF A ROOP A SCALE OF 1-10 AFTER 24 HOURS. C EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS, D- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, ONALLY LIFTING UPPER AND LOWER LIDS, UNITL NO EVIDENCE OF CHEMICAL S (APPROKIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY. N: LCOHOL (METHANOL): NELECTION: NELECTION: NICHE TANOL): NELECTION: NICHE TANOL: NICHE TANOL TANOL: NICHE TANOL: NICHE TANOL TANOL: NICHE TANOL	ITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO CE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL	CHLOROFORM AND SODIUM HYDROXIDE: EXPLOSIVE REACTION. CHROMIUM TRIOXIDE (CHROMIC ANHYDRIDE): POSSIBLE IGNITION. CYANURIC CHLORIDE: VIOLENT REACTION. DICHLOROMETHANE: POSSIBLE IGNITION AND EXPLOSION. DICHYL ZINC: POSSIBLE IGNITION AND EXPLOSION.
UTE EXPOSURE VAPORS MAY CAUSE IRRITATION. HIGH CONCENTRATIONS HAVE BEEN REPORTED TO CAUSE VIOLENT INFLAMMATION OF THE CONJUNCTIVA AND PITHELIAL DEFECTS ON THE CORNEA. MILD IRRITATION MAY OCCUR WITH DILUTE SUDUTIONS; THE UNDILUTED LIQUID HAS PRODUCED MODERATE CONEAL OPACITY AND CONJUNCTIVAL REDMESS IN RABBITS. APPLICATION OF A DROP OF METHANOL IN RABBIT EYES CAUSED A MILD REVERSIBLE REACTION, GRADED OF METHANOL IN RABBIT EYES CAUSED A MILD REVERSIBLE REACTION, GRADED 3 ON A SCALE OF 1-10 AFTER 24 HOURS. RONIC EXPOSURE - REPEATED OF PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS. T AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, CASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL MAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY. STION: VI ALCOHOL (METHANOL): OTIC/HEUROTOXIN. UTE EXPOSURE - MAY CAUSE MILD AND TRANSIENT INEBRIATION AND SUBSEQUENT DROWSINGS FOLLOWED BY AN ASYMPTOMATIC PERIOD LASTING 8-48 HOURS. FOLLOWING THE DEELAY. FOLLOWING THE DEELAY, OR DIZZINESA, COUGHING, OYSPHEA, HEADACHE, DULLNESS, WEAKNESS, VI ALCOHOL IN THE BELAK, COUGHING, OFSPHEA, HEADACHE, DULLNESS, WEAKNESS, FOLLOWING THE DEELAY, COUGHING, OYSPHEA, HEADACHE, DULLNESS, WEAKNESS, VI ALCOHOL IN THE BELAK, COUGHING, OYSPHEA, HEADACHE, MOLLNESS, MEANNESS, FOLLOWING THE DEELAY, COUGHING, OYSPHEA, HEADACHE, MOLLNESS, WEAKNESS, VI ALCOHOL IN THE BELAK, COUGHING, OYSPHEA, HEADACHE, MOLLNESS, MEANNESS, VI ALCOHOL IN THE BELAK, COUGHING, OYSPHEA, HEADACHE, MOLLNESS, AND A DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON. FOLLOWING THE DELAY, COUGHING, OYSPHEA, HEADACHE, MOLLNESS, AND A DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON. FOLLOWING THE DELAY, COUGHING, OLICINE, AND XINN HYPOTENSION, YANGSIS OPISTHOTONSE, CONVULSIONS MILD TACHYCARDIA, CRADIA, CONSTION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON. FORDERPENSION OF DETAMONY OF COMAN XXIN HYPOTENSION, YANGSIS OPISTHOTONSE CONVULSIONS MILD TACHYCARDIA, CRADIA CONTACT OPPRESSION, YANGSIS OPISTHOTONSE CONVULSIONS	YL ALCOHOL (METHANOL):	LEAD: CORRODES,
VF METHANOL IN RABBIT EYES CAUSED A MILD REVERSIBLE REACTION, GRADED ION A SCALE OF 1-10 AFTER 24 HOURS. NONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS. NONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS. NONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS. NONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS. NONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS. NONIC EXPOSURE- REPEATED OR PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS. NONIC EXPOSURE CONTROL WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, NONIC EXPOSURE CONTACT MAY CAUSE CONJUNCTIVITIS. NONIC EXPOSITION LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL NOTO NETRICAL METHONOLS. NOTO NETRICAL METHONOLS. NILD REPEATED ON PROJUCTS MAY DECIDENT REACTION. NOTO NETRICAL METHONOLS. NOTO NETRICAL METHONOLOGIC CONTACT MAY CAUSE CONJUNCTIVITIS. NOTO NETRICAL METHONOLOGIC CONTACT MAY CAUSE CONJUNCTIVITIS. NOTO NETRICAL METHONOL NETRICAL NOTO NETRICAL METHONOLS. NOTO NETRICAL METHON	JTE EXPOSURE- VAPORS MAY CAUSE IRRITATION. HIGH CONCENTRATIONS HAVE SEEN REPORTED TO CAUSE VIOLENT INFLAMMATION OF THE CONJUNCTIVA AND PITHELIAL DEFECTS ON THE CORNEA. MILD IRRITATION MAY OCCUR WITH DILUTE SOLUTIONS; THE UNDILUTED LIQUID HAS PRODUCED MODERATE CORNEAL	MAGNESIUM: VIOLENT REACTION, Magnesium (powdered): mixtures are capable of detonation. Metals: incompatible. Nickel: possible ignition in the presence of nickel catalyst.
AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL ALCOHOL (METHANOL): L ALCOHOL (METHANOL): IC/NEUROTOXIN. L ALCOHOL (METHANOL): IC/NEUROTOXIN. L ALCOHOL (METHANOL): IC/NEUROTOXIN. L ALCOHOL (METHANOL): IC/NEUROTOXIN. L ALCOHOL (METHANOL): ACOUSTNESS FOLLOWED BY AN ASYMPTOMATIC PERIOD LASTING 8-48 HOURS. OLLOWING THE DELAY. COUGHING, DYSPNEA, HEADACHE, DULLNESS, WEAKNESS, ENTIGO OR DIZZINESS, NAUSEA, VOMITING, OCCASIONAL DILRRHEA, ANOREXIA, DOLOWING THE DELAY. COUGHING, DYSPNEA, HEADACHE, DULLNESS, WEAKNESS, ENTIGO OR DIZZINESS, NAUSEA, VOMITING, OCCASIONAL DILRRHEA, ANOREXIA, DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON. R DELIUIUM, AND RARELY, EXCITEMENT AND MANIA MAY OCCUR. RAPID, SHALLOW YANOSIS, OPISTHOTINOS, CONVULSIONS, MILD TACHYCARDIA, CARDIAC DEPRESSION, YANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA, CARDICULUSES AND POLYMERIZATION DUE TO METABOLIC ACIDESIS. COLD AND CLAMMY SKIN, HYPOTENSION, YANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA, CARDIAC DEPRESSION, YANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA, CARDIAC DEPRESSION, YANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA, CARDIAC DE	METHANOL IN RABBIT EYES CAUSED A MILD REVERSIBLE REACTION, GRADED ON A SCALE OF 1-10 AFTER 24 HOURS.	VIOLENTLY. Oxidizers (Strong): Fire and Explosion Hazard. PERCHIORIC ACID: EXPLOSION HAZARD
STION: /L ALCOHOL (METHANOL): /L ALCOHOL (METHANOL): /L ALCOHOL (METHANOL): /L ALCOHOL (METHANOL): /I C /REUROTOXIN. JTE (FILLOWED BY AN ASYMPTOMATIC PERIOD LASTING 8-48 HOURS. FOLLOWING THE DELAY. COUGHING, DYSPNEA, HEADACHE, DULLNESS, WEAKNESS, VERTIGO OR DIZZINESS, NAUSEA, VOMITING, OCCASIONAL DIARRHEA, ANOREXIA, VIOLENT PAIN IN THE BACK, ABDOMEN, AND EXTREMITIES, RESTLESSNESS, APATHY OR DELIUIUM, AND RARELY, EXCITEMENT AND MANIA MAY OCCUR. RAPID, SHALLOW RESPIRATION DUE TO METABOLIC ACIDOSIS, COLD AND CLAMMY SKIN, HYPOTENSION, CYANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA, CARDIAC DEPRESSION, CYANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA	A A D- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE,	PHOSPHOROUS TRIOXIDE: POSSIBLE VIOLENT REACTION AND IGNITION. Plastics, Rubber, Coatings: May be attacked. Potassium: Possible Dangerous Reaction. Potassium Hydroxide + Chloroform: Exothermic Reaction.
OTIC/NEUROTOXIN. UTE EXPOSURE- MAY CAUSE MILD AND TRANSIENT INEBRIATION AND SUBSEQUENT DROWSINESS FOLLOWED BY AN ASYMPTOMATIC PERIOD LASTING 8-48 HOURS. FOLLOWING THE DELAY, COUGHING, DYSPNEA, HEADACHE, DULLNESS, WEAKNESS, YERTIGO OR DIZZINESS, NAUSEA, VOMITING, OCCASIONAL DIARRHEA, ANOREXIA, YIOLENT PAIN IN THE BACK, ABDOMEN, AND EXTREMITIES, RESTLESSNESS, APATHY OR DELIUIUM, AND RARELY, EXCITEMENT AND MANIA MAY OCCUR. RAPID, SHALLOW RESPIRATION DUE TO METABOLIC ACIDOSIS, COLD AND CLAMMY SKIN, HYPOTENSION, CYANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA, CARDIAC DEPRESSION, CYANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA, CARDIAC DEPRESSION, CYANO	STION: YL ALCOHOL (METHANOL):	POTASSIUM TERT-BUTOXIDE: FIRE AND EXPLOSION HAZARD. Sodium + Chloroform: Possible Explosion. Sodium Hypochlorite: Explosion Hazard.
VIOLENT PAIN IN THE BACK, ABDOMEN, AND EXTREMITIES, RESTLESSNESS, APATHY OR DELIUIUM, AND RARELY, EXCITEMENT AND MANIA MAY OCCUR. RAPID, SHALLOW RESPIRATION DUE TO METABOLIC ACIDOSIS, COLD AND CLAMMY SKIN, HYPOTENSION, CYANOSIS, OPISTHOTONOS, CONVULSIONS, MILD TACHYCARDIA, CARDIAC DEPRESSION, DEPEDDUEDAL MENDIALS AND DUMANARY ECHAN INFORMATION CONSCIDINGES AND DEPEDDUEDAL MENDIALS AND DUMANARY ECHAN INFORMATION AND CONSCIDINGES AND DEPEDDUEDAL MENDIALS AND DUMANARY ECHAN INFORMATION CONSCIDINGES AND DEPEDDUEDAL MENDIALS AND DUMANARY ENDINGE OF CARBON.	COTIC/NEUROTOXIN. CUTE EXPOSURE - MAY CAUSE WILD AND TRANSIENT INEBRIATION AND SUBSEQUENT DROWSINESS FOLLOWED BY AN ASYMPTOMATIC PERIOD LASTING 8-48 HOURS. FOLLOWING THE DELAY, COUGHING, DYSPNEA, HEADACHE, DULLNESS, WEAKNESS,	SODIUM METHOXIDE + CHLOROFORM: VIOLENT REACTION. Sulfuric Acid; fire and explosion Hazard. Zinc; explosion Hazard.
DEDIDUEDAL NEUDITIS CEDERDAL AND DULMONADY EDEMA UNCONSCIOUSNESS AND IS TEMPEDATURES AND DESSURES	VIDLENT PAIN IN THE BACK, ABDOMEN, AND EXTREMITIES, RESTLESSNESS, APATHY	THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON.
COMA ARE POSSIBLE. EFFECTS ON THE EVE MAY INCLUDE OPTIC NEURITIS, BLURRED	DEDIDHEDAL NEUDITIS CEDEBDAL AND DULMONADY EDEMA UNCONSCIOUSNESS AND	HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.
COMA ARE POSSIBLE. EFFECTS ON THE EVE MAY INCLUDE OPTIC NEURITIS, BLURRED OR DIMMED VISION, DILATED, UNRESPONSIVE PUPILS, PTOSIS, EVE PAIN, CONCENTRIC CONSTRICTION OF VISUAL FIELDS, DILOPIA, CHANGE IN COLOR PERCEPTION, PHOTOPHOBIA, AND OPTIC NERVE ATROPHY. PARTIAL BLINDMESS OR PERCEPTION, PHOTOPHOBIA, AND OPTIC NERVE ATROPHY. PARTIAL BLINDMESS OR PERCEPTION, PHOTOPHOBIA, AND OPTIC NERVE ATROPHY. PARTIAL BLINDMESS OR	OR DIMMED VISION, DILATED, UNRESPONSIVE PUPILS, PTOSIS, EVE PAIN, CONCENTRIC CONSTRICTION OF VISUAL FIELDS, DIPLOPIA, CHANGE IN COLOR PERCEPTION, PHOTOPHORIA, AND OPTIC NERVE ATROPHY PARTIAL RITNONESS OR	STORAGE AND DISPOSAL
POSSIBLY DELAYED THANSIENT OF PERMANENT BEINDRESS MAY OUCLOR. BILATERAL SENSOFINEURAL DEAFNESS HAS BEEN REPORTED IN A SINGLE CASE. LIVER, KIDNEY, HEART, STOMACH, INTESTINAL AND PANCREATIC DAMAGE MAY ALSO OCCUR. DEATH MAY BE DUE TO RESPIRATORY FAILURE OR RARELY FROM CIRCULATORY COLLAPSE.	POSSIBLT DELAYED TRANSIENT ON PENMANENT BLINDNESS MAT OCCUR. BILATERAL SENSORINEURAL DEAFNESS HAS BEEN REPORTED IN A SINGLE CASE. LIVER, KIDNEY, HEART, STOMACH, INTESTINAL AND PANCREATIC DAMAGE MAY ALSO OCCUR. DEATH MAY BE DUE TO RESPIRATORY FAILURE OR RARELY FROM CIRCULATORY COLLAPSE.	OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.
AS LITILE AS 15 ML HAS CAUSED BLINDNESS; THE USUAL FATAL DOSE IS	AS LITTLE AS 15 ML HAS CAUSED BLINDNESS; THE USUAL FATAL DOSE IS	

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+ +STORAGE + +

STORE IN ACCORDANCE WITH 29 CFR 1910.106.

STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

++D1SP0SAL ++

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262. EPA HAZARDOUS WASTE NUMBER U154.

CONDITIONS TO AVOID

AVOID CONTACT WITH HEAT, SPARKS, FLAMES OR OTHER IGNITION SOURCES, VAPORS MAY BE EXPLOSIVE. MATERIAL IS POISONOUS; AVOID INHALATION OF VAPORS OR CONTACT WITH SKIN. DO NOT ALLOW MATERIAL TO CONTAMINATE WATER SOURCES.

SPILL AND LEAK PROCEDURES

SOIL SPILL:

DIG HOLDING AREA SUCH AS LAGGON, POND OR PIT FOR CONTAINMENT.

DIKE FLOW OF SPILLED MATERIAL USING SOIL OR SANDBAGS OR FOAMED BARRIERS SUCH AS POLYURETHANE OR CONCRETE.

AIR SPILL: APPLY WATER SPRAY TO KNOCK DOWN VAPORS.

WATER SPILL

ALLOW SPILLED MATERIAL TO AERATE.

LIMIT SPILL MOTION AND DISPERSION WITH NATURAL BARRIERS OR OIL SPILL CONTROL BOOMS

USE SUCTION HOSES TO REMOVE TRAPPED SPILL MATERIAL.

OCCUPATIONAL SPILL

ULLUPATIONAL SPILL: SHUT OFF IGNIIION SOURCES. DO NOT TOUCH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER SPRAY TO REDUCE YAPORS. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL, FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING, FLAMES OR FLARES IN HAZARD AREA! KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND DENY ENTRY.

REPORTABLE QUANTITY (RQ): 5000 POUNDS

THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) SECTION 304 REQUIRES THAT A RELEASE EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITY FOR THIS SUBSTANCE BE IMMEDIATELY REPORTED TO THE LOCAL EMERGENCY PLANNING COMMITTEE AND THE STATE EMERGENCY RESPONSE COMMISSION (40 CFR 355.40). IF THE RELEASE OF THIS SUBSTANCE IS REPORTABLE UNDER CERCLA SECTION 103, THE NATIONAL RESPONSE CENTER MUST BE NOTIFIED IMMEDIATELY AT (800) 424-8802 OR (202) 426-2675 IN THE METROPOLITAN WASHINGTON, D.C. AREA (40 CFR 302.6)

PROTECTIVE EQUIPMENT

VENTILATION: PROVIDE GENERAL DILUTION VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS. VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF.

RESPIRATOR

THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1910 SUBPART Z.

THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIGSH-MSHA).

METHYL ALCOHOL (METHANOL):

2000 PPM- ANY SUPPLIED-AIR RESPIRATOR. ANY SELF-CONTAINED BREATHING APPARATUS.

5000 PPM- ANY SUPPLIED-AIR RESPIRATOR OPERATED IN A CONTINUOUS-FLOW MODE.

10,000 PPM- ANY SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE. ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE. ANY SUPPLIED-AIR RESPIRATOR THAT HAS A TIGHT-FITTING FACEPIECE AND IS OPERATED IN A CONTINUOUS-FLOW MODE

25,000 PPM- ANY SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE AND OPERATED IN A PRESSURE - DEMAND OR OTHER POSITIVE PRESSURE MODE.

ESCAPE- ANY APPROPRIATE ESCAPE-TYPE, SELF-CONTAINED BREATHING APPARATUS.

INDEX: 02921280616 CAT NO: A4544 PO NBR: 510 FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS: ANY SELF-CONTAINED BREATHING APPARATUS THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE. ANY SUPPLIED-AIR RESPIRATOR THAT HAS A FULL FACEPIECE AND IS OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE IN COMBINATION WITH AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE. CLOTHING: TO PREVENT WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT REPEATED OR PROLONGED SKIN CONTACT WITH THIS SUBSTANCE.

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EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

EYE PROTECTION: EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES TO PREVENT EYE CONTACT WITH THIS SUBSTANCE.

EMERGENCY EYE WASH: WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH Fountain within the Immediate work area for emergency use.

AUTHORIZED - FISHER SCIENTIFIC, INC. CREATION DATE: 09/25/84 REVISION DATE: 02/25/92

-ADDITIONAL INFORMATION-THIS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. USERS

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* 11- PROPANOL 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-	VAPOR-AIR MIXTURES ARE EXPLOSIVE ABOVE FLASH POINT.	
	FLASH POINT: 74 F (23 C) (CC) UPPER EXPLOSIVE LIMIT: 13.7%	
MATERIAL SAFETY DATA SHEET	LOWER EXPLOSIVE LIMIT: 2.2% AUTOIGNITION TEMP.: 775 F (412 C)	
HER SCIENTIFIC EMERGENCY NUMBER: (201) 796-7100 EMICAL DIVISION CHEMTREC ASSISTANCE: (800) 424-9300 EAGENT LANE ILLUNG ILLUNG N. 207410	FLAMMABILITY CLASS(OSHA): IB FIREFIGHTING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL-RESISTANT FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).	
1) 796-7100 Is information is believed to be accurate and represents the rest	FOR LARGER FIRES, USE WATER SPRAY, FOG OR ALCOHOL-RESISTANT FOAM (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).	
IS INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST ORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OF RCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO CH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS OULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE ORMATION FOR THEIR PARTICULAR PURPOSES.	ALCOHOL FOAM (NFPA 325M, FIRE HAZARD PROPERTIES OF FLAMMABLE LIQUIDS, GASES, AND VOLATILE SOLIDS, 1991).	
SUBSTANCE IDENTIFICATION CAS-NUMBER 71-23-8 JBSTANCE: **1-PROPANOL**	FIREFIGHTING: MOVE CONTAINER FROM FIRE AREA IF YOU CAN DO IT WITHOUT RISK. APPLY COOLING WATER TO SIDES OF CONTAINERS THAT ARE EXPOSED TO FLAMES UNTIL WELL AFTER FIRE IS OUT. STAY AWAY FROM ENDS OF TANKS. FOR MASSIVE FIRE IN CARGO AREA. USE UNMANNED HOSE HOLDER OR MONITOR NOZZLES; IF THIS IS IMPOSSIBLE. WITHDRAW FROM AREA AND LET FIRE BURN. WITHDRAW IMMEDIATELY IN CASE OF RISING SOUND FROM VENTING SAFETY DEVICE OR ANY DISCOLORATION OF TANK DUE TO FIRE. ISOLATE FOR 1/2 MILE IN ALL DIRECTIONS IF TANK, RAIL CAR OR TANK TRUCK IS INVOLVED IN FIRE (1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE 26).	6
-PROPYL ALCOHOL, ETHYL CARBINOL; PROPYL ALCOHOL; PROPANOL; N-PROPANOL; -HYDROXYPROPANE; OFTAL; OSMOSOL EXTRA; PROPANOL-1; PROPYLIC ALCOHOL; -PROPYL ALCOHOL; STCC 4909267; UN 1274; A-414; A-414-S; BP1130; ACC19780 EMICAL FAMILY: BROXYL, ALIPHATIC	EXTINGUISH ONLY IF FLOW CAN BE STOPPED: USE FLOODING AMOUNTS OF WATER AS A FOG, SOLID STREAMS MAY BE INEFFECTIVE. COOL CONTAINERS WITH FLOODING AMOUNTS OF WATER, APPLY FROM AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING VAPORS, KEEP UPWIND.	
DECULAR FORMULA: C3-H8-O	WATER MAY BE INEFFECTIVE (NFPA 325M, FIRE HAZARD PROPERTIES OF FLAMMABLE LIQUIDS, GASES, AND VOLATILE SOLIDS, 1991)	
ECULAR WEIGHT: 60.11	LIQUIDS, GASES, AND VOLATILE SOLIDS, 1991)	
CLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=3 REACTIVITY=0 PERSISTENCE=0 A RATINGS (SCALE 0-4): HEALTH=1 FIRE=3 REACTIVITY=0	TRANSPORTATION DATA	
COMPONENTS AND CONTAMINANTS	DEPARTMENT OF TRANSPORTATION HAZARD CLASSIFICATION 49-CFR 172.101: FLAMMABLE LIQUID	
IPONENT: 1-PROPANOL PERCENT: 100 CAS# 71-23-8	DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS 49-CFR 172.101 AND SUBPART E: FLAMMABLE LIQUID	
	DEPARTMENT OF TRANSPORTATION PACKAGING REQUIREMENTS: 49-CFR 173.125	
OSURE LIMITS; ROPYL ALCOHOL; 0 PPM (492 MG/M3) OSHA TWA; 250 PPM (614 MG/M3) OSHA STEL 0 PPM (492 MG/M3) ACGIH TWA (SKIN); 250 PPM (614 MG/M3) ACGIH STEL 0 PPM (492 MG/M3) NIOSH RECOMMENDED TWA (SKIN); 0 PPM (614 MG/M3) NIOSH RECOMMENDED STEL	EXCEPTIONS: 49-CFR 173.118 FINAL RULE ON HAZARDOUS MATERIALS REGULATIONS (HMR, 49 CFR PARTS 171-180), DOCKET NUMBERS HM-181, HM-181A, HM-181B, HM-181C, HM-181D AND HM-204. EFFECTIVE DATE OCTOBER 1, 1991. HOWEVER, COMPLIANCE WITH THE REGULATIONS IS AUTHORIZED ON AND AFTER JANUARY 1, 1991. (55 FR 52402, 12/21/90)	
ASUREMENT METHOD: CHARCOAL TUBE; 2-PROPANOL/CARBON DISULFIDE; GAS ROMATOGRAPHY WITH FLAME IONIZATION DETECTION; (NIOSH VOL. III # 1401, COHOLS II).	EXCEPT FOR EXPLOSIVES, INHALATION HAZARDS, AND INFECTIOUS SUBSTANCES, THE EFFECTIVE DATE FOR HAZARD COMMUNICATION REQUIREMENTS IS EXTENDED TO OCTOBER 1, 1993. (56 FR 47158, 09/18/91)	
NSHA LIMITS ADOPTED JANUARY 19, 1989 ARE SUBJECT TO THE DECISION OF THE THE CIRCUIT COURT OF APPEALS (AFL-CIO V. OSHA) AS OF JULY 7, 1992.**	U.S. DEPARTMENT OF TRANSPORTATION SHIPPING NAME-ID NUMBER, 49 CFR 172.101: N-PROPANOL-UN 1274	
PHYSICAL DATA	U.S. DEPARTMENT OF TRANSPORTATION HAZARD CLASS OR DIVISION, 49 CFR 172.101: 3 - FLAMMABLE LIQUID	
CRIPTION: COLORLESS, LIQUID, WITH A MILD ALCOHOLIC-LIKE AND SLIGHTLY	U.S. DEPARTMENT OF TRANSPORTATION PACKING GROUP, 49 CFR 172.101: PG II	
PEFYING ODOR. BOILING POINT: 207 F (97 C)	U.S. DEPARTMENT OF TRANSPORTATION LABELING REQUIREMENTS, 49 CFR 172.101	
ELTING POINT: -195 F (-126 C) SPECIFIC GRAVITY: 0.8053 @ 20 C	AND SUBPART E: FLAMMABLE LIQUID	
APOR PRESSURE: 15 MMHG @ 20 C EVAPORATION RATE: (BUTYL ACETATE=1) 1.3	U.S. DEPARTMENT OF TRANSPORTATION PACKAGING AUTHORIZATIONS:	
DUBILITY IN WATER: SOLUBLE ODOR THRESHOLD: 30 PPM VAPOR DENSITY: 2.1	EXCEPTIONS: 49 CFR 173.150 NON-BULK PACKAGING: 49 CFR 173.202 BULK PACKAGING: 49 CFR 173.242	
ILVENT SOLUBILITY: SOLUBLE IN ETHANOL, ETHYL ETHER, ACETONE, BENZENE SCOSITY: 2.256 CP AT 20 C	U.S. DEPARTMENT OF TRANSPORTATION QUANTITY LIMITATIONS 49 CFR 172.101: PASSENGER AIRCRAFT OR RAILCAR: 5 L CARGO AIRCRAFT ONLY: 80 L	
FIRE AND EXPLOSION DATA		
RE AND EXPLOSION HAZARD: ANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.		
ODERATE EXPLOSION HAZARD WHEN EXPOSED TO HEAT OR FLAME. APORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE FIGNITION AND FLASH BACK.	N-PROPYL ALCOHOL (1-PROPANOL): IRRITATION DATA: 500 MG OPEN SKIN-RABBIT MILD; 20 MG/24 HOURS SKIN-RABBIT MODERATE; 4 MG OPEN EYE-RABBIT SEVERE; 20 MG/24 HOURS EYE-RABBIT MODERATE. TOXICITY DATA: 48 GM/M3 INHALATION-MOUSE LC50; 5040 MG/KG SKIN-RABBIT LD50; 5700 MG/KG ORAL-WOMAN LDLC; 1870 MG/KG ORAL-RAT LD50; 6800 MG/KG	

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PAGE: 3 DATE: 02/06/93 ACCT: 146965-01 INDEX: 45930368051 CAT NO: A4141 PO NBR: N/A	PAGE: 4 DATE: 02/06/93 ACCT: 146965-01 INDEX: 45930368051 CAT NO: A4141 PO NBR: N/A
	DELAYED. GIVE ACTIVATED CHARCOAL. IF RESPIRATION IS DEPRESSED. DO NOT ATTEMPT EMESIS; GIVE OXYGEN BY ARTIFICIAL RESPIRATION. MAINTAIN BLOOD PRESSURE. (DREISBACH, HANDBOOK OF POISONING, 11TH ED JLAVAGE MUST BE
ORAL-MOUSE LD50; 3500 MG/KG ORAL-RABBIT LDLO: 3 GM/KG ORAL-DOG LDLO; 4 GM/KG SUBCUTANEOUS-DOG LDLO; 3 GM/KG SUBCUTANEOUS-RABBIT LDLO: 4700 MG/KG SUBCUTANEOUS-MOUSE LD50: 5 MG/KG SUBCUTANEOUS-MAMMAL LDLO; 590 MG/KG INTRAVENOUS-RAT LD50; 697 MG/KG INTRAVENOUS-MOUSE LD50; 483 MG/KG INTRAVENOUS-RABBIT LD50; 4008 MG/KG INTRAVENOUS-CAT LDLO; 2164 MG/KG INTRAVENOUS-RABBIT LD50; 3125 MG/KG INTRAVENOUS-CAT LDLO; 2164 MG/KG INTRAPERITONEAL-RAT LD50; 3125 MG/KG INTRAPERITONEAL-MOUSE LD50; 515 MG/KG INTRAPERITONEAL-RABBIT LD50; 1208 MG/KG INTRAPERITONEAL-GUINEA PIG LD50; 2338 MG/KG INTRAPERITONEAL-HAMBITE LD50; 4500 MG/KG	ADMINISTERED BY QUALIFIED MEDICAL PERSONNEL. ANTIDOTE: NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.
MG/AG INF DATEMIN UNEAL FADBRIT LOSS 1200 MO/AG INFRACTOR AFORMAL SUMEAL FIG LD50: 2338 MG/KG INTRAPERITONEAL-HAMSTER LD50: 4500 MG/KG UNREPORTED-RABBIT LDLO: MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS); TUMORIGENIC DATA (RTECS). CARCINGGEN STATUS; NONE. LOCAL EFFECTS: IRRITANT- INHALATION, SKIN, EYE. ACUTE TOXICITY LEVEL: MODERATELY TOXIC BY INHALATION, INGESTION; SLIGHTLY	REACTIVITY REACTIVITY: STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.
TARGET EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSANT. AT INCREASED RISK FROM EXPOSURE: PERSONS WITH PRE-EXISTING SKIN DISORDERS; IMPAINED LIVER. RENAL AND/OR PULMONARY FUNCTION.	INCOMPATIBILITIES: N-PROPYL ALCOHOL (1-PROPANOL): ALKALI AND ALKALINE EARTH METALS: REACTS VIOLENTLY, GENERATING HIGHLY
ADDITIONAL DATA: ALCOHOL MAY ENHANCE THE TOXIC EFFECTS. HEALTH EFFECTS AND FIRST AID	FLAMMABLE HYDROGEN GAS. COATINGS: ATTACKED. OXIDIZERS (STRONG): POSSIBLE FIRE AND EXPLOSION. PLASTICS: ATTACKED. POTASSIUM TERT-BUTOXIDE: VIOLENT IGNITION MAY OCCUR. RUBBER: ATTACKED. SEE ALSO ALCOHOLS.
INHALATION: N-PROPYL ALCOHOL (1-PROPANOL): IRRITANT/NARCOTIC. 4000 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSURE- INHALATION OF VAPORS MAY CAUSE MODERATE IRRITATION OF THE	RUBBER: ATTACKED. SEE ALSO ALCOHOLS. DECOMPOSITION:
INHALATION: N-PROPYL ALCOHOL (1-PROPANOL): IRRITANT/NARCOTIC. 4000 PPM IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. ACUTE EXPOSUBE- INHALATION OF VAPORS MAY CAUSE MODERATE IRRITATION OF THE UPPER RESPIRATORY TRACT WITH COUGHING AND SHORTNESS OF BREATH. EXPOSURE TO HIGH CONCENTRATIONS MAY CAUSE MILD CENTRAL NERVOUS SYSTEM DEPRESSION WITH DIZZINESS, DROWSINESS, ATAXIA, INCOORDINATION, HEADACHE, STUPOR AND PERSISTENT NAUSEA AND VOMITING. AREFLEXIA, HEMATEMESIS, OLIGURIA FOLLOWED BY DIURESIS, LIVER DAMAGE, DEPRESSED RESPIRATION, PROSTRATION AND UNCONSCIOUSNESS MAY OCCUR. DEATH MAY OCCUR DUE TO RESPIRATORY FAILURE. MICE EXPOSED TO VAPOR AT 3250 PPM FOR 90-120 MINUTES DEVELOPED ATAXIA; DEEP MARCOSIS OCCURRED AFTER 240 MINUTES AT 4100 PPM AND AFTER 60 MINUTES AT 24 500 PPM.	THERMAL DECOMPOSITION PRODUCTS MAY INCLUDE TOXIC OXIDES OF CARBON. POLYMERIZATION: HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.
	STORAGE AND DISPOSAL
CHRONIC EXPOSURE- REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS. FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST.	OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE ENVIRONMENTAL PROTECTION AGENCY.
TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY. SKIN CONTACT: N-PROPYL ALCOHOL (1-PROPANOL):	**STORAGE** STORE IN ACCORDANCE WITH 29 CFR 1910.106.
IRRITANT. ACUTE EXPOSURE- CONTACT MAY CAUSE IRRITATION WITH REDNESS. ANIMAL STUDIES INDICATE SKIN ABSORPTION MAY OCCUR. CHRONIC EXPOSURE- REPEATED OR PROLONGED EXPOSURE MAY CAUSE DEFATTING OF THE SKIN RESULTING IN DRYING, CRACKING, DERMATITIS AND POSSIBLY CORROSION. IT IS POSSIBLE THAT PERSONS SENSITIVE TO ISOPROPYL ALCOHOL MAY HAVE A CROSS-REACTION WITH N-PROPYL ALCOHOL. APPLICATION OF 38 ML/KG PER DAY TO RABBIT SKIN FOR 30 DAYS OVER A PERIOD OF 6 WEEKS RESULTED IN DEATH OF	BONDING AND GROUNDING: SUBSTANCES WITH LOW ELECTROCONDUCTIVITY, WHICH MAY BE IGNITED BY ELECTROSTATIC SPARKS, SHOULD BE STORED IN CONTAINERS WHICH MEET THE BONDING AND GROUNDING GUIDELINES SPECIFIED IN NFPA 77-1983, RECOMMENDED PRACTICE ON STATIC ELECTRICITY.
IT IS POSSIBLE THAT PERSONS SENSITIVE TO ISOPROPYL ALCOHOL MAY HAVE A CROSS-REACTION WITH N-PROPYL ALCOHOL, APPLICATION OF 38 ML/KG PER DAY TO RABBIT SKIN FOR 30 DAYS OVER A PERIOD OF 6 WEEKS RESULTED IN DEATH OF ONE THIRD OF THE TEST ANIMALS.	STORE AWAY FROM INCOMPATIBLE SUBSTANCES. **DISPOSAL**
FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.	DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262. EPA HAZARDOUS WASTE NUMBER D001. 100 POUND CERCLA SECTION 103 REPORTABLE QUANTITY.
EYE CONTACT: N-PROPYL ALCOHOL (1-PROPANOL):	CONDITIONS TO AVOID AVOID CONTACT WITH HEAT, SPARKS, FLAMES, OR OTHER SOURCES OF IGNITION, VAPORS
ACUTE EXPOSURE- VAPORS MAY CAUSE TRANSIENT EYE IRRITATION WITH REDNESS AND PAIN. INSTILLATION OF 0.1 ML OF 1-PROPYL ALCOHOL INTO THE CONJUNCTIVAL SAC OF RABBITS PRODUCED MARKED TO SEVERE CONJUNCTIVITIS, IRITIS, CORNEAL OPACITIES AND ULCERATIONS, DELAYED EFFECTS OF PANNUS FORMATION AND	AVOID CONTACT WITH HEAT, SPARKS, FLAMES, OR OTHER SOURCES OF IGNITION. VAPORS MAY BE EXPLOSIVE AND POISONOUS: DO NOT ALLOW UNNECESSARY PERSONNEL IN AREA. DO NOT OVERHEAT CONTAINERS; CONTAINERS MAY VIOLENTLY RUPTURE AND TRAVEL A CONSIDERABLE DISTANCE IN HEAT OF FIRE.
CHRONIC EXPOSURE- REPEATED OR PROLONGED EXPOSURE MAY CAUSE CONJUNCTIVITIS.	SPILL AND LEAK PROCEDURES OCCUPATIONAL SPILL: SHUT OFF IGNITION SOURCES. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. USE WATER
FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPOXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY. INGESTION: N-PROPYL ALCOHOL (1-PROPANOL): NARCOTIC.	SPRAY TO REDUCE VAPORS. FOR SMALL SPILLS, TAKE UP WITH SAUD OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. NO SMOKING, FLAMES OR FLARES IN HAZARD AREA. KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND DENY ENTRY.
ACUTE EXPOSURE- INGESTION MAY CAUSE GASTROINTESTINAL PAIN, PERSISTENT NAUSEA AND VOMITING, HEMATEMESIS, CRAMPS, DIARRHEA AND DECREASED BLOOD PRESSURE. CENTRAL NERVOUS SYSTEM DEPRESSION MAY OCCUR WITH DROWSINESS, STUPOR, INCOORDINATION, ATAXIA, HEADACHE, DIZZINESS, AREFLEXIA, DEPRESSED RESPIRATION, PROSTRATION AND UNCONSCIOUSNESS. OLIGURIA FOLLOWED BY DIURESIS AND LIVER DAMAGE MAY ALSO OCCUR. ASPIRATION DIGURIA FOLLOWED BY DIURESIS AND LIVER DAMAGE MAY ALSO OCCUR. ASPIRATION DIEGNIA FOLLOWED BY DIURESIS AND LIVER DAMAGE MAY ALSO OCCUR. ASPIRATION DIEGNIA FOLLOWED BY DIURESIS AND LIVER DAMAGE MAY ALSO OCCUR.	
AREFLEXIA, DEPRESSED RESPIRATION, PROSTRATION AND UNCONSCIOUSNESS. OLIGURIA FOLLOWED BY DIURESIS AND LIVER DAMAGE MAY ALSO OCCUR. ASPIRATION PNEUMONIA IS ALSO A RISK. A HUMAN DEATH HAS BEEN REPORTED AFTER INGESTION OF 400 TO 500 ML. THE PATHOLOGICAL FINDINGS INCLUDED BRAIN AND LUNG EDEMA.	VENTILATION: PROVIDE LOCAL EXHAUST OR GENERAL DILUTION VENTILATION TO MEET PUBLISHED EXPOSURE LIMITS. VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF. RESPIRATOR:
CHRONIC EXPOSURE- PROLONGED TREATMENT OF RATS HAS BEEN REPORTED TO CAUSE SEVERE LIVER INJURY, HYPERPLASIA OF HEMATOPOIETIC TISSUE, MALIGNANT LIVER TUMORS AND LEUKEMIA.	THE FOLLOWING RESPIRATORS AND MAXIMUM USE CONCENTRATIONS ARE RECOMMENDATIONS BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; NIOSH CRITERIA DOCUMENTS OR BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1910 SUBPART Z.
FIRST AID- GASTRIC LAVAGE WITH A PROTECTED AIRWAY MAY BE USEFUL EVEN IF	THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND

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Product identification			
Chemical/Trade Name (identity used on label)		1	Chemical Family/Classification
Lead Acid Battery			Electric Storage Battery
Synonyms:Common'Name	DOT, IATA and IMO Desi	cription	
SLI or Industrial Battery	Battery, Wet, Fi	lled with	h Acid, UN 2794, Class 8
Company Name		Address	
Johnson Controls Battery Group, Inc.		P.O.1	Box 591
Division or Department			aukee, WI 53201
Starting, Lighting, Ignition Division & Specialty E	Battery Division		
CONTACT			TELEPHONE NUMBER
Questions Concerning MSDS			
Industrial Hygiene & Safety Department			Day: (414) 228-3138
Transportation Emergencies			
CHEMTREC			24 Hours: (800) 424-9300

				Exposure Limit:	5
Material	% by Wt.	CAS Number	OSHA	ACGIH	Other
Specific Chemical Identity			1	1	
Lead					
Common Name	34	7439-92-1	50 μg/m ³	150 μg/m ³	NIOSH 100 μg/m ³
Grid					,, "
Specific Chemical Identity				1	
Lead Dioxide					
Common Name	31	1309-60-0	50 μg/m³	150 μg/m ³	NIOSH 100 μg/m ³
Lead Oxide					loo µg/m
Specific Chemical Identity					
Lead Sulfate					
Common Name	<1	7446-14-2	50 µg/m ³	150 μg/m ³	NIOSH 100 μg/m ³
Anglisite					
Specific Chemical Identity				†	
Sulfuric Acid (35%)					NIOSH
Common Name	34	7664-93-9	1 mg/m ³	1 mg/m ³	1 mg/m ³
Battery Electrolyte (Acid)					
Specific Chemical Identity				+	
Common Name	1				
Specific Chemical Identity				1	
Common Name	1				
					1

NOTE: The contents of this product are toxic chemicals that are subject to the reporting requirements of section 302 and 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40CFR 355 and 372).

Material is (at normal temperatures)	,	Appearance and Odor
🔄 Solid 🛛 📿 Liquid		Battery electrolyte (acid) is a clear to cloudy liquid with slight
Boiling Point (at 760 mm Hg) Lead 1755°C Batt. Electrolyte (Acid) 110-112°C,	Meiling Point Lead 327.4°C	acidic odor. Acid saturated lead oxide is a dark reddish-brown to gray solid with slight acidic odor.
Specific Gravity (H ₂ O = 1)		Vapor Pressure X (mm Hg at 20°C) (PSIG)
Battery Electrolyte	(Acid) 1.210 – 1.300	Battery Electrolyte (Acid) 11.7
Vapor Density (AIR = 1) Battery Electro	yte (Acid) 3.4	Solubility in H ₂ O Battery Electrolyte (Acid) is 100% soluble in water. Lead – Lead Dioxide are not soluble.
3. Volatiles By Weight		Evaporation Rate (Butyl Acetate 1)
Not Det	ermined	Not Determined

IV. Health Hazard Information

NOTE: Under normal conditions will attery use, internal components will not resent a health hazard. The following information is provided for battery electrolyte (acid) and lead for exposure that may occur during battery production or container breakage or under extreme heat conditions such as a fire.

ROUTES AND METHODS OF ENTRY

Inhalation

Acid mist generated during battery formation may cause respiratory irritation. Spillage of acid from batteries in confined areas may also lead to exposure to sulfuric acid mist.

Skin Contact

Battery electrolyte (acid) may cause irritative contact dermatitis.

Skin Absorption

Skin absorption is not a significant route of entry.

Eye Contact

Battery electrolyte (acid) will irritate the eyes upon contact.

Ingestion

Hands contaminated by contact with internal components of a battery can cause ingestion of lead/lead compounds. Hands should be washed prior to eating, drinking, or smoking.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Acute Effects

Acute effects of overexposure to lead compounds are: GI (gastrointestinal) upset which may be loss of appetite, diarrhea and/or constipation with cramping, difficulty in sleeping, and fatigue. Exposure and/or contact with battery electrolyte (acid) may lead to acute irritation of the skin, corneal damage of the eyes, and irritation of the mucous membranes of the eyes and upper respiratory system including lungs.

Chronic Effects

Lead and its compounds may cause chronic anemia, damage to the kidneys and nervous system. Lead may also cause reproductive system damage and can affect developing fetuses in pregnant women. Battery electrolyte (acid) may lead to scarring of the cornea and chronic bronchitis as well as erosion of tooth enamel in mouth breathers in repeated exposures.

POTENTIAL TO CAUSE CANCER

The international Agency for Research on Cancer (IARC) has classified "strong inorganic acid mist containing sulfuric acid" as a Category 1 carcinogen, a substance that is carcinogenic to humans. This classification does not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product, such as overcharging, may however result in the generation of sulfuric acid mist.

EMERGENCY AND FIRST AID PROCEDURES

Remove from exposure and consult a physician if any of the acute effects listed above develop.

Skin

Inhalation

Wash thoroughly with soap and water. If acid is splashed on clothing, remove and discard. If acid is splashed in shoes, remove them immediately and discard. Acid cannot be removed from leather.

Eyes

IMMEDIATELY rinse with cool running water for at least 15 minutes. Seek medical attention after rinsing.

Ingestion

Lead/lead compounds: Consult a physician.

Battery Electrolyte (Acid): Do not induce vomiting. Refer to a physician immediately.

MEDICAL CONDITIONS WHICH CAN BE AGGRAVATED BY EXPOSURE

Inorganic lead and its compounds can aggravate chronic forms of kidney, liver, and neurologic diseases. Contact of battery electrolyte (acid) with the skin may aggravate skin diseases such as eczema and contact dermatitis.

	Autoignition Temperatures Flammable Limits in Air. % by Vol Hydrogen
Hydrogen – 259°C	Hydrogen 580°C LEL – 4.1 UEL – 74.2
Extinguishing Media	
Dry chemical, foam, or CO ₂ .	
Special Fire Fighting Procedures	
Use positive pressure, self-contained b	preathing apparatus.
Unusual Fire and Explosion Hazard	
Hydrogen and oxygen gases are prod oxygen supports combustion. These explosion, keep sparks and other sourc	fuced in the cells during normal battery operation, hydrogen is flammable a gases enter the air through the vent caps. To avoid the chance of a fire ces of ignition away from the battery.
/I. Reactivity Data	
Stability	Conditions to avoid
🗌 Unstable 🛛 Stable	Sparks and other sources of ignition may ignite hydrogen gas.
Battery electrolyte (acid): Combustible chlorates, nitrates, picrates, and fulmin	bides, sulfides, peroxides, phosphorus, sulfur. e materials, strong reducing agents, most metals, carbides, organic materia nates.
Hazardous Decomposition Products	
Lead/lead compounds: Oxides of lead a Battery electrolyte (acid): Hydrogen, su	
Hazardous Polymerization	Conditions to avoid
	High temperature. Battery electrolyte (acid) will react with water to
🗌 May Occur 🛛 🖓 Will Not Occur	produce heat. Can react with oxidizing or reducing agents.
VII. Control Measures	
Engineering Controls Store lead/acid batteries with adequate generation. Never recharge batteries in Work Practices	
Engineering Controls Store lead/acid batteries with adequate generation. Never recharge batteries in Work Practices Make certain vent caps are on tighting batteries. When stacking in trailer, si place hands at opposite corners to a	e ventilation. Room ventilation is required for batteries utilized for standby pon n an unventilated, enclosed space. y. Place a minimum of two layers of corrugated cardboard between layers tack no more than three layers high. Use a battery carrier to lift a battery avoid spilling acid through the vents. Avoid contact with internal componer
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Wash hands thoroughly	before eating, drinking, or smo	king after handling batteries.	
ctive Measures to be taken During N	on-routine Tasks including Equipment Maintenand	ce	
Wear recommended eye with water for 15 minut	protection. If clothing becomes es. Discard saturated clothing.	saturated with acid, remove and wash affected area	
	SPILL OR LEAK PRO	DCEDURES	
ctive Measures to be taken if Materia			
carbonate) or quicklime	(calcium oxide). Cover spill with	on. Contain spill by diking with soda ash (sodium h either chemical. Mix well. Make certain mixture is er suitable container. Dispose of as hazardous waste.	
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TRIANGLE SPECIALTY PRODUCTS DI TR20 MINGHT STREET + SUNE 130 + TELEPHINE (800) 546 JULT	VISION		A SUBSIDIA	RY OF NERR MIGLE RELIXING COR
MATERIAL SAFETY DATA SHEET				88-20-1410 W-1410
EMERGENCY TELEPHONE	405/270-2526	CHEMTREC 800/424-930	0	
	I. PRODUCT IDE	NTIFICATION		
KERMAC 100-W		Stoddardsso	NVent, Wh	ite Spirits
Petroleum Hydrocarbon Naphtha		CA-CIZ	CAS	64741-48-9
Institute Frotection Association HALARD BATING CODES Least - 0 Slight - 1 Aboderate 2 High - 3 Extrems - 4	HEALTH CODE	Z		CTIVITY CODE 0
	II. HAZARDOUS C	OMPONENTS		: atun katatatan ar ana - nagambari - ayay:
INGREDIENT	%	OSHA LIMIT		TLV
Stoddard Solvent	100	TWA-500 ppm		TWA-100 ppm STEL-200 ppm
Xylene	Up to 1%	TWA-100 ppm		TWA-100 ppm STEL-150 ppm
- 19 10 				
	HYSICAL AND CHE	NCAL PROPERTY	e	<u>an marina</u> (1997). An marina
ROLING POINT	VAPOR PRESSURE	~_ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ 	EVAPORATION ISTH	
JOO-410°F	MOLECULAR WEIGHT	(Estima	
100	Approximate		Clear	
Petroleum Naphtha/Approx 1 ppm	Not Avallab		4.8	00 WATER AT 20 'CI
0.78	<32 SUS @ 1		Neglig	

A SECOND AND METHOD	V. FIRE PROTECT	ION INFORMATION			
ag Closed Cup 100°F mlnim				1	6
action dioxide, dry chemica	al, or foam. Water s	tream may sprea	d fire, use wat	er spray	only to
ool containers exposed to isperse vapors.	fire. If leak or n	ill has not ign	lted, use water	spray t	0
ricomplete combustion can y	yield carbon monoxide	and various hyd	drocarbons.		
TOT AND TIPLOTION HATARDS	·				
an form flammable mixtures azard in fire situation. purce of ignition and flas	Vapor heavier than a	when heated to a Ir and may trave	approximately 10 21 considerable	00°F. E: distance	xplosion e to a
IN TO BOULS POLYMERIZATION		STABLITY			
Will Not Occur	May Occur	Stable	Unst	able	
1111 A110N	V. HEALTH IN	FORMATION			
ossible effects include he	adache, nasal and res	piratory irrita	: tion, nausea, d	lrows ines	55,
ossible effects include he	adache, nasal and res ary edema, central ne	spiratory irrita rvous system de	: tion, nausea, d pression.	lrowsines	55,
ossible effects include he	adache, nasal and res ary edema, central ne	piratory irrita rvous system de	: tion, nausea, d pression.	lrowsines	55,
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essible effects include he atigue, peumonitis, pulmon mitation mitation mitation, may cause dermain essible effects include hea	ary edema, central ne titis due to defattin /	g of keratin la	pression.		
And And And And And And And And And And And And And And And And	ary edema, central ne titis due to defattin /	g of keratin la ausea, fatigue, azard.	pression. yer. peumonitis, pu		edema,

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	VIII. TRANSPORTATI	ION AND STORAGE INFORM	IATION					
		OOT HAZAR						
	oleum naphtha_UN1255		istible_liquid					
ро л	ot store with strong oxidizers. Stor	e as OSHA Class II comb	oustible liquid.					
	19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. Januar – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 19. – 1							
.	IX. ENVIRO	NMENTAL PROTECTION						
SPILLS	Notify emergency response personnel. Evacuate area and remove ignition sources. Build dike to contain flow. Remove free liquid, do not flush to sewer or open water. Pick up with inert absorbent and place in closed container for disposal. If flash point of residue is under 140°F, utilize hazardous waste manifest and permitted hazardous waste disposal site. If flash is above 140°F, utilize permitted industrial waste disposal site.							
8	X . M	D 001	WARTE CHARACTERISTIC OF HAZARD CODE					
, WASTE DISPOSAL	Utilize licensed waste disposal company. Consider recycling or incineration. Based on flash point, utilize permitted hazardous waste disposal site and manifest or permitted industrial waste disposal site as appropriate.							
Manu de	n a signature (encourt safety and concliance) nd by Kerr McGee Refining Corporation for Triangle Refineries, Inc.	C.L. Russell	0ATE PAEPARED 5-15-85					
	the information and recommendations contained is cliable and to represent the best current opinion or r control the many different conditions under whe marantee that the recommendations will be ade escribed herein should determine the suitability pomply with all federal and state rules and regulation	n the subject at the time of pub hich this information or our p quate for all individuals or si of the described product for	lication. Since we cannot anticipate products may be used, we make no tuations. Each user of the product his particular purpose and should					

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VI.	FIRST	AID	PROCEDURES
			11100400140

Move exposed person to fresh air. If breathing has stopped, perform artificial respiration. Bot medical attention as soon as possible.

Immediately flush eyes with water for a minimum of 15 minutes, occasionally lifting the lower and upper lids. Get medical attention as soon as possible.

If clothing soaked, immediately remove clothing and wash skin with soap and water. Launder clothing before wearing. Get medical attention promptly.

FTF CONTACT

THUR CONTACT

Do not induce vomiting. Get medical attention as soon as possible.

VII. EMPLOYEE PROTECTION

ATAPIRATORY PROTECTION I UTILIZE MOSH APPROVED RESPIRATORS, REFER TO MANUFACTURES & PROTECTION FACTORS AND OSHA STANDARD 1910.134. AS A BUIDELINE!

Up to 500 ppm, half-mask organic vapor respirator. Up to 1000 ppm, full-face organic vapor respirator or full-face supplied air respirator. Greater than 1000 ppm, fire fighting, or unknown concentration, self-contained breathing apparatus with positive pressure.

ves: Nitr	ile, neopren	e or	other	material	resistant	to naphtha	solvent.
	ves: Nitri	ves: Nitrile, neopren	ves: Nitrile, neoprene or	ves: Nitrile, neoprene or other	ves: Nitrile, neoprene or other material	ves: Nitrile, neoprene or other material resistant	ves: Nitrile, neoprene or other material resistant to naphtha

Maintain local or dilution ventilation to keep air concentration below 100 ppm. Loading, unloading, tank gauging, etc. remain upwind. Request assistance of safety and industrial hygiene personnel to determine air concentrations.





ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

April 25, 1995

CERTIFIED MAIL RETURN RECEIPT NO.Z-765-962-671

Mr. Morris D. Young ENVIROTECH INC. 5796 U.S. Highway 64-3014 Farmington, NM 87401

RE: Discharge Plan Requirement Inspection Farmington Facilities San Juan County, New Mexico

Dear Mr. Young:

Outlined below are the observations and findings made by the NMOCD team that recently inspected the Envirotech Inc. facilities located at 5796 and 5726 HWY 64 in Farmington, New Mexico.

- 1. 5 waste streams were identified in the lab area with all wastes segregated.
- 2. A septic/leech system is on the facility but only handles domestic waste.
- 3. 2 fuel saddle tanks need to have an impermeable barrier underneath that has a more rigid characteristic than the existing liner and berm.
- 4. DO NOT bring outside soils and store in either yard.
- 5. Lab waste drum(s) need to be sampled and characterized as to their nature, i.e. hazardous or non-hazardous. Also, lab waste needs to be stored in double containment.
- 6. Several empty 5 gallon buckets need to be disposed of properly.

Mr. Morris D. Young April 25, 1995 Page 2

- 7. Used batteries need to be disposed of properly please clarify if in fact it is Intermountain Batteries who picks up the batteries.
- 8. Empty drums need to be stored on their side with the bungs in place and horizontal to the ground.
- 9. Full drums need to be clearly labelled and stored on some sort of pad and curb type containment.
- 10. The cleaning solvent at the equipment yard needs an MSDS and needs to be identified. Note: If the solvent is hazardous in nature its use is discouraged.
- 11. Spot type oil spills that a small in size need to be racked out.
- 12. Overall housekeeping at the facilities is in poor condition and should be addressed.

If you have any questions regarding this matter please feel free to call me at (505)-827-7156.

Sincerely,

Patricio W. Sanchez Petroleum Engineer

xc: Denny Foust





ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 2040 S. PACHECO SANTA FE, NEW MEXICO 87505 (505) 827-7131

April 21, 1995

CERTIFIED MAIL RETURN RECEIPT NO.Z-765-962-658

Mr. Morris D. Young ENVIROTECH INC. 5796 U.S. Highway 64-3014 Farmington, NM 87401

RE: Discharge Plan Requirement Farmington Facilities San Juan County, New Mexico

Dear Mr, Young:

Under the provision of the Water Quality Control Commission (WQCC) Regulations, ENVIROTECH INC. is hereby notified that the filing of a discharge plan is required for the ENVIROTECH INC. facilities located at 5796 and 5726 Highway 64 Farmington, New Mexico.

The discharge plan is required pursuant to Section 3-104 and 3-106 of the WQCC regulations. The discharge plan, defined in Section 1.101.Q of the WQCC regulations should cover all discharges of effluent or leachate at the facility site or adjacent to the facility site. Included in the plan should be plans for controlling spills and accidental discharges at the facility, including detection of leaks in buried underground tanks and/or piping.

Pursuant to Section 3-106.A, a discharge plan should be submitted for approval to the OCD Director within 120 days of receipt of this letter. Three copies of the discharge plan should be submitted.

Mr. Morris D. Young April 21, 1995 Page 2

A copy of the regulations and guidelines have been provided to ENVIROTECH INC. at a recent field inspection by OCD staff. Enclosed ENVIROTECH INC. will find an application form to be used with the guidelines for the preparation of discharge plans at oil & gas service companies. The guideline addresses berming of tanks, curbing and paving of process areas susceptible to leaks or spills and the disposition of any solid wastes.

The discharge plan is subject to the WQCC Regulation 3-114 discharge plan fee. Every billable facility submitting a discharge plan will be assessed a fee equal to the filing fee of fifty (50) dollars plus the flat rate of one thousand, three hundred and eighty (\$1380) dollars for oil & gas service companies. The fifty (50) dollar filing fee is due when the discharge plan is submitted. The flat rate fee is due upon approval of the discharge plan.

Please make all checks payable to: NMED Water Quality Management and addressed to the OCD Santa Fe office.

If there are any questions on this matter, please feel free to contact Patricio Sanchez at 827-7156 or Roger Anderson at 827-7152.

. . .

Sincerely,

William J. LeMay

William J. LeMay Director

WJL/pws

XC: OCD Aztec Office

March 25, 1993

OIL CONSERVATION DIVISION DISCHARGE PLAN INSPECTION REPORT BY DENNY G. FOUST

RE: Preliminary discharge plan inspection of Envirotech's yard and office facilities located at 5796 U.S.Highway 64-3014, Farmington, New Mexico 87401

Denny Foust and Ernie Busch of the Oil Conservation Division were accompanied by Mike Lane and Gregg Mullineaux of Envirotech during the inspection conducted on March 24, 1993. No gross violations were found in the yard but several housekeeping recommendations were made. Barrels of lubricating oil need to be placed on a pad or containment located north of the shopoffice building. Two used oil tanks (approx. 250 gallons each) located along the west yard fence are diked but need a liner under them. The used oil tanks should be clearly labeled. A used oil filter disposal area along the west fence was diked but did not have a liner. Barrels in this area need tops and labeling. Empty steel drums along the west fence need to be rotated for proper stacking. One flatbed trailer in the yard contained thirteen sealed drums. Eight blue drums were labeled NMED UST Drill Cuttings and are from a UST sampling operation north of Espanola and five yellow drums are from the city of Santa Fe containing contaminated soil from a car-truck accident. Containers of "Brine Buster" solid chemical are stored along the East fence in the yard. The "Brine Buster" needs to be on pallets in a more secure area. Three storage vans are located in the yard and are used for the storage of lubricants in small containers, supplies, parts and tools. Soil samples from the laboratory are stored in a barrel at the yard after analysis. This barrel needs to be clearly labeled and placed more securely, preferably on a portable slab or timbers. The laboratory facilities located in the office-shop building generate residue acids and bases which are accumulated separately, neutralized as volumes dictate and poured down the drain to the septic system. Organic solvents such as freon, hexane and propanol are recovered in separate four liter containers. As four liter volumes are recovered, these solvents are distilled for reuse in the laboratory. If Envirotech is to occupy this yard and office-shop less than six months, a discharge plan is not recommended. A discharge plan should be a requirement for the new facility Envirotech is building across from San Juan Downs.