

GW - 503

**GENERAL
CORRESPONDENCE**

YEAR(S):

2006-1985



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

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

February 28, 2006

Ms. Jennifer Knowlton
Agave Energy Company
105 South Fourth Street
Artesia, NM 88210

RE: Requests for Closure of Four Agave Energy Co. Facilities
Separate Requests dated February 20, 2006

Dear Ms. Knowlton:

The New Mexico Oil Conservation Division (NMOCD) has reviewed the above requests. Closure of the following facilities and related NMOCD discharge permits is approved:

1. Agave Salt Creek Compressor Station, located in unit letter C, Section 26, Township 8 South, Range 22 East, Discharge Permit Number GW-50-6
2. Agave Ned State Compressor Station, located in unit letter H, Section 5, Township 9 South, Range 23 East, Discharge Permit Number GW-50-4
3. Agave Haystack Compressor Station, located in Section 15, Township 7 South, Range 26 East, Discharge Permit Number GW-50-2
4. Agave Isler Compressor Station, located in unit letter I, Section 15, Township 7 South, Range 26 East, Discharge Permit Number GW-50-3

NMOCD approval of closure does not relieve Agave Energy Co. of liability should its operations at these sites prove to have been harmful to public health or the environment. Nor does it relieve Agave Energy Co. of its responsibility to comply with the rules and regulations of any other governmental agency.

If you have any questions, contact Ed Martin at (505) 476-3492 or ed.martin@state.nm.us

NEW MEXICO OIL CONSERVATION DIVISION

Roger C. Anderson
Environmental Bureau Chief

Copy: NMOCD, Artesia

AGAVE ENERGY COMPANY

105 South Fourth Street

Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4275

February 20, 2006

Ed Martin
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Discharge Plan GW 50-3
Isler Compressor Station
Agave Energy Company**

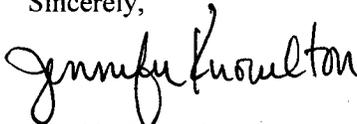
I-15-7S-26E

Dear Ed:

The Isler Compressor Station is no longer operational as of approximately 1995. Agave Energy purchased the facility from Transwestern. Agave did not operate the facility but rather consolidated operations and abandoned the site. The site is fenced and locked. Pictures of the facility are attached.

Agave Energy would like to close the above mentioned discharge permit. If you require any additional information, please do not hesitate to call me at 505-748-4471 or email me at jknowlton@ypcnm.com

Sincerely,



Jennifer Knowlton
Environmental Engineer

(Discharge022006.doc)



Isler Compressor Station

Martin, Ed, EMNRD

From: Jennifer Knowlton [jknowlton@YPCNM.COM]
Sent: Tuesday, January 31, 2006 11:40 AM
To: Martin, Ed, EMNRD
Subject: Agave Discharge Permits
Attachments: Jennifer Knowlton.vcf

Ed,

I went through the files that our aid copied for me and I have a couple of questions and clarifications.

OK Red Bluff #1² (GW 50-7) expired on 4/7/05. I will be working on the renewal application in February
OK Red Bluff #2 (GW 50-5) expired on 6/13/04. I will be working on the renewal application in February.
to Jen Red Bluff #3 (GW 50-8) - there wasn't a copy of the actual discharge permit in the file. Granted, I didn't copy the files, the the aid copied everything else except the maps. Could this have been misfiled? Can I get a copy of the discharge permit for my files? I am assuming that it has expired, but I don't know that for sure.
Bitter Lake (GW 50-1) expired 6/13/04. I will be working on the renewal application for February.

I will work on formal closure plans for the following facilities: Ned State (GW 50-4), Red Bluff #4, Red Bluff #5, and Red Bluff #6. I haven't found permit numbers for the last three facilities. If you can match these facilities to the permit number, it will make the paper work easier.

I also found a letter from Agave to OCD stating that the following facilities weren't operational: Haystack (GW 50-2), Isler (GW 50-3) and Salt Creek (GW 50-6). These have not been operational since before Agave purchased the facilities from Transwestern. We immediately made system wide changes that permanently shut these facilities down. Are the discharge permits still "open" and if so, do I need to formally close them as with the Ned State etc permit?

I appreciate your help with this. I will be working on the renewals for the four permits that have expired next month so that those are taken care of as quickly as possible. Then I will focus my attention on the modified permit for the Agave Dagger Draw Gas Plant.

If you could get back to me on the closures by Wednesday I would appreciate it. Weather permitting (i.e. not blowing 100 mph), Ivan and I are going to visit those sites and take the pictures that you requested for the closure. If we need to visit additional facilities to formally close the discharge permit, it would be easier to do it that day since they are in the same relative location.

Thanks, Jen

Jennifer Knowlton
Agave Energy Company
Environmental Engineer
105 South Fourth Street
Artesia, New Mexico 88210
Office: 505-748-4471
Fax: 505-748-4275

2/9/2006

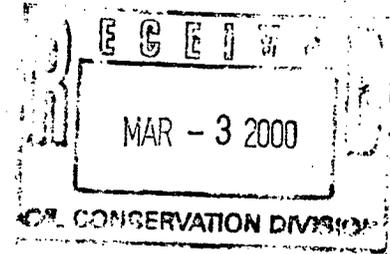
AGAVE ENERGY COMPANY

105 South Fourth Street

Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4576



March 1, 2000

Wayne Price
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505

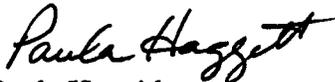
Re: Notice to Terminate Discharge Plan

Dear Mr. Price:

I have received your fax of February 24th that states that Agave Energy Company's shall submit a notice to terminate discharge plans for HayStack(GW50-2), Isler Station(GW50-3) and Salt Creek(GW50-6).

Please send me the appropriate guidelines to perform this closure. If you need further assistance please call me at 505 748-4526.

Sincerely,


Paula Haggith
Engineer

OIL CONSERVATION DIVISION

**2040 South Pacheco
Santa Fe, NM 87505
(505) 827-7133
Fax: (505) 827-8177**



(PLEASE DELIVER THIS FAX)

To: PAULA Haggith - AGAVE ENERGY

From: OCD-

Date: 2/24/00

Number of Pages (Includes Cover Sheet) 4

Message: _____

**If you have any trouble receiving this, please call:
(505) 827-7133**



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

Jennifer A. Salisbury
CABINET SECRETARY

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

Memorandum of Meeting or Conversation

Telephone X
Personal
E-Mail

Time: 8:30am
Date: 2/24/00

Originating Party: : Paula Haggith-Agave Energy

Other Parties: Wayne Price-OCD

Subject: Agave Discharge Plan sites GW-50 series

Discussion:

Paula Haggith notified OCD that NED station GW50-4 is still active. It runs about 5 days/mo. Haystack(GW50-2), Isler Station(GW50-3) and Salt Creek(GW50-6) are presently shut down and Agave does not have plans at this time to start them up.

Conclusions or Agreements:

OCD to send copy of Discharge Plan application for the Ned Station. Agave shall submit a Discharge plan application and \$50 filing fee for the Ned station. Agave shall submit discharge plan applications for Haystack(GW50-2), Isler Station(GW50-3) and Salt Creek(GW50-6) or submit notice to terminate discharge plan.

Signed: _____

CC: Att: Paula Haggith and Mr. Paul Ragsdale fax 505-748-4576



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

Jennifer A. Salisbury
CABINET SECRETARY

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

Memorandum of Meeting or Conversation

Telephone X
Personal
E-Mail

Time: 3:30 pm
Date: February 23, 2000

Originating Party: Wayne Price-OCD

Other Parties: Paula Haggith

Subject: Agave Discharge Plan sites GW-50 series

Discussion:

OCD is going to publish public notices for GW-50-1 (Bitter Lake), GW-50-5 (Red Bluff #1), GW-50-7 (Red Bluff #7) and GW-50-8 (Red Bluff #8). Please let us know the status of GW-50-2 (Hay Stack), GW-50-3 (Isler Station), GW-50-4 (Ned Station), and GW-50-6 (Salt Creek).

Conclusions or Agreements:

Signed: _____

CC: Att: Mr. Paul Ragsdale fax 505-748-4576

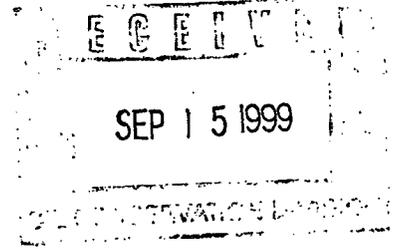
AGAVE ENERGY COMPANY

105 South Fourth Street

Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4576



September 7, 1999

Wayne Price
N.M.O.C.D.
2040 S. Pacheco Street
Santa Fe, NM 87505

Re: Renewal of Compressor Discharge Plan for GW-050

Dear Mr. Price,

Agave Energy Company has submitted applications for renewal of the OCD Discharge Plans for the Red Bluff #1,2,3 and Bitter Lakes Compressor Stations. These are stations that were purchased by Agave Energy from Transwestern Pipeline in 1995.

Since the purchase, Agave has conducted a detailed engineering program to optimize the use of the compression. The net result is that Agave has shut several stations down and are in the process of moving the equipment to other locations. The stations that have been shut down are:

Red Bluff #4	Sec 27-T6S-R25E
Red Bluff #5	Sec 11-T6S-R25E
Red Bluff #6	Sec 24-T5S-R24E
Isler #1	Sec 15-T7S-R26E
Round Top	Sec 9-T7S-R26E

Therefore, we have not submitted a renewal application for these stations and will submit a closure plan once the equipment has been moved. Please let me know if there is additional information you need for these stations.

Sincerely yours,

Paul Ragsdale
Vice President

AGAVE ENERGY COMPANY

105 South Fourth Street

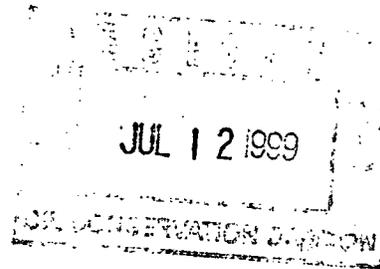
Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4576

July 9, 1999

Wayne Price
N.M.O.C.D.
2040 S. Pacheco Street
Santa Fe, NM 87505



Re: Compressor Discharge Plans for GW-050, 050-1,2,3,4,5,6.

Dear Mr. Price,

I have received your letter of June 12th that states that Agave's existing plans will be extended until new plans are approved and the new plans need to be submitted by July 13th. Agave has made extensive changes to these compressor stations and we have been unable to adequately compile all of the supporting documentation necessary to submit these plans.

Therefore, we are requesting a sixty day extension until September 13, 1999 to submit these plans. This extension will enable us to do a more complete description of all of the changes that have been made.

We appreciate your cooperation in this matter and apologize for the inconvenience. If you need further assistance please call me at 505 748-4520.

Sincerely,

Paul Ragsdale
Vice President



**NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT**

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

June 12, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. Z 357 870 136

Mr. Paul Ragsdale
Agava Energy Company
105 South Fourth Street
Artesia, New Mexico 88210

Re: Compressor Discharge Plans for GW-050, 050-1,2,3,4,5,6.

Dear Mr. Ragsdale:

The New Mexico Oil Conservation Division (NMOCD) is in receipt of Agava Energy Company's (AEC) letter dated February 9, 1999 requesting discharge plans be extended until new plans are approved. Pursuant to New Mexico Water Quality (WQCC) Regulation 3106.F AEC's request will be honored if AEC submits discharge plan applications with all supporting documentation and the \$50.00 filing fees for each plan by July 13, 1999.

If you require any further information or assistance please do not hesitate to write or call me at (505-827-7155).

Sincerely Yours,

A handwritten signature in cursive script, appearing to read "Wayne Price-Pet".

Wayne Price-Pet. Engr. Spec.
Environmental Bureau

cc: OCD Artesia District office

AGAVE ENERGY COMPANY

105 South Fourth Street

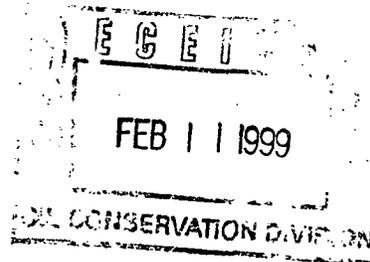
Artesia, New Mexico 88210

(505) 748-4555

Fax (505) 748-4576

February 9, 1999

Wayne Price
N.M.O.C.D.
2040 S. Pacheco
Santa Fe, NM 87505



Re: Compressor Discharge Plans

Dear Sir:

Agave Energy Company's Compressor Discharge Plans, GW-050, GW-050-1, GW-050-2, GW-050-3, GW-050-4, GW-050-5, GW-050-6 expire June 13, 1999. Agave requests that these discharge plans be extended until new plans are approved.

We appreciate the O.C.D.'s cooperation in this matter. Please call me at 505-748-4520 for further information.

Sincerely yours,

Paul Ragsdale
Vice President

AGAVE ENERGY COMPANY

105 South Fourth Street Artesia, New Mexico 88210 (505) 748-1471 Fax (505) 748-4576

03 FEB 16 1996

February 13, 1996

RECEIVED

FEB 16 1996

Environmental Bureau
Oil Conservation Division

Roger Anderson
Oil Conservation Division
2040 South Pacheco St.
Santa Fe, NM 87504

Re: OCD Discharge Plans

Dear Roger:

Agave Energy has purchased certain gathering system assets in Chaves and Eddy Counties, The following facilities are covered under an approved OCD Discharge Plan:

Yates Plant in Eddy County
Red Bluff Gas Treating Systems in Chaves County

Operations will continue as before except that your agency should contact me for information at:

Paul Ragsdale
Agave Energy Company
105 South Fourth Street
Artesia, NM 88210
505-748-4520

Sincerely,



Paul Ragsdale
Vice President

Enclosure

Transwestern Pipeline Company

TECHNICAL OPERATIONS

January 25, 1996 6381 North Main • Roswell, New Mexico 88201

Mr. Paul Ragsdale
Agave Energy Company
105 S. 4th Street
Artesia, New Mexico 88210

RECEIVED

FEB 16 1996

Environmental Bureau
Oil Conservation Division

Re: OCD Discharge Plan Change in Ownership Notification

Dear Paul:

With the purchase of gathering assets from Transwestern Pipeline Company by Agave, certain facilities within that purchase were permitted by the Oil Conservation Division (OCD) under an approved discharge plan. The facilities are as follows:

Yates Plant
Enron 6- (Arsenic Treating facilities in the Red Bluff system)

Under the current regulatory scheme, ownership transfer of any property under an approved discharge plan must notify the OCD agency in Santa Fe at the following address, and apprise them of the new ownership status:

Oil Conservation Division
2040 South Pacheco St.
Santa Fe, New Mexico 87504

Atten: Roger Anderson

Also, please be advised that disposal activities involving any non exempt waste, requires written approval by the OCD prior to removal of the waste from the facility.

If I can be of any further assistance, contact our Roswell office of Operations and Commercial Support at (505) 625-8022.

Sincerely,



Larry Campbell
Division Environmental Specialist

xc: Lou Soldano
OCD Office, Santa Fe, New Mexico

Isler

1. There are two reciprocating compressor engines at this location. The station has five scrubbers, one gas filter, two fuel filters, one dehydration unit, and two pig receivers.

Parker Gas Companies, Inc. has a filter separator installed at this location. Produced liquids from this vessel are controlled by automatic liquid level control devise and manual valves which discharge to the condensate tank. Liquid from the two pig receivers are also collected in the condensate tank.

Washdown water, waste oil, and anti-freeze from the two compressor units go into the station condensate tanks. These will be collected in separate tanks in the future for disposal.

2. The storage tanks at this location are as follows:

- 1 ea. - 436 bbl. liquid storage tank (produced liquids)
- 1 ea. - 1,500 gal. oil storage tank (Pacemaker 1100)
- 1 ea. - 1,500 gal. anti-freeze storage tank (Norkool SL2400)
- 1 ea. - 1,500 gal. T.E.G. storage tank
- 1 ea. - .4' x 20' vessels with zinc oxide (ZN02), copper oxide (CU02), and aluminum oxide plus carbon (AL203+C) catalyst absorbent.

There are no underground storage tanks at this location and no leak detection system is installed.

3. The following chemicals are used at this location:

- a. Citgo Pacemaker 1100
- b. Exxon hydraulic oil
- c. Stoddard solvent
- d. Alpha Blue Tiger soap
- e. Crain degreaser - Oil Off
- f. Norkool SL2400 anti-freeze
- g. Methanol
- h. Catalyst (see above)
- i. T. E. G.

4. All aboveground tanks are bermed.

5. All liquid waste goes to aboveground tanks and is removed by Enron Oil Trading and Transportation Company. The station is visited frequently and any spilled liquids inside the berm would be noted and cleaned up as soon as possible.

Isler (continued)

6. Filter media, trash, and filter elements go to a public land fill for disposal. Sludge is pumped out and disposed of by a hot oil service company.
7. The drum storage area has pads, but no containment. In order to prevent spills, the drums are kept in good condition, valves are kept plugged when not in use, and the employees are instructed to use extreme caution when drawing liquids from barrels. Should a spill occur, it is to be cleaned up at once and the contaminated soil placed in containers for proper disposal.

FEB 23, 1989

RECEIVED

APR 21 1989

OIL CONCENTRATION DIV.
SANTA FE

ISLER

MATERIAL SAFETY DATA SHEET



Date: 04/10/87

CITGO PETROLEUM CORPORATION
P. O. Box 3758
Tulsa, Oklahoma 74102

MATERIAL SAFETY DATA SHEET

Trade Name: CITGO Pacemaker Gas Engine Oil 1100

Commodity Code: 32-210

Synonyms: Lubricating Oil

CAS Reg. No.: Mixture
(Refer to Section I)

Citgo Index No. (CIN): 0209

Technical Contact: (918) 561-5165

Medical Emergency: (318) 491-6215

MATERIAL HAZARD EVALUATION
(Per OSHA's Hazard Communication
Standard [29 CFR Part 1910.1200])
"OHCS"

Health: Non-Hazardous. (OHCS)

Precautionary Statement: Avoid prolonged skin contact with used motor oils.

I. GENERIC COMPOSITION/COMPONENTS

<u>Components</u>	<u>CAS #</u>	<u>%</u>	<u>Hazard Data</u>
Refined Petroleum Oil(s)	64742-65-0 64741-88-4	85-95	Oral: LD50(rat): >15g/kg Eye: Practically Non-Irritating Skin: Practically Non-Irritating Ihln: LC50/4H(rat): >5,000mg/m ³ Comparable material non-carcinogenic in mouse skin assay.
Dispersant, anti-wear, anti-oxidant	Mixture	6-10	Minor eye and skin irritant
VI improver	Mixture	5-7	Eye irritant
Pour Depressant	Mixture	<1	Eye and skin irritant

ND = No Data
NA = Not Applicable

LAS/32-210

II. PHYSICAL DATA

Physical Hazard Classification (Per 29 CFR Part 1910.1200)

<u>No</u> Combustible	<u>No</u> Oxidizer
<u>No</u> Compressed Gas	<u>No</u> Pyrophoric
<u>No</u> Explosive	<u>No</u> Reactivity
<u>No</u> Flammable	<u>Yes</u> Stable
<u>No</u> Organic Peroxide	<u>No</u> Unstable

Boiling Point, 760 mmHg,
°C(°F): ND

Melting Point, °C(°F): NA

Vapor Pressure, mmHg (25°C): ND

Specific Gravity
(H₂O=1): 0.88

Solubility in H₂O, % By Wt.: Negligible

Vapor Density (Air=1):>1

Evaporation Rate
(Butyl Acetate=1): <1

% Volatiles By Vol.: Negligible

pH of Undiluted Product: ND

Appearance and Odor: Amber liquid, mild odor.

III. FIRE AND EXPLOSION DATA

Flash Point, COC, °C(°F): 245(473)

NFPA*

Flash Point, PM, °C(°F): 210(410)

Health: 1

Fire Point, COC, °C(°F): 288(535)

Flammability: 1

Reactivity: 0

Flammable Limits in Air, % Vol.:

Lower: NA Upper: NA

Extinguishing Media: CO₂, dry chemical, foam or water fog.

Special Fire Fighting Procedure: None.

Unusual Fire or Explosion Hazard: Water may cause frothing.

*Citgo assignment based on our evaluation per NFPA guidelines.
Hazard Rating least-0; slight-1; moderate-2; high-3; extreme-4.



IV. REACTIVITY DATA

Stability: Yes Stable No Unstable

Conditions Contributing to Instability: None.

Incompatibility: Strong oxidants.

Hazardous Decomposition Products (thermal, unless otherwise specified):
CO, CO₂.

Conditions Contributing to Hazardous Polymerization: None.

V. SPILL OR LEAK PROCEDURES

Procedures if Material is spilled:

Remove sources of heat or ignition, provide adequate ventilation, contain leak. Absorb small spills with suitable material such as rags, straw or sand. Report spills as required to appropriate authorities.

Chemtrec Emergency Number: 800-424-9300.

Waste Disposal:

It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal.

Check before disposing to be sure you are in compliance with all applicable laws and regulations.

Protective measures during repair and maintenance of contaminated equipment:

Refer to Section VII - Special Protection Information.

Avoid prolonged contact with used oil, wash skin thoroughly with soap and water.

VI. HEALTH HAZARD DATA

Health Hazard Classification (Per 29 CFR Part 1910.1200)

<u>No</u> Carcinogen	<u>No</u> Corrosive
<u>No</u> Animal Carcinogen	<u>No</u> Irritant
<u>No</u> Suspect Carcinogen	<u>No</u> Sensitizer
<u>No</u> Mutagen	<u>No</u> Teratogen
<u>No</u> Highly Toxic	<u>No</u> Target Organ
<u>No</u> Toxic	

Product listed as carcinogen or potential carcinogen by:

NTP No, IARC No, OSHA No, OTHER No.

Toxicity Summary: Slightly toxic, 1 pt. to 1 qt. is approximate lethal oral dose for 150 lb. human adult.

Major Route of Entry: Inhalation of accidentally produced fumes.

Acute Exposure Symptoms:

Inhalation: Low risk of inhalation. In enclosed spaces or when hot, vapors may reach concentrations sufficient to cause drowsiness, dizziness, headache, nausea, or lung irritation. Mists above TLV may cause chemical pneumonitis.

Dermal Contact: Mild irritant.

Eye Contact: Transient, mildly irritating.

Ingestion: Generally low toxicity. Very large amounts may cause generalized depression, headache, drowsiness, nausea, vomiting or diarrhea. Small doses may produce irritation and diarrhea.

Injection: Irritating.

Chronic Exposure: Prolonged and/or frequent contact may cause drying, cracking (dermatitis) or folliculitis.

Other Special

Effects: None expected.

First Aid and Emergency Procedures for Acute Effect

Inhalation: Remove to fresh air. Respiratory support if necessary. Seek medical aid.

Dermal: Wash with soap and water. Do not wear heavily contaminated clothing before laundering.

Eyes: Flush with large volumes of water. See physician if any complications arise.

Ingestion: Do not induce vomiting. Seek medical aid.

Injection: Subcutaneous injection is a medical emergency . . seek medical aid immediately.

Notes to Physician: On ingestion, an oil viscosity of about 530 SUS (100°F) presents no aspiration hazard. However, for large quantities, lavage may still be advised.



VII. SPECIAL PROTECTION INFORMATION

Ventilation Requirements: Ventilation is required when work place exposures exceed TLV.

Permitted Threshold Air Concentrations:	Agency:	OSHA 1972	OSHA 1985	ACGIH 1985-86	ACGIH 1985-86
	Type:	TWA	PEL	TWA	STEL
Mineral Oil	ppm:	-	-	-	-
	mg/m ³ :	5	5	5	10

Specific Personal Protective Equipment:

Respiratory: Normally none required. If high vapor or mist concentrations expected - use respirator approved for organic vapors and mists.

Eyes: Safety goggles, or chemical splash goggles if splashing is anticipated.

Dermal: Oil impervious gloves if frequent or prolonged contact is expected.

Other Clothing or Equipment: Wear body-covering work clothes to avoid prolonged or repeated exposure. Launder soiled work clothes before reuse.

VIII. TRANSPORTATION AND SPECIAL PRECAUTIONS

Hazardous Material Placard/Label:

Caution: Avoid prolonged skin contact with used motor oils. Continuous contact with used oil has caused skin cancer in laboratory animals. After draining oil, wash skin thoroughly with soap and water.

Storage: Store below 120°F. Do not apply high heat or flame to container. Keep separate from strong oxidizing agents.

DOT Information:

DOT/UN Shipping Name:	Petroleum Lubricating Oil.
DOT Hazard Class:	Non-Hazardous.
DOT/UN Hazard Identification Number:	None assigned.
DOT Shipping Container Restrictions:	None.
DOT Placard:	None

Caution: Empty containers may contain product residue which could include flammable or explosive vapors.

Consult appropriate Federal, State and Local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

All statements, information, and data provided in this material safety data sheet are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied, on our part. Users should make their own investigations to determine the suitability of the information or products for their particular purpose. Nothing contained herein is intended as permission, inducement or recommendation to violate any laws or to practice any invention covered by existing patents.

**U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration**

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USOL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME Norchem		EMERGENCY TELEPHONE NO. (815) 942-7301
8805 N. Tabler Road Morris, IL 60450-9988		
CHEMICAL NAME AND SYNONYMS Ethylene Glycol Antifreeze Coolant		TRADE NAME AND SYNONYMS NORKOOL® Concentrate Coolant™
CHEMICAL FAMILY Dihydric Alcohol	FORMULA HO-CH ₂ -CH ₂ -OH	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS	0		BASE METAL	0	
CATALYST	0		ALLOYS	0	
VEHICLE	0		METALLIC COATINGS	0	
SOLVENTS	0		FILLER METAL PLUS COATING OR CORE FLUX	0	
ADDITIVES	0		OTHERS	0	
OTHERS	0				
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
Ethylene Glycol				90	50 ppm (v)
Other Glycols				5	N.A.
Proprietary inorganic and organic corrosion inhibitors				3	N.A.
Water				2	N.A.

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	325	SPECIFIC GRAVITY (H₂O=1)	1.134
VAPOR PRESSURE (mm Hg.)	N.A.	PERCENT VOLATILE BY VOLUME (%)	N.A.
VAPOR DENSITY (AIR=1)	N.A.	EVAPORATION RATE (_____ 23)	N.A.
SOLUBILITY IN WATER	100%		
APPEARANCE AND ODOR	Blue liquid, no odor.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 250 F., Cleveland Open Cup	FLAMMABLE LIMITS N.A.	LFL	UFL
EXTINGUISHING MEDIA Water			
SPECIAL FIRE FIGHTING PROCEDURES None			
UNUSUAL FIRE AND EXPLOSION HAZARDS None			

THRESHOLD LIMIT VALUE
 Unknown, LD50 (Rats) - 8 g/K. It is not a primary skin or eye irritant.
 EFFECTS OF OVEREXPOSURE
 Unknown

EMERGENCY AND FIRST AID PROCEDURES
 Flush well with water

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE		
INCOMPATIBILITY (Materials to avoid) Strong caustic solutions.			
HAZARDOUS DECOMPOSITION PRODUCTS None known			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Soak up and/or flush with water to sanitary drain.

WASTE DISPOSAL METHOD

Biodegradation.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) None required.

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General) Consistent with good manufacturing procedures.	OTHER

PROTECTIVE GLOVES Not required

EYE PROTECTION Safety Goggles.

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Keep from freezing. Freeze point is approximately 15°F.

OTHER PRECAUTIONS None



**HANCOCK
INDUSTRIES INC.**

Chemical Distributors

January 18, 1984

TRANSWESTERN PIPELINE CO
P.O. BOX 2019
Roswell, NM 88201

Gentlemen:

We are enclosing a copy of the Material Safety Data Sheet on Methanol. Please make sure that the people in your company who are responsible for safety and health are made aware of the contents of this material.

The distributor of this material request that your company notify your employees, agents, contractors, distributors and customers who handle, use or are otherwise exposed to this product about this information.

If we can be of further assistance to you in anyway, please feel free to call on us.

Sincerely,

ROBERT A. MEEK
Controller

RAM/rjh
encl

MATERIAL SAFETY DATA SHEET

METHANOL

MSDS No.
998211201
Rev. Date
01/28/83



ARCO CHEMICAL COMPANY
DIVISION OF ATLANTIC RICHFIELD COMPANY
1500 MARKET STREET
P.O. BOX 7258
PHILADELPHIA, PENNSYLVANIA 19101

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product

I. General		
Trade Name METHANOL	Telephone Numbers	
Other Names METHYL ALCOHOL, WOOD ALCOHOL	800/424-9300 CHEMTREC 215/353-8300 ARCO CHEM 215/557-2000 INFO ONLY	
Chemical Family ALIPHATIC ALCOHOL	DOT Hazardous Materials Proper Shipping Name METHYL ALCOHOL	
Generic Name	DOT Hazard Class FLAMMABLE LIQUID	
CAS No.	Company ID No. E000142300	UN No. 1230
II. Summary of Hazards		
<p>DANGER EXTREMELY FLAMMABLE - MAY BURN WITH INVISIBLE FLAME</p> <p>CAUTION - MODERATE INHALATION HAZARD - SERIOUS OVEREXPOSURE TO METHANOL VAPOR CAN CAUSE BLINDNESS AND PERHAPS DEATH</p> <p>CAUTION - MODERATE INGESTION HAZARD - UNSAFE FOR HUMAN CONSUMPTION, MAY CAUSE BLINDNESS OR DEATH</p> <p>CAUTION - MODERATE SKIN HAZARD - EXTENSIVE/PROLONGED LIQUID CONTACT CAN CAUSE SERIOUS ILLNESS</p> <p>CAUTION - MODERATE EYE HAZARD</p>		
III. Fire and Explosion		SEE SUPPLEMENT BEGINNING ON PAGE 5
Flash Point (Method) AP 50 F (CC)	Autoignition Temperature (Method) AP 725 F	Flammable Limits at Normal Atmospheric Temperature Pressure (% Vol. in Air) Lower 6.0 Upper 36.5
Unusual Fire and Explosion Hazards	RELEASES FLAMMABLE VAPOR BELOW NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, CAN BURN IN THE OPEN OR EXPLODE IF CONFINED. MIXTURES WITH WATER AND AS LITTLE AS 21% (BY VOL) METHANOL ARE STILL FLAMMABLE (FLASH PT. <100 F). UNDER SOME CIRCUMSTANCES, MAY CORRODE CERTAIN METALS, INCLUDING ALUMINUM AND ZINC, AND GENERATE HYDROGEN GAS.	
Extinguishing Media	DRY CHEMICAL ALCOHOL TYPE FOAM CO2 FOR ADDITIONAL EXTINGUISHING MEDIA INFORMATION - SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF MSDS	
Special Firefighting Procedures	DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION X - DECOMPOSITION PRODUCTS POSSIBLE. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. APPLY AQUEOUS EXTINGUISHING MEDIA CAREFULLY TO AVOID FROTHING AND LIMIT EXPOSURE OF NEARBY EQUIPMENT. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS. A METHANOL FIRE MAY NOT BE VISIBLE TO THE NAKED EYE.	

IV. Health Hazards SEE SUPPLEMENT BEGINNING ON PAGE 5

Primary Hazard	BURNS AND INJURY DUE TO FIRE AND EXPLOSION. INHALATION OF EXCESSIVE VAPOR OR AEROSOL CONCENTRATION.
ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS
Inhalation	DROWSINESS/DRUNKENNESS, HEADACHE, VISUAL DISTURBANCE LEADING TO BLINDNESS; COUGHING/SHORTNESS OF BREATH; COLLAPSE AND DEATH AT VERY HIGH CONCENTRATIONS
Eye Contact	UPON DIRECT LIQUID CONTACT, MAY CAUSE MODERATE BURNING, TEARING, REDNESS, AND SWELLING. HIGH VAPOR CONCENTRATIONS (>2000 PPM) MAY CAUSE SAME SYMPTOMS.
Skin Absorption	IN LIQUID OR SOLUTION FORM, THIS MATERIAL MAY BE ABSORBED THROUGH INTACT SKIN AND PRODUCE TOXIC EFFECTS.
Skin Irritation	FOLLOWING EXTENSIVE, REPEATED AND/OR PROLONGED SKIN CONTACT, MAY CAUSE BURNING, ITCHING, REDNESS, OR BLISTERS.
Ingestion	SWALLOWING BETWEEN 2 AND 8 OUNCES OF METHANOL CAN CAUSE DEATH.
Effects Of Overexposure	SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS.

Protective Equipment SEE SUPPLEMENT BEGINNING ON PAGE 5

Respiratory	DO NOT USE AIR-PURIFYING RESPIRATORS. METHANOL CANNOT BE DETECTED BY ITS ODOR UNTIL DANGEROUS EXPOSURE OCCURS. SEE SUPPLEMENTAL SHEET BEGINNING ON PAGE 5 OF THIS MSDS FOR DETAILED RECOMMENDATIONS.
Ventilation	LOCAL EXHAUST VENTILATION MAY BE REQUIRED TO MEET EXPOSURE STANDARD(S) IN ADDITION TO GENERAL ROOM VENTILATION.
Eye	EYE PROTECTION, SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE MASK, MUST BE WORN WHEN ANY POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID. CONTACT LENSES SHOULD NOT BE WORN.
Skin	PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS AND HEAD AND FACE PROTECTION MUST BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.
Other	EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

VI. Occupational Exposure Limits

1.	Substance METHANOL	Source OSHA	Date 1972
Exposure Limit Value/Time 200.00 PPM / 8 HOURS		Short Term Limit/Time	Peak Limit
2.	Substance METHANOL	Source ACGIH	Date 1982
Exposure Limit Value/Time 200.00 PPM / 8 HOURS		Short Term Limit/Time 250.00 PPM / 15 MINUTES	Peak Limit



METHANOL

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VII.

Emergency and First Aid

SEE SUPPLEMENT
BEGINNING ON PAGE 5

Inhalation	IF OVERCOME BY EXPOSURE. IMMEDIATELY MOVE VICTIM TO FRESH AIR. KEEP VICTIM QUIET. ADMINISTER OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION IMMEDIATELY. PROMPT ACTION IS ESSENTIAL.
Eye Contact	IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH EYES WITH CLEAN, LOW PRESSURE, LUKEWARM WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING EYELIDS. OBTAIN MEDICAL ATTENTION.
Skin Contact	SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS.
Ingestion	IF SWALLOWED, ADMINISTER LUKEWARM WATER (PINT) ONLY IF VICTIM IS COMPLETELY CONSCIOUS/ALERT. INDUCE VOMITING. OBTAIN IMMEDIATE EMERGENCY MEDICAL TREATMENT. PROMPT ACTION IS ESSENTIAL.
Note to Physician	IN CASE OF INGESTION OR MASSIVE INHALATION, OBSERVE AS INPATIENT BECAUSE SLOW METABOLISM CAUSES A LATENT PERIOD OF 24 HOURS BETWEEN EXPOSURE AND ACIDOSIS/BLINDNESS. SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS FOR ADDITIONAL INFORMATION.

VIII.

Spill and Disposal

SEE SUPPLEMENT
BEGINNING ON PAGE 5

Precautions if Material is Spilled or Released	SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS.
Waste Disposal Methods	DESIGNATE RCRA F005 IF SPENT SOLVENT INTENDED FOR DISPOSAL. DESIGNATE SPILL CLEANUP RESIDUE RCRA U154. LANDFILL PROPERLY CONTAINED, CONTAMINATED SOLIDS ONLY AT PERMITTED DISPOSAL SITES USING REGISTERED CONTRACTORS. BURN CONCENTRATED LIQUID WASTE IN PROPERLY DESIGNED COMBUSTION SYSTEMS. TAKE SAFETY PRECAUTIONS DUE TO LOW FLASH POINT. ASSURE EMISSIONS ARE COMPLIANT WITH ALL APPLICABLE AIR POLLUTION CONTROL REGULATIONS. DILUTE AQUEOUS WASTE (<1% WT) MAY BE BIODEGRADABLE WHEN FED IN LOW PROPORTION TO SUITABLE BIOPANT. AVOID OVERLOADING/POISONING THE BIOMASS. ASSURE EFFLUENT IS COMPLIANT WITH ALL APPLICABLE WATER POLLUTION CONTROL REGULATIONS.

IX.

Components

{ This may not be a complete list of components }

Component Name	CAS No.	Composition amount (See Note on Page 4)
METHANOL	67-56-1	AP 100 PERCENT

Compositions given are typical values, not specifications.

Physical and Chemical Data

Boiling Point AP 148 F	Evaporation Rate (Ratio of Time) N/AP	Dry Point N/AP
Freezing Point AP -144 F	Vapor Pressure (MM HG AT 68 F) AP 96	Volatile Characteristics MODERATE
Specific Gravity (H ₂ O = 1 at 39.2° F) AP 0.79	Vapor Density (Air = 1 at 60 - 90° F) AP 1.1	Solubility in Water COMPLETE
Hazardous Polymerization NOT EXPECTED TO OCCUR	Viscosity Units, Temp., Method N/AP	pH N/AP
Other Physical and Chemical Properties		
Appearance and Odor	CLEAR LIQUID WITH FAINT ALCOHOL ODOR. ODOR IS NOT GOOD INDICATION OF EXPOSURE LEVEL.	
Conditions to Avoid	HEAT, SPARKS, OPEN FLAME, OXIDIZING CONDITIONS; OPEN CONTAINERS AND POOR VENTILATION.	
Materials to Avoid	STRONG OXIDIZING AGENTS; ALUMINUM; ZINC; ANY REACTIVE METAL WHICH WILL DISPLACE HYDROGEN; CERTAIN FORMS OF PLASTICS, RUBBER, AND COATINGS.	
Hazardous Decomposition Products	INCOMPLETE COMBUSTION WILL GENERATE HIGHLY POISONOUS CARBON MONOXIDE AND PERHAPS OTHER TOXIC VAPORS SUCH AS FORMALDEHYDE.	

Additional Precautions

Handling and Storage

STORE ONLY IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, OPEN FLAME, SPARKS, STRONG OXIDIZING AGENTS. MAY BE STORAGE FIRE HAZARD ON CONTACT WITH AIR ABOVE 50 DEG. F. BLANKET STORAGE WITH DRY INERT GAS. STORE DRUMS W/ BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. GROUND CONTAINERS BEFORE TRANSFER. WILL ABSORB ATMOSPHERIC MOISTURE. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. CARBON STEEL IS SATISFACTORY MATERIAL OF CONSTRUCTION. DO NOT STORE IN ALUMINUM OR ZINC (GALVANIZED). HANDLE "EMPTY" DRUMS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. DECONTAMINATE CONTAINERS BEFORE REUSE/DISPOSAL.

General Comments

IT IS RECOMMENDED THAT SPILL CLEANUP RESIDUES CONTAMINATED WITH THIS PRODUCT BE SHIPPED AS:

HAZARDOUS WASTE (METHYL ALCOHOL)
FLAMMABLE LIQUID
UN 1230

--- Note --- Qualifications: EQ = Equal AP = Approximately UK = Unknown N/AV = Not Available
LT = Less Than GT = Greater Than TR = Trace N/AP = Not Applicable

Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS ACCURACY OR CORRECTNESS.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.



METHANOL

MSDS No. 998211201
Rev. Date 01/28/83

XII

Supplement

FIRE EXTINGUISHING MEDIA

DO NOT USE SOLID WATER STREAM BUT WATER SPRAY/FOG ARE USEFUL TO COOL EXPOSED FACILITIES OR DILUTE THIS WATER SOLUBLE LIQUID BELOW FLASH POINT. WATER DILUTION REQUIRED TO EXTINGUISH FIRE IS HIGH (>5:1).

EFFECTS OF OVEREXPOSURE

EXPOSURE TO 4,000-13,000 PPM OF METHANOL FOR 12 HOURS WAS FATAL TO ONE WORKER. APPARENT EXPOSURE TO 1,200-8,000 PPM FOR 4 YEARS CAUSED CHRONIC POISONING WITH DIMMING OF VISION AMONG A GROUP OF WORKERS; OTHERS IN THE AREA WERE NOT AFFECTED. HEADACHES REPORTED AMONG DUPLICATING MACHINE OPERATORS EXPOSED TO 300 PPM. MOST SERIOUS CASES OF METHANOL POISONING REPORTED IN LAST 40 YEARS RESULTED FROM INGESTION IN BELIEF IT WAS ETHYL ALCOHOL.

RESPIRATORY PROTECTION

CONDITION	MINIMUM RESPIRATORY PROTECTION* REQUIRED ABOVE 200 PPM
<u>VAPOR CONCENTRATION</u>	
2000 PPM OR LESS	ANY SUPPLIED-AIR RESPIRATOR ANY SELF-CONTAINED BREATHING APPARATUS
10,000 PPM OR LESS	ANY SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE, HELMET OR HOOD ANY SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE
25,000 PPM OR LESS	A TYPE C SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE OR WITH FULL FACEPIECE, HELMET OR HOOD OPERATED IN CONTINUOUS-FLOW MODE.
GREATER THAN 25,000 PPM OR ENTRY AND ESCAPE FROM UNKNOWN CONCENTRATIONS	SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE. A COMBINATION RESPIRATOR WHICH INCLUDES TYPE C SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE OR CONTINUOUS-FLOW MODE AND AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.
FIRE-FIGHTING	SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.
ESCAPE	ANY ESCAPE SELF-CONTAINED BREATHING APPARATUS.

*ONLY NIOSH-APPROVED OR MSHA-APPROVED EQUIPMENT SHOULD BE USED.

NOTE TO PHYSICIAN

METHANOL IS WATER SOLUBLE AND DISTRIBUTES IN THE WATER SPACE (0.65 X WT. (KG)). IT IS SLOWLY METABOLIZED TO FORMIC ACID. ETHANOL, BY COMPETITIVE INHIBITION, RETARDS METHANOL METABOLISM. TREATMENT SHOULD BEGIN WITH PO ETHANOL VIA NG TUBE OR IV ETHANOL UNTIL BLOOD ETHANOL LEVEL REACHES 100 MG/DL. CONTINUE ETHANOL UNTIL BLOOD METHANOL LEVEL IS LESS THAN 20 MG/DL. RELAPSES CAN OCCUR IF ETHANOL STOPPED PREMATURELY. HEMODIALYSIS IS HELPFUL TO REMOVE METHANOL AND FORMATE BUT ALSO REMOVES ETHANOL AND DOSAGE ADJUSTMENT IS REQUIRED.

XII

Supplement Continued

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

RELEASE MAY CAUSE FIRE/EXPLOSION. EVACUATE/EXCLUDE NONESSENTIAL PERSONNEL. EXTINGUISH ALL IGNITION SOURCES/STOP RELEASE IF FEASIBLE WITHOUT UNDUE RISK. IMMEDIATELY NOTIFY FIRE/WATER SUPPLY/POLLUTION CONTROL AUTHORITIES. DO NOT FLUSH TO SEWER. LIQUID REMAINS FLAMMABLE EVEN WHEN MIXED WITH WATER UNLESS MAJOR DILUTION IS ACHIEVED. BLANKET SPILL WITH ALCOHOL RESISTANT FOAM TO LIMIT VAPOR EMISSION. EQUIP CLEANUP CREW WITH PROPER PROTECTION.

DIKE/IMPOUND DOWNGRADE FROM LARGE LAND SPILL. SOAK UP SMALL SPILL ONTO INERT SOLIDS/SHOVEL INTO SUITABLE DISPOSAL CONTAINERS. RESTRICT WATER USE IN CLEANUP. ON WATER, LIQUID IS HIGHLY SOLUBLE/WILL REMAIN ON SURFACE UNTIL RECOVERED OR DISPERSED. LIQUID IS HIGHLY BIODEGRADABLE/MAY DEplete OXYGEN FROM WATER/CAUSE FISH KILL. DISPERSE UNRECOVERABLE MATERIAL TO MINIMIZE THIS EFFECT. IF RELEASED TO THE ENVIRONMENT, COMPLY WITH ALL REGULATORY NOTIFICATION REQUIREMENTS.

RECEIVED
TRANSWESTERN PIPELINE CO

JAN 24 1984

SAFETY OFFICE
ROSWELL, NEW MEXICO

RECEIVED
TRANSWESTERN PIPELINE CO
JAN 25 1984
DIVISION OFFICE
ROSWELL, NEW MEXICO



TRIANGLE REFINERIES, INC.
 SPECIALTY PRODUCTS DIVISION
 1100 ANTHONY STREET • SUITE 100 • SHREVEPORT, LOUISIANA 71205
 TELEPHONE NO. 800-441-4171 318-361-2991

A SUBSIDIARY OF KERR-MCGEE REFINING CORPORATION

MATERIAL SAFETY DATA SHEET

MSDS NUMBER
W-1410

EMERGENCY TELEPHONE COMPANY CHEMTREC
 405/270-2526 800/424-9300

I. PRODUCT IDENTIFICATION

PRODUCT KERMAC 100-W		CHEMICAL NAME Stoddard Solvent, White Spirits	
CHEMICAL FAMILY Petroleum Hydrocarbon Naphtha		FORMULA C₈-C₁₂	CAS NUMBER 64741-48-9
NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATING CODES Light - 1 Moderate - 2 High - 3 Extreme - 4		HEALTH CODE 0	FIRE CODE 2
		REACTIVITY CODE 0	

II. HAZARDOUS COMPONENTS

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

III. PHYSICAL AND CHEMICAL PROPERTIES

PERCENT VOLATILE BY VOLUME (%) 100	APPROXIMATE DENSITY Approximately 140	APPROXIMATE STATE Clear Liquid
ODOR AND THRESHOLD Petroleum Naphtha/Approx. 1 ppm	MELTING POINT Not Available	VAPOR DENSITY (AIR = 1) 4.8

IV. FIRE PROTECTION INFORMATION

FLASH POINT AND METHOD	AUTOIGNITION TEMPERATURE	FLAMMABLE LIMITS % VOLUME IN AIR	LOWER	UPPER
Tag Closed Cup 100°F minimum	Approx. 440°F		1	6

Extinguishing Media: Carbon dioxide, dry chemical, or foam. Water stream may spread fire; use water spray only to cool containers exposed to fire. If leak or spill has not ignited, use water spray to disperse vapors.

Hazardous Decomposition Products: Incomplete combustion can yield carbon monoxide and various hydrocarbons.

Fire and Explosion Hazards: Can form flammable mixtures with air and flash when heated to approximately 100°F. Explosion hazard in fire situation. Vapor heavier than air and may travel considerable distance to a source of ignition and flash back.

Hazardous Polymerization: Will Not Occur May Occur Stable Instable

V. HEALTH INFORMATION

Inhalation: Possible effects include headache, nasal and respiratory irritation, nausea, drowsiness, fatigue, pneumonitis, pulmonary edema, central nervous system depression.

Eye Contact: Irritation

Skin Contact: Irritation, may cause dermatitis due to defatting of keratin layer.

Ingestion: Possible effects include headache, drowsiness, nausea, fatigue, pneumonitis, pulmonary edema, central nervous system depression. Aspiration hazard.

Reported as Potential Carcinogen or Carcinogen: Not Applicable International Agency for Research on Cancer National Toxicology Program OSHA

VI. FIRST AID PROCEDURES

INHALATION

Move exposed person to fresh air. If breathing has stopped, perform artificial respiration. Get medical attention as soon as possible.

EYE CONTACT

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.

SKIN CONTACT

If clothing soaked, immediately remove clothing and wash skin with soap and water. Launder clothing before wearing. Get medical attention promptly.

INGESTION

Do not induce vomiting. Get medical attention as soon as possible.

VII. EMPLOYEE PROTECTION

RESPIRATORY PROTECTION (UTILIZE NIOSH APPROVED RESPIRATORS. REFER TO MANUFACTURER'S PROTECTION FACTORS AND OSHA STANDARD 1910.134, AS A GUIDELINE.)

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.

PROTECTIVE CLOTHING	EYE	Chemical goggles, face shield.
	SKIN	Gloves: Nitrile, neoprene or other material resistant to naphtha solvent.

VENTILATION

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.

VIII. TRANSPORTATION AND STORAGE INFORMATION

<small>DOT Hazardous Material</small>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<small>DOT HAZARD CLASS</small>
<small>DOT SHIPPING NAME AND NUMBER</small>	Petroleum naphtha UN1255	Combustible liquid
<small>STORAGE</small>		

Do not store with strong oxidizers. Store as OSHA Class II combustible liquid.

IX. ENVIRONMENTAL PROTECTION

SPILLS	<p>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.</p>			
	<small>EPA Hazardous Waste</small>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><small>EPA WASTE CODE NUMBER</small> D 001</td> <td style="width: 50%;"><small>WASTE CHARACTERISTIC OR HAZARD CODE</small> Ignitable</td> </tr> </table>	<small>EPA WASTE CODE NUMBER</small> D 001
<small>EPA WASTE CODE NUMBER</small> D 001	<small>WASTE CHARACTERISTIC OR HAZARD CODE</small> Ignitable			
WASTE DISPOSAL	<p>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.</p>			

<small>MANAGER'S SIGNATURE (PRODUCT SAFETY AND COMPLIANCE)</small>	<small>DATE PREPARED</small>
Prepared by Kerr-McGee Refining Corporation for Triangle Refineries, Inc. <i>C.L. Russell</i>	5-15-85

DISCLAIMER

The information and recommendations contained in this publication have been compiled from sources believed to be reliable and to represent the best current opinion on the subject at the time of publication. Since we cannot anticipate or control the many different conditions under which this information or our products may be used, we make no guarantee that the recommendations will be adequate for all individuals or situations. Each user of the product described herein should determine the suitability of the described product for his particular purpose and should comply with all federal and state rules and regulations concerning the described product.

H. W. DUDLEY
VICE-PRESIDENT
OILS SPECIALTIES MARKETING



TRIANGLE REFINERIES, Inc.

From: Brewer Oil
Bob Smith
1-29-87

HOUSTON
PHONE (713) 663-4800

POST OFFICE BOX 3367

HOUSTON, TEXAS

77253

KERMAC Mineral Spirits (100W)

WYNNEWOOD REFINERY

TYPICAL SPECIFICATIONS

API GRAVITY @ 60 F.	49.0
SPECIFIC GRAVITY	.7839
FLASH POINT TCC	100 F. Min.
COLOR	+30
DISTILLATION	
IBP	314
10%	323
50%	338
90%	368
DP	396
Aniline Point	138.7
Kauri Butanol	35.9
CHEMICAL COMPOSITION VOL %	
Paraffins	45.2
Olefins	Nil.
Aromatics	11.3
Naphthenes	43.5
CORROSION	1-A
SULFUR	NIL
DOCTOR	NEG.

RECEIVED JAN 15 1987

NOTICE JUDGEMENT BASED ON INDIRECT TEST DATA

MATERIAL SAFETY DATA SHEET

DATE:

(ESSENTIALLY SIMILAR TO FORM OSHA-20)

I-PRODUCT INFORMATION			
MANUFACTURED FOR ALPHA DYN CHEMICAL		EMERGENCY PHONE NUMBER (505) 392-7034	
ADDRESS P.O. BOX F #3 BRAND DRIVE HOBBS, N.M. 88240		OTHER	
FORMULA PROPRIETARY		TRADE NAME BLUE TIGER	
II-HAZARDOUS INGREDIENTS			
	CAS #	%(wt)	TLV(ppm)
III-PHYSICAL DATA			
BOILING POINT (*F)	212	SPECIFIC GRAVITY (H ₂ O = 1)	1.035
VAPOR PRESSURE (psig)	18	% VOLATILE BY VOLUME	90.00
VAPOR DENSITY	N/A	EVAPORATION RATE (WATER = 1)	1.00
SOLUBILITY IN WATER	100%	APPEARANCE AND ODOR	CLEAR, BLUE, MOD. VISCIOUS LIQUID
IV-FIRE & EXPLOSION HAZARD DATA			
FLAMMABILITY AS PER CPSC FLAME EXTENSION TEST NONE		FLAMMABLE LIMITS	Lower Upper
EXTINGUISHING MEDIA NONE			
SPECIAL FIRE FIGHTING PROCEDURES NONE			
UNUSUAL FIRE & EXPLOSION HAZARDS NONE			
V-REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (Materials to avoid)			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

VI-HEALTH HAZARD DATA

OSHA PERMISSIBLE EXPOSURE LIMIT

EFFECTS OF OVER EXPOSURE

INHALATION NO ADVERSE EFFECTS FROM INHALATION.

SKIN CONTACT / ABSORPTION MAY BE IRRITATING TO SKIN. FLUSH OFF WITH CLEAR WATER.

INGESTION GASTROINTESTINAL IRRITATION IF INGESTED. DO NOT INDUCE VOMITING. DRINK LARGE VOLUMES OF CLEAR WATER AND SEEK PROMPT MEDICAL ATTENTION.

EYES FLUSH WITH CLEAR WATER, THEN APPLY AN ISOTONIC EYEWASH SOLUTION.

EMERGENCY AND FIRST AID PROCEDURES

EYES AND SKIN

FLUSH OFF WITH CLEAR WATER

INHALATION

N/A

INGESTION

DRINK LARGE VOLUMES OF CLEAR WATER AND SEEK PROMPT MEDICAL ATTENTION

VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED FLUSH ALL EFFECTED SURFACES WITH CLEAR WATER, SQUEEGEE TO FLOOR DRAIN, THEN FLUSH TO STANDARD SEWER WITH LARGE VOLUMES OF CLEAR WATER. WIPE DRY OR ALLOW TO AIR DRY.

WASTE DISPOSAL METHOD DILUTE CONCENTRATION OF WASTE OR SPENT MATERIAL WITH CLEAR WATER, THEN FLUSH TO STANDARD SEWER. EMPTY CONTAINER MAY BE SENT TO A LANDFILL SITE OR OFFERED FOR RECONDITIONING.

VIII-SPECIAL PROTECTION INFORMATION

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

EYE GOGGLES

SKIN RUBBER GLOVES

OTHER

VENTILATION REQUIREMENTS ADEQUATE

IX-SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING KEEP OUT OF THE REACH OF CHILDREN. KEEP CONTAINER SEALED WHEN NOT IN USE. PROTECT PRODUCT FROM STORAGE IN AREA EXPOSED TO TEMPERATURE EXTREMES. STORE PRODUCT IN ORIGINAL SHIPPING CONTAINER WITH PRODUCT LABEL INTACT. READ PRODUCT LABEL CAREFULLY BEFORE USING PRODUCT.

OTHER PRECAUTIONS

HAZARD COMMUNICATION GUIDE

Material Safety
Data SheetN/D = No Data
N/A = Not Applicable

Supercedes: 10/20/86		I. General Information Date Revised: 12/12/88	
Chemical Name & Synonyms N/A	Trade Name & Synonyms OIL-OFF	Formula N/A	DOI Hazard Classification Combustible material
Chemical Family Solvent=Surfactant Mixture	Manufacturer Crain Chemical Co., Inc.	Manufacturer's Phone Number 214/358-3301	Chemtrec Phone Number 1-800-424-9300
Proper DOI Shipping Name Compound, degreasing, liquid	Manufacturer's Address P.O. Box 540995, Dallas, TX 75354		
II. Ingredients			
Principal Hazardous Components	Percent	Threshold Limit Value (units)	
Petroleum Hydrocarbon Distillate CAS# 8008-20-6		OSHA	ACGIH
		500ppm	N/D
III. Physical Data			
Boiling Point (°F) 354-525	Specific Gravity (H ₂ O = 1) 0.848	Percent Volatile By Volume (%) 75	Evaporation Rate (_____ = 1) Toluene < 0.1
Vapor Pressure (mm Hg.) 0.4 @ 68°F		pH N/A	
Vapor Density (Air = 1) 6.6			
Solubility in Water Negligible			
Appearance & Odor Clear, dark blueish green liquid/characteristic odor			
IV. Fire & Explosion Hazard Data			
Flash Point (Test Method) 149°F	Auto Ignition Temperature 410°F	LEL	UEL
Flammable Limits Combustible		1.0	8.0
Extinguishing Media Foam, dry chemical, CO ₂			
Special Fire Fighting Procedures Water stream may spray fire. Use water spray only to keep fire exposed containers cool.			
Unusual fire & Explosion Hazards Can form combustible mixtures with air when heated to approximately 171°F will not flash spontaneously.			

HAZARD COMMUNICATION GUIDE

V. Health Hazard Data

Threshold Limit Value 500ppm	OSHA Threshold Limit Value 500ppm	ACGIH Threshold Limit Value N/D
Carcinogen - NTP Program N/A	Carcinogen - IARC Program N/A	

Symptoms of Exposure
Irritation, possible effects include headache, drowsiness, nausea, fatigue, pneumonitis, pulmonary edema, CNS depression, aspiration hazard.

Medical Conditions Aggravated by Exposure
Many aggravate existing eye, skin or respiratory conditions.

Primary Route(s) of Entry

Inhalation, skin
Emergency First Aid Inhalation: Move to fresh air. Resuscitate if necessary. Eyes: Immediately flush with water for 15 minutes, occasionally lifting upper & lower eyelids. Skin: Wash with soap and water. Ingestion: Do NOT induce vomiting. Get medical attention as soon as possible.

VI. Reactivity Data

Stability	<input checked="" type="checkbox"/> Stable	<input type="checkbox"/> Unstable	Conditions to Avoid Heat, sparks, open flames, welding arcs.
Incompatibility			Materials to Avoid Strong oxidizing agents
Hazardous Polymerization	<input checked="" type="checkbox"/> Will Not Occur	<input type="checkbox"/> May Occur	Conditions to Avoid Not known to polymerize

Hazardous Decomposition Products
Incomplete combustion can yield CO and various hydrocarbons.

VII. Environmental Protection Procedures

Spill Response Notify emergency response personnel. Remove ignition sources and evacuate area. Remove free liquid. Do Not Flush to sewer or open water. Pick up with inert absorbent and place in closed container for disposal.

Waste Disposal Method
Utilize licensed waste disposal company. Consider recycling or incineration. Utilize permitted industrial waste disposal site.

VIII. Special Protection Information

<p>Eye Protection Chemical goggles</p> <p>Respiratory Protection (Specific Type) Half/mask or full face organic respirator or supplied air, or self contained breathing apparatus. NIOSH/MSHA approved</p> <p>Other Protection Rubber aprons and boots.</p>	<p>Skin Protection Solvent-resistant gloves</p> <p>Ventilation Recommended Maintain adequate ventilation to keep vapor concentrations below TLV.</p>
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IX. Special Precautions

Hygienic Practices in Handling & Storage
Maintain good industrial hygienic practices. Store as a Class III A combustible liquid.

Precautions For Repair & Maintenance Of Contaminated Equipment
Remove all ignition sources.

Other Precautions
Avoid breathing vapors over extended periods.
Avoid contact with eyes, skin. Keep out of reach of children.

M A T E R I A L S A F E T Y D A T A S H E E T

Dow Chemical U.S.A. Midland, MI 48674 Emergency Phone: 517-636-4400

MSD: 000584 Page: 1

PRODUCT NAME: AMBITROL (R) FL COOLANT

Effective Date: 06/11/79 Date Printed: 10/16/85 Product Code: 07666

1. INGREDIENTS:

Ethylene glycol mix	50%
Inhibitors	1%
D. I. water	49%
Dye	

2. PHYSICAL DATA:

BOILING POINT: 229F, 109C
VAP PRESS: Approx. 2.5 mmHg @ 20C
VAP DENSITY: Not applic.
SOL. IN WATER: Completely miscible
SP. GRAVITY: 1.084 @ 60/60F, 16C
APPEARANCE: Red liquid.
ODOR: Not available.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: None
METHOD USED:

FLAMMABLE LIMITS
LFL: Not applic.
UFL: Not applic.

EXTINGUISHING MEDIA: ~~None~~ *Non-combustible 556 gallons*
ENDING READING 51

FIRE & EXPLOSION HAZARDS: None.

FIRE-FIGHTING EQUIPMENT: None.

(Continued on Page 2)

(R) Indicates a trademark of The Dow Chemical Company

MATERIAL SAFETY DATA SHEET

Dow Chemical U.S.A. Midland, MI 48674 Emergency Phone: 517-636-4400

MSD: 000584 Page: 2

PRODUCT NAME: AMBITROL (R) FL COOLANT

Effective Date: 06/11/79 Date Printed: 10/16/85 Product Code: 07666

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID)

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Oxidizing material

HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Small spills:
Cover with absorbent material, soak up and sweep into a drum.
Large spills: Dike around spill and pump into suitable containers.

DISPOSAL METHOD: Reprocess or burn in proper incinerator in accordance with local regulations.

6. HEALTH HAZARD DATA:

EYE: Up to mild transient irritation, but no corneal injury expected.

SKIN CONTACT: Prolonged contact: Slight irritation; repeated exposure may cause up to moderate irritation, even a burn.

SKIN ABSORPTION: Not likely to be absorbed in toxic amounts.
Low in toxicity by this route.

INGESTION: Low single dose oral toxicity for animals. Ethylene glycol is moderately toxic for humans.

INHALATION: ACGIH TLV for ethylene glycol is 100 ppm (1978) as vapor, 10 mg/m³ as mist.

SYSTEMIC & OTHER EFFECTS: Not known.

M A T E R I A L S A F E T Y D A T A S H E E T

Dow Chemical U.S.A. Midland, MI 48674 Emergency Phone: 517-636-4400

MSD: 000584 Page: 3

PRODUCT NAME: AMBITROL (R) FL COOLANT

Effective Date: 06/11/79 Date Printed: 10/16/85 Product Code: 07666

7. FIRST AID:

EYES: Irrigation of the eye immediately with water for five minutes is good safety practice.

SKIN: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash clothing before reuse. Destroy contaminated shoes.

INGESTION: If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Call a physician.

INHALATION: Remove to fresh air if effects occur. Consult medical personnel.

NOTE TO PHYSICIAN:

Eyes: May cause mild irritation. Stain for evidence of corneal injury.

Skin: May cause moderate irritation. With repeated contact may cause burn. If rash is present, treat as any contact dermatitis. If burn is present, treat as any thermal burn.

Respiratory: Injury is unlikely.

Oral: Moderately toxic.

Systemic: With acute ethylene glycol overexposure (oral) ethanol administration may be indicated (see Tox of Drugs and Chemicals - Deichmann and Gerard, p. 258). Kidney may be target organ with overexposure. Treatment based on the sound judgment of the physician and the individual reactions of the patient.

8. HANDLING PRECAUTIONS:

VENTILATION: Recommend control of vapors or mists of ethylene glycol to suggested guide.

RESPIRATORY PROTECTION: None normally needed. NIOSH approved respiratory protection required in absence of proper environmental control.

(Continued on Page 4)

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MATERIAL SAFETY DATA SHEET

Dow Chemical U.S.A. Midland, MI 48674 Emergency Phone: 517-636-4400

MSD: 000584 Page: 4

PRODUCT NAME: AMBITROL (R) FL COOLANT

Effective Date: 06/11/79 Date Printed: 10/16/85 Product Code: 07666

8. HANDLING PRECAUTIONS: (CONTINUED)

SKIN PROTECTION: Clean, body-covering clothing.

EYE PROTECTION: Safety glasses without side shields.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid skin and eye contact. Avoid breathing vapors or mists.

MSDS STATUS: Revised 2, 3, 6, 7, 8.

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The Information Herein Is Given In Good Faith, But No Warranty,
Expressed Or Implied, Is Made. Consult The Dow Chemical Company
For Further Information.



MATERIAL SAFETY DATA SHEET



EFFECTIVE DATE: 7-29-85
REVISION NUMBER: 3

QUAKER STATE CORPORATION • P.O. Box 989, Oil City, Pennsylvania 16301.

I. IDENTIFICATION

PRODUCT NAME: Quaker State Dexron Automatic Transmission Fluid

PRODUCT CODE: 06519 (bulk)
06510 (55 gal. drum)
06509 (16 gal. drum)
06508 (5 gal. container)
406548 (1 qt. pl. bottle)

CHEMICAL NAME: N/A

FORMULA: Complex mixture of Petroleum Hydrocarbons plus Additives

SYNONYMS: Automatic Transmission Fluid

CHEMICAL FAMILY: Petroleum Hydrocarbon

DEPARTMENT OF TRANSPORTATION: HAZARD CLASSIFICATION: Not hazardous under DOT 172.101

SHIPPING NAME: IDENTIFICATION #: None

CAS #: Mixture

CAS NAME: Mixture

II. TYPICAL COMPOSITION

<u>MATERIAL</u>	<u>CAS #</u>	<u>% wt.</u>	<u>TLV (UNITS) (SOURCE)</u>	<u>HAZARD</u>
Mineral Oils@	Mixture	> 90	5 mg/M ³ TWA ACGIH	
Additive Package*	Mixture	< 10		

*Additive manufacturers consider their additive package to be proprietary information.

@We consider our blend of mineral oils to be proprietary information.

III. PHYSICAL DATA

<u>BOILING POINT, 760 mm. Hg:</u> 680°F min.	<u>PHYSICAL STATE:</u> Liquid
<u>SPECIFIC GRAVITY (H₂O = 1):</u> .94	<u>VAPOR PRESSURE AT 20°C.:</u> N/D
<u>VAPOR DENSITY (AIR = 1):</u> N/D	<u>SOLUBILITY IN WATER, % BY WT.:</u> Nil
<u>PER CENT VOLATILES BY VOLUME:</u> Nil	<u>EVAPORATION RATE (Butyl Acetate = 1)</u> N/D
<u>APPEARANCE AND ODOR:</u> Red liquid with slight hydrocarbon odor.	

This information is, to the best of Quaker State Corporation's knowledge and belief, accurate and reliable. However, no representation, warranty, or guarantee is made to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

FOR FURTHER INFORMATION CALL: (814) 676-7676

IV. HEALTH HAZARD DATA

TLV AND SOURCE: Oil Mist, Mineral - TWA 5 mg/M³ ACGIH 1983-1984
STEL 10 mg/M³ ACGIH 1983-1984

ACUTE EFFECTS OF OVEREXPOSURE

- SWALLOWING** : Not expected to be acutely toxic by ingestion. May cause nausea and diarrhea.
- SKIN ABSORPTION:** No data available.
- INHALATION** : Not expected to be toxic by inhalation. However, breathing mineral oil mists at levels above the TLV may cause respiratory irritation and possible discomfort. The creation of an oil mist is unlikely when used as a motor oil.
- SKIN CONTACT** : Material expected to cause no more than minor skin irritation following prolonged and/or repeated contact.
- EYE CONTACT** : May cause minor eye irritation.

CHRONIC EFFECTS OF OVEREXPOSURE

None known.

EMERGENCY AND FIRST AID PROCEDURES

- SWALLOWING** : If material is swallowed, do not induce vomiting and contact a physician.
- SKIN** : Wash skin thoroughly with soap and water. Launder soiled clothing.
- INHALATION** : Although inhalation of this material is unlikely, if respiratory discomfort or irritation occurs due to inhalation of oil mist, move person to fresh air. Contact a physician if discomfort or irritation continues.
- EYES** : Flush with water for 15 minutes. If irritation continues, contact a physician.

V. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT [test method(s)]: 320° F, minimum (COC)

AUTO IGNITION TEMPERATURE: N/D

FLAMMABLE LIMITS IN AIR, % BY VOLUME: N/A

EXTINGUISHING MEDIA: CO₂, Dry Chemical, Foam, Water Fog. Water may be ineffective in fighting an oil fire unless used by experienced fire fighters.

SPECIAL FIRE FIGHTING PROCEDURES: For small fires involving this material, no special procedure or precautions are necessary. For large storage fires involving this material and/or other lubricating products, do not enter any enclosed or confined space without full protective equipment including self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Containers may burst when exposed to fire conditions.

VI. REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: High temperatures and open flame.

INCOMPATIBILITY (materials to avoid): Strong oxidizing agents.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: Carbon dioxide, water vapor. May produce oxides of sulphur, nitrogen and phosphorus. Incomplete combustion can produce carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: None known

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Clean up spills as soon as possible. Absorb large spills with commercially available absorbent materials, such as absorbent clay.

WASTE DISPOSAL METHOD:

Place contaminated material in disposable containers and bury in an approved landfill site per local, state and federal regulations.

VIII. PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type): Not applicable for intended use. However, if unusual operating conditions create concentrations in excess of the TLV, an approved respirator is recommended.

VENTILATION: None needed for intended use. Special ventilation is necessary only if unusual operating conditions create concentrations in excess of the TLV.

PROTECTIVE GLOVES: Impervious protective gloves can minimize skin exposures where prolonged or repeated exposures can occur.

EYE PROTECTION: Although none normally necessary for intended use, safety glasses or a face shield can reduce the possibility of accidental eye contact.

OTHER PROTECTIVE EQUIPMENT: None normally necessary for intended use.

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not store near high heat, open flames or strong oxidizing materials.

Do not transfer this material to unmarked containers.

PRECAUTIONS DURING USE: Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing impervious protective gloves. As with all products of this nature, good personal hygiene is essential. Hands and other exposed areas should be washed thoroughly with soap and water after contact, especially before eating and/or smoking. Regular laundering of contaminated clothing is essential to reduce indirect skin contact with this material.

NOTES



MATERIAL SAFETY DATA SHEET
G-132B

SECTION I PRODUCT IDENTIFICATION

Trade Name and Synonyms G-132B

Chemical Family

Formula

Heterogeneous Catalyst

$CuO+ZnO+Al_2O_3+C$

SECTION II HAZARDOUS INGREDIENTS

Hazardous Components in the Solid Mixture

<u>COMPONENT</u>	<u>CAS No.</u>	<u>%</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
Zinc oxide	1314-13-2	40-50	2.0 mg/m ³	10.0 mg/m ³
Copper oxide	1317-38-0	35-45	1.0 mg/m ³	1.0 mg/m ³
Aluminum oxide	1344-28-1	8-15	15.0 mg/m ³	10.0 mg/m ³
Carbon (Syn. graphite)	7782-42-5	1-5	*NIA	10.0 mg/m ³

SECTION III PHYSICAL DATA

Appearance and Odor: Dark brown cylindrical tablets. No odor.

Melting Point: Greater than 1600°C, greater than 3000°F.

Solubility in Water: Insoluble.

Bulk Density: 80 lbs./cu. ft.

Percent Volatile by Weight at 1000°F: Less than 7%.



United Catalysts Inc.

Girdler and CCI Catalysts

MATERIAL SAFETY DATA SHEET G-132B

SECTION IV FIRE EXPLOSION DATA

Fire and Explosion Hazard

Negligible fire and explosion hazard when exposed to heat or flame by reaction with incompatible substances.

Flash Point

Non-flammable

Firefighting Media

Dry chemical, water spray, or foam.

For larger fires, use water spray fog or foam.

Firefighting

Non-flammable solids, liquids or gases: Cool containers that are exposed to flames with water from the side until well after fire is out. For massive fire in enclosed 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 the tank due to fire.

SECTION V HEALTH HAZARD DATA

Health hazards may arise from inhalation, ingestion, or contact with the skin and eyes.

Excessive repeated inhalation of carbon may cause irritation to the upper respiratory tract and lung damage. Activated carbon may cause irritation of the eyes and mucous membranes, conjunctivitis, epithelial hyperplasia of the cornea, and eczematous inflammation of the eyes. Ingestion of large quantities may cause stomach and alimentary tract irritation. In the form of dust, activated carbon may contain small amounts of irritating and possibly toxic impurities.

Alumina particles deposited in the eye may cause necrosis of the cornea. Ingestion may cause stomach and intestinal distress. Salts of alumina may cause dermatoses, eczema, conjunctivitis, and irritation of the mucous membranes of the upper respiratory tract. Prolonged inhalation of alumina dust may result in pneumoconiosis. Lung damage (Shaver's Disease) may result from inhalation of finely divided aluminum oxide particles; it is complicated by silica and oxides of iron in the inhaled air.



MATERIAL SAFETY DATA SHEET
G-132B

Excessive inhalation of copper dusts may produce irritation to the upper respiratory tract and may cause temporary or permanent damage to the lungs. Sublimed copper oxide may be responsible for a form of metal fume fever. Ingestion of large quantities may result in damage to the liver, pancreas, kidney, or nervous system. Prolonged or repeated contact with the skin may result in irritation and possible dermatitis in sensitive individuals. Contact with eye tissue may result in irritation and/or conjunctivitis.

Inhalation of zinc dust, mists, or fumes may irritate the respiratory tract, mucous membranes and skin. At higher levels of exposure "zinc chills" or "zinc fume fever" may occur with symptoms of metallic or sweet taste, marked thirst, coughing, weakness, fatigue, muscular pain, nausea and vomiting, followed by fever, perspiration and chills, dyspnea, rales throughout the chest, and tachycardia. Onset of symptoms usually occur about 4-12 hours after exposure. Workers in zinc refining have been reported to suffer from a variety of nonspecific intestinal, respiratory, and nervous symptoms. Excessive contact may cause perforation of the nasal septum. Prolonged or repeated contact under poor hygienic conditions may produce a papular, pustular eczema or dermatitis called "oxide pox." Contact with the eye tissue may produce irritation and/or conjunctivitis.

First Aid (Inhalation)

Remove to fresh air immediately. If breathing has stopped, give artificial respiration. Keep affected person warm and at rest. Get medical attention immediately.

First Aid (Ingestion)

If large amounts have been ingested, give emetics to cause vomiting. Stomach siphon may be applied as well. Milk and fatty acids should be avoided. Get medical attention immediately.

First Aid (Eyes)

Wash eyes immediately and carefully for 15 to 20 minutes with running water, lifting upper and lower eyelids occasionally. Get prompt medical attention.

First Aid (Skin)

To avoid repeated or prolonged contact with this chemical, use good hygienic practices. Wash with soap and a large amount of water. Get medical attention if irritation or inflammation develops.



MATERIAL SAFETY DATA SHEET
G-132B

SECTION VI REACTIVITY DATA

Reactivity

Is stable under normal temperatures and pressures in sealed containers. Hazardous polymerization will not occur. Finely divided particles can result in fire or explosion. Toxic fumes are produced at elevated temperatures. When heated, can react explosively with magnesium or chlorinated rubber.

SECTION VII SPILL OR LEAK PROCEDURES

Notify safety personnel of spills or leaks. Clean-up personnel need protection against inhalation of dusts or fumes. Eye protection is required. Vacuuming and/or wet methods of cleanup are preferred. Place in appropriate containers for disposal, keeping airborne particulates at a minimum.

Disposal

Consult applicable local, state, and federal regulations to select the method of disposal. Recover metal components by reprocessing when possible.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection

Provide a NIOSH/MSHA jointly approved respirator in the absence of proper environmental control. Contact your safety equipment supplier for proper mask type.

Ventilation

Provide general and/or local exhaust ventilation to keep exposures below the TLV. Ventilation used must be designed to prevent spots of dust accumulation or recycling of dusts.

Protective Clothing

Wear protective clothing, including long sleeves and gloves, to prevent repeated or prolonged skin contact.

Eye Protection

Chemical splash goggles designed in compliance with OSHA regulations are recommended. Consult your safety equipment supplier.



United Catalysts Inc.
Girdler and CCI Catalysts

MATERIAL SAFETY DATA SHEET
G-132B

SECTION IX

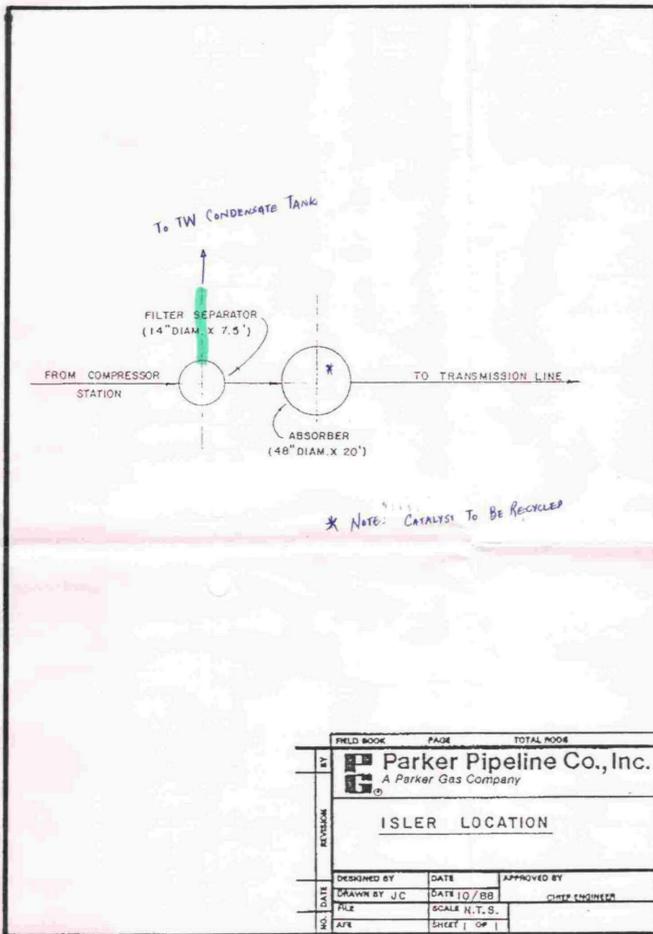
This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Please refer to 40 CFR Part 372, Subpart D (372.62 - Specific Toxic Chemical Listings) and Section II - Hazardous Ingredients of this document for the names and percentages of the toxic chemical(s) in this product.

The information presented herein is believed to be accurate but is not warranted. Recipients are advised to confirm in advance that the information is current and applicable to meet their circumstances.

* No Information Available

Doc. 151

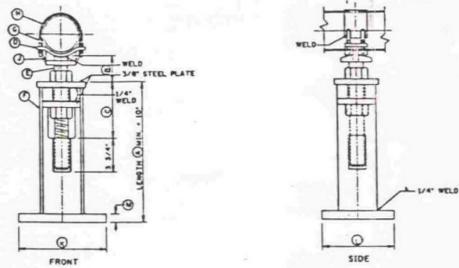


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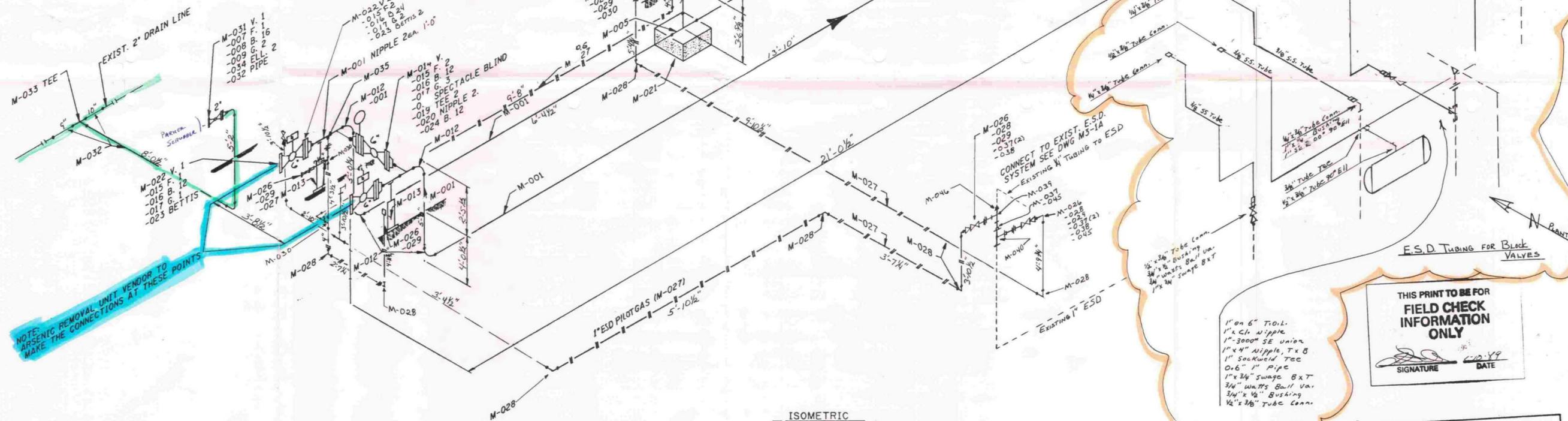
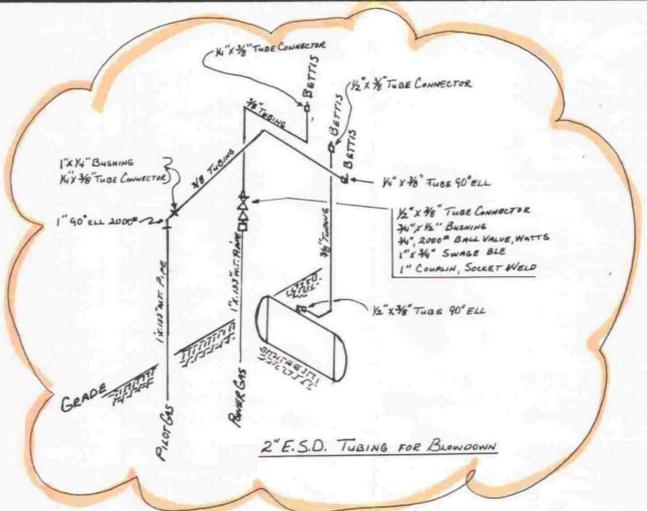
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		APPROVED BY <small>VICE PRESIDENT</small>	
		APPROVED BY <small>OPERATING COMPANY</small>	
		DRAWING NUMBER "PARKER"	



PIPE SIZE (INCH)	DIMENSIONS (IN INCHES)											BASE PLATE DIMENSIONS			
	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
2"	1 3/4"	5 3/4"	4 1/2"	3/8" X 3"	1"	4" (17.7)	5/16"	1/8" X 3"	8"	6"	3/8"	8"	6"	3/8"	8"
3"	1 3/4"	5 3/4"	4 1/2"	3/8" X 3"	1"	4" (17.7)	5/16"	1/8" X 3"	8"	6"	3/8"	8"	6"	3/8"	8"
4"	1 3/4"	5 3/4"	4 1/2"	3/8" X 3"	1"	4" (17.7)	5/16"	1/8" X 3"	8"	6"	3/8"	8"	6"	3/8"	8"
6"	2 1/2"	6"	5"	1/2" X 3 1/2"	1 1/2"	6" (25.4)	3/8"	3/16" X 3"	10"	8"	3/8"	10"	8"	3/8"	10"
8"	2 1/2"	6"	5"	1/2" X 3 1/2"	1 1/2"	6" (25.4)	3/8"	3/16" X 3"	10"	8"	3/8"	10"	8"	3/8"	10"
10"	2 1/2"	6"	5"	1/2" X 3 1/2"	1 1/2"	6" (25.4)	3/8"	3/16" X 3"	10"	8"	3/8"	10"	8"	3/8"	10"
12"	2 3/4"	6 3/4"	5"	1/2" X 4 1/2"	1 3/4"	8" (31.8)	1/2"	1/4" X 3 1/2"	12"	10 1/2"	1/2"	12"	10 1/2"	12"	10 1/2"
14" O.D.	2 3/4"	6 3/4"	5"	1/2" X 4 1/2"	1 3/4"	8" (31.8)	1/2"	1/4" X 3 1/2"	12"	10 1/2"	1/2"	12"	10 1/2"	12"	10 1/2"
16" O.D.	2 3/4"	6 3/4"	5"	1/2" X 4 1/2"	1 3/4"	8" (31.8)	1/2"	1/4" X 3 1/2"	12"	10 1/2"	1/2"	12"	10 1/2"	12"	10 1/2"
18" O.D.	2 3/4"	6 3/4"	5"	1/2" X 4 1/2"	1 3/4"	8" (31.8)	1/2"	1/4" X 3 1/2"	12"	10 1/2"	1/2"	12"	10 1/2"	12"	10 1/2"
20" O.D.	4"	8"	5"	1/2" X 4 1/2"	2"	8" (31.8)	5/8"	1/4" X 4"	8"	12"	10 1/2"	8"	12"	10 1/2"	8"
22" O.D.	4"	8"	5"	1/2" X 4 1/2"	2"	8" (31.8)	5/8"	1/4" X 4"	8"	12"	10 1/2"	8"	12"	10 1/2"	8"
24" O.D.	4"	8"	5"	1/2" X 4 1/2"	2"	8" (31.8)	5/8"	1/4" X 4"	8"	12"	10 1/2"	8"	12"	10 1/2"	8"
26" O.D.	4 1/4"	8 1/4"	5 1/2"	1/2" X 5"	2 1/4"	10" (25.4)	3/4"	1/4" X 4 1/2"	10"	14"	12 1/2"	10"	14"	12 1/2"	10"
18" O.D.	2 3/4"	6 3/4"	5"	1/2" X 4 1/2"	1 3/4"	8" (31.8)	1/2"	1/4" X 3 1/2"	12"	10 1/2"	1/2"	12"	10 1/2"	12"	10 1/2"
20" O.D.	4"	8"	5"	1/2" X 4 1/2"	2"	8" (31.8)	5/8"	1/4" X 4"	8"	12"	10 1/2"	8"	12"	10 1/2"	8"
24" O.D.	4"	8"	5"	1/2" X 4 1/2"	2"	8" (31.8)	5/8"	1/4" X 4"	8"	12"	10 1/2"	8"	12"	10 1/2"	8"
26" O.D.	4 1/4"	8 1/4"	5 1/2"	1/2" X 5"	2 1/4"	10" (25.4)	3/4"	1/4" X 4 1/2"	10"	14"	12 1/2"	10"	14"	12 1/2"	10"
28" O.D.	4 1/4"	8 1/4"	5 1/2"	1/2" X 5"	2 1/4"	10" (25.4)	3/4"	1/4" X 4 1/2"	10"	14"	12 1/2"	10"	14"	12 1/2"	10"
30" O.D.	4 1/4"	8 1/4"	5 1/2"	1/2" X 5"	2 1/4"	10" (25.4)	3/4"	1/4" X 4 1/2"	10"	14"	12 1/2"	10"	14"	12 1/2"	10"

ADJUSTABLE PIPE SUPPORT



NOTE: ARSENIC REMOVAL UNIT VENDOR TO MAKE THE CONNECTIONS AT THESE POINTS

DENOTES ARSENIC REMOVAL UNIT BY PARKER GAS
 DENOTES NEW PIPING

NOTE: SLEEPER BLOCKS UNDER E.S.D. BLOWDOWN AND 6" INLET AND OUTLET VALVES ARE SACRETE.

ISOMETRIC N.T.S.

THIS PRINT TO BE FOR FIELD CHECK INFORMATION ONLY
 SIGNATURE: DATE: 11/11/88

APPROVED FOR CONSTRUCTION

RECEIVED
 APR 21 1989
 GIL CONSERVATION DIV.
 SANTA FE

DWG. STATUS	CHECKED		APPROVED		WORK ORDER NUMBER
	BY	DATE	BY	DATE	
PREL.Y.					38089
BID					1988 CONSTRUCTION
CONSTR.		11-11-88		11-11-88	FILE NO. M-3C4
CADDS					SCALE 3/8" = 1'-0"

ENRON
 Gas Pipeline Operating Company
 Houston, Texas

TRANSWESTERN PIPELINE COMPANY
 ISLER COMPRESSOR STATION
 ARSENIC REMOVAL UNIT
 YARD PIPING ISOMETRIC
 CHAVES COUNTY, NEW MEXICO

ENRON GAS PIPELINE GROUP

APPROVED BY: CHIEF ENGINEER
 APPROVED BY: VICE PRESIDENT
 APPROVED BY: OPERATING COMPANY
 DRAWING NUMBER: M5-1A