

GW - 202

**GENERAL
CORRESPONDENCE**

YEAR(S):

2005 - 1995

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that she is Advertising Director of **THE LOVINGTON DAILY LEADER**, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Legal Notice

was published in a regular and entire issue of **THE LOVINGTON DAILY LEADER** and not in any supplement thereof, for one (1) day, beginning with the issue of June 2, 2005 and ending with the issue of June 2, 2005.

And that the cost of publishing said notice is the sum of \$ 55.36 which sum has been (Paid) as Court Costs.



Subscribed and sworn to before me this 21st day of July 2005



Debbie Schilling
Notary Public, Lea County, New Mexico
My Commission Expires June 22, 2006

LEGAL NOTICE
NOTICE OF
PUBLICATION

STATE OF
NEW MEXICO
ENERGY, MINERALS
AND NATURAL
RESOURCES DEPART-
MENT
OIL CONSERVATION
DIVISION

Notice is hereby given that pursuant to the New Mexico Water Quality Control Commission Regulations, the following discharge plan application has been submitted to the Director of the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-202) - Pro-Kem, Inc., Gerald Phillips, P.O. Box 1506, Lovington, New Mexico 88260, has submitted a discharge permit renewal application for their Artesia facility located in the SE/4 NW/4 of Section 15, Township 16 South, Range 36 East, Lea County, New Mexico. All effluents that may be generated at the facility will be collected in a closed top tank prior to transport off-site to an OCD approved off-site disposal facility. The discharge permit addresses how oilfield products and waste will be properly handled, stored and dis-

posed of, including how spills, leaks, and other accidental discharges to the surface will be managed in order to protect fresh water. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 60 feet with a total dissolved solids concentrations ranging from approximately 100 mg/l to 200 mg/l.

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 thru 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. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the director determines that there is significant public interest.

If no hearing is held, the Director will approve or disapprove the plan based

on the information available. If a public hearing is held, the Director will approve the plan based on the information in the plan and information presented at the hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 23rd day of May 2005.

STATE OF NEW MEXICO
OIL CONSERVATION
DIVISION

MARK FEISMIR, P.E.,
Director
SEAL

Published in the Lovington Daily Leader June 2, 2005.

THE SANTA FE
NEW MEXICAN
Founded 1849

RECEIVED
NM - 7-285
OIL CONSERVATION
DIVISION

NM OIL CONSERVATION DIV.
Attn: Ed Martin
1220 ST. FRANCIS DR

SANTA FE NM 87505

ALTERNATE ACCOUNT: 56689
AD NUMBER: 00122320 ACCOUNT: 00002212
LEGAL NO: 77219 P.O. #: 05-199-050185
287 LINES 1 TIME(S) 126.28
AFFIDAVIT: 5.50
TAX: 9.64
TOTAL: 141.42

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, B. Perner, 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 # 77219 a copy of which is hereto attached was published in said newspaper 1 day(s) between 06/07/2005 and 06/07/2005 and that the notice was published in the newspaper proper and not in any supplement; the first date of publication being on the 7th day of June, 2005 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

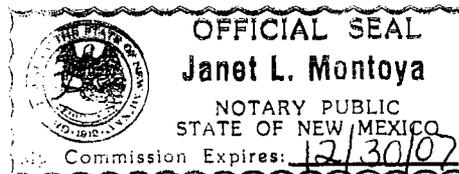
/S/ *B Perner*
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 7th day of June, 2005

Notary *Janet L. Montoya*

Commission Expires: *12/30/07*

*OK to pay
Ed Martin
6-10-05*



**NOTICE OF
PUBLICATION**

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

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(GW-356) - Black Hills Exploration and Production, Inc., Mr. Randy Fox, 350 Indiana Street, Suite 400, Golden, Colorado 80401, (720) 210-1334, has submitted a discharge permit application for the Espinosa Canyon Gas Plant located in the NW/4 NE/4 of Section 13, Township 30 North, Range 4 West, NMPM, Rio Arriba County, New Mexico. Approximately 500 gallons of liquid Thermal Oxidizer waste per year is collected in an above ground steel tank prior to transport off-site to an OCD approved dis-

posal facility. The discharge permit 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. Groundwater most likely to be affected in the event of an accidental discharge is at a depth of approximately 250 feet with a total dissolved solids concentration ranging from approximately 200 to 2000 mg/l.

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 thru 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. Request for public hearing shall set forth the reasons why a hearing shall be held.

A hearing will be held if the director determines that there is significant public interest.

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

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 23rd day of May 2005.

STATE OF
NEW MEXICO
OIL CONSERVATION
DIVISION

SEAL

MARK FEISMIER, P.E.,
Director
Legal #77219
Pub. June 7, 2005

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 5/17/05

or cash received on _____ in the amount of \$ 100.00

from Pro-Kem, Inc.

for Livingston Service Facility 610-202

Submitted by: [Signature] Date: 5/19/05

Submitted to ASD by: _____ Date: _____

Received in ASD by: _____ Date: _____

Filing Fee New Facility _____ Renewal

Modification _____ Other _____

Organization Code 521.07 Applicable FY 2001

To be deposited in the Water Quality Management Fund.

Full Payment or Annual Increment _____



PRO-KEM, INC.
BOX 1506 396-7433
LOVINGTON, NM 88260

Western
Commerce
Bank
Lovington, NM

DATE 5-17-05

95-108/1122
6

PAY ONE HUNDRED AND NO/100-----DOLLARS \$ 100.00

TO
THE
ORDER
OF

NMED-Water Quality Management
OIL CONSERVATION DIVISION
1220 SOUTH ST FRANCIS DRIVE
SANTA FE NM 87505

[Signature]
[Signature]



PRO-KEM, INC.
 LOVINGTON, NM 88260

DETACH AND RETAIN THIS STATEMENT
 THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW
 'NOT CORRECT, PLEASE NOTIFY US PROMPTLY. NO RECEIPT DES'

DATE	DESCRIPTION	AMOUNT	DISTRIBUTIONS	
			ACCT. NO.	AMOUNT
5-17-05	NMED-Water Quality Management	100.00		

EMPLOYEE		DEDUCTIONS								TOTAL DEDUCTIONS	NET PAY
PERIOD ENDING	TOTAL EARNINGS	F.I.C.A.	WITHHOLDING U.S. INC. TAX	STATE TAX	MEDICARE						

DISCHARGE PLAN APPLICATION

1. **Type of Operation**

Blending, sales and application of oilfield treating chemicals for producing wells.

2. **Name of Operator or Legally Responsible Party and Local Representative**

ProKem, Inc.
P.O. Box 1506
2400 South Main
Lovington, New Mexico 88260
Contact Person: Gerald Phillips
505-396-7433

3. **Location of the Discharge Plan Facility**

SE/4, NW/4 Section 15 Township 16S Range 36E, Lea County, New Mexico

4. **Landowners**

Pro-Kem, Inc.
2400 South Main
Lovington, New Mexico 88260
505-396-7433

5. **Facility Description**

Facility has had no additions or modifications since the previous application.

6. **Materials Stored or Used at the Facility**

Pro-Kem stores and uses the same materials as listed on the previous application.

7. **Sources and Quantities of Effluent and Waste Solids Generated at the Facility**

There have been no changes to the quantities of effluent and Waste Solids generated at the facility.

8. **Description of Current Liquid and Solid Waste Collection/Storage/Disposal Procedures**

No change in procedures since the previous application.

9. **Proposed Modifications**

There are no proposed modifications to the facility or this plan.

10. **Inspection, Maintenance and Reporting**

The facility has no surface impoundments waste disposal facilities on site.

11. **Spill/Leak Prevention and Reporting Procedures (Contingency Plans)**

Spills or leaks will be handled according NMOCD Rule116 and WQCC Section 1203 for spill reporting purposes.

12. **Site Characteristics**

No changes in site characteristics.

13. **Other Compliance Information**

Spills or leaks will be handled according NMOCD Rule116 and WQCC Section 1203 for spill reporting purposes.

14. **Certification**

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Gerald Phillips

Title: President

Signature: *Gerald Phillips*

Date: April 19, 2005



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

April 4, 2005

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

Mr. Gerald Phillips
Pro-Kem, Inc.
P.O. Box 1506
Lovington, New Mexico 88260

RE: Discharge Permit Renewal Notice for Pro-Kem, Inc. Facility

Dear Mr. Phillips:

Pro-Kem, Inc. has the following discharge permit that expires on the date shown below.

GW-202 expires 8/23/2005 – Lovington Service Facility

WOCC 3106.F. If the holder of an approved discharge permit submits an application for discharge permit renewal at least 120 days before the discharge permit expires, and the discharger is not in violation of the approved discharge permit on the date of its expiration, then the existing approved discharge permit for the same activity shall not expire until the application for renewal has been approved or disapproved. A discharge permit continued under this provision remains fully effective and enforceable. An application for discharge permit renewal must include and adequately address all of the information necessary for evaluation of a new discharge permit. 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 permit renewal application for the above facility is subject to WOCC Regulation 3114. Every billable facility submitting a discharge permit renewal will be assessed a fee equal to the filing fee of \$100.00 plus a flat fee for oil field service facilities. The \$100.00 filing fee is submitted with the discharge permit renewal application and is nonrefundable.

Mr. Gerald Phillips
Pro-Kem, Inc. Company
April 4, 2005
Page 2

Please make check payable to: **NMED-Water Quality Management** and addressed to the OCD Santa Fe Office. Please submit the original discharge permit renewal application and one copy to the OCD Santa Fe Office and one copy to the OCD Hobbs District Office. **Note that the completed and signed application form must be submitted with your discharge permit renewal request.** (Copies of the WQCC regulations and discharge permit application form and guidelines are available on OCD's website at www.emnrd.state.nm.us/oed/).

If the above facility no longer has any actual or potential discharges and a discharge permit is not needed, please notify this office. If the Pro-Kem, Inc. has any questions, please do not hesitate to contact me at (505) 476-3489.

Sincerely,



W. Jack Ford, C.P.G.
Oil Conservation Division

cc: OCD Hobbs District Office

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

Jacob

I hereby acknowledge receipt of check No. [redacted] dated 1/15/02
or cash received on 1/15/02 in the amount of \$ 100.00
from PRO-KEM INC.

for GW-202 Filing Fee
(Filing Name)

Submitted by: _____ Date: _____ (DP No.)

Submitted to ASD by: Ed Martin Date: 1/18/02

Received in ASD by: _____ Date: _____

Filing Fee New Facility _____ Renewal _____
Modification _____ Other _____
(opportunity)

Organization Code 521.07 Applicable FY 2001

To be deposited in the Water Quality Management Fund.

Full Payment or Annual Increment _____



PRO-KEM, INC.
BOX 1506 396-7433
LOVINGTON, NM 88260

Western
Commerce
Bank
Lovington, NM



DATE 1-15-02

95-108/1122
6

PAY ONE HUNDRED AND NO/100----- DOLLARS \$ 100.00

TO
THE
ORDER
OF

NMED-Water Quality Management
OIL CONSERVATION DIVISION
1220 SOUTH ST FRANCIS DRIVE
SANTA FE NM 87505

Derald Phillip
Barbara Ward



SECURITY FEATURES ARE INCLUDED
GUARDIAN SAFETY

**NEW MEXICO ENVIRONMENT DEPARTMENT
REVENUE TRANSMITTAL FORM**

Description	FUND	CEB	DFA ORG	DFA ACCT	ED ORG	ED ACCT	AMOUNT
1 CY Reimbursement Project Tax	064	01					
5 Gross Receipt Tax	084	01		2329	900000	2329134	
3 Air Quality Title V	092	13	1300	1896	900000	4169134	
4 PRP Prepayments	248	14	1400	9696	900000	4969014	
2 Climax Chemical Co.	248	14	1400	9696	900000	4969015	
6 Circle K Reimbursements	248	14	1400	9696	900000	4969248	
7 Hazardous Waste Permits	339	27	2700	1696	900000	4169027	
8 Hazardous Waste Annual Generator Fees	339	27	2700	1696	900000	4169339	
10 Water Quality - Oil Conservation Division	341	29		2329	900000	2329029	840.00
11 Water Quality - GW Discharge Permit	341	29	2900	1696	900000	4169029	
12 Air Quality Permits	631	31	2500	1696	900000	4169031	
13 Payments under Protest	651	33		2919	900000	2919033	
*14 Xerox Copies	652	34		2349	900000	2349001	
15 Ground Water Penalties	652	34		2349	900000	2349002	
16 Witness Fees	652	34		2349	900000	2439003	
17 Air Quality Penalties	652	34		2349	900000	2349004	
18 OSHA Penalties	652	34		2349	900000	2349005	
19 Prior Year Reimbursement	652	34		2349	900000	2349006	
20 Surface Water Quality Certification	652	34		2349	900000	2349009	
21 Jury Duty	652	34		2349	900000	2349012	
22 CY Reimbursements (i.e. telephone)	652	34		2349	900000	2349014	
*23 UST Owner's List	783	24	2500	9696	900000	4969201	
*24 Hazardous Waste Notifiers List	783	24	2500	9696	900000	4969202	
*25 UST Maps	783	24	2500	9696	900000	4969203	
*26 UST Owner's Update	783	24	2500	9696	900000	4969205	
*28 Hazardous Waste Regulations	783	24	2500	9696	900000	4969207	
*29 Radiologic Tech. Regulations	783	24	2500	9696	900000	4969208	
*30 Superfund CERLIS List	783	24	2500	9696	900000	4969211	
31 Solid Waste Permit Fees	783	24	2500	9696	900000	4969213	
32 Smoking School	783	24	2500	9696	900000	4969214	
*33 SWQB - NPS Publications	783	24	2500	9696	900000	4969222	
*34 Radiation Licensing Regulation	783	24	2500	9696	900000	4969228	
*35 Sale of Equipment	783	24	2500	9696	900000	4969301	
*36 Sale of Automobile	783	24	2500	9696	900000	4969302	
*37 Lust Recoveries	783	24	2500	9696	900000	4969614	
*38 Lust Repayments	783	24	2500	9696	900000	4969615	
39 Surface Water Publication	783	24	2500	9696	900000	4969801	
40 Exxon Reese Drive Ruidoso - CAF	783	24	2500	9696	900000	4969242	
41 Emerg. Hazardous Waste Penalties NOV	957	32	9600	1696	900000	4164032	
42 Radiologic Tech. Certification	987	05	0500	1696	900000	4169005	
44 Ust Permit Fees	989	20	3100	1696	900000	4169020	
45 UST Tank Installers Fees	989	20	3100	1696	900000	4169021	
46 Food Permit Fees	991	26	2600	1696	900000	4169026	
43 Other							

* Gross Receipt Tax Required

** Site Name & Project Code Required

TOTAL 840.00

Contact Person: Ed Martin

Phone: 476-3492

Date: 1/18/02

Received in ASD By: _____

Date: _____ RT #: _____

ST #: _____



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

January 11, 2002

CERTIFIED MAIL
RETURN RECEIPT NO. 3929 7396

Mr. Gerald Phillips
Pro-Kem, Inc.
P.O. Box 1506
Lovington, New Mexico 88260

**RE: Discharge Plan Fee GW-202
Lovington Service Facility
Lea County, New Mexico**

Dear Mr. Phillips:

On July 26, 2001, Pro-Kem, Inc., received, via certified mail, an approval dated July 25, 2001 from the New Mexico Oil Conservation Division (OCD) for discharge plan GW-202. Each discharge plan has a filing fee and a flat fee as described in WQCC Section 3114. A review of the files for this site indicates that the OCD has not, as of this date (January 10, 2002), received the filing fee. The last check submitted by Pro-Kem, Inc. was dated July 27, 2001 in the amount of \$1,700.00 for the required flat fee for the discharge plan. The filing fee of \$100.00 is due and payable for discharge plan GW-202.

Pro-Kem, Inc. will submit the remaining \$100.00 filing 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

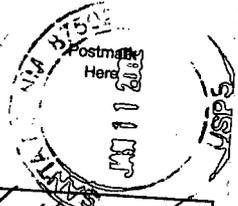
xc: Hobbs OCD district office

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

7001 1940 0004 3929 7402

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$



Sent To _____
 Street, Apt. No., or PO Box No. *G. Phillips*
 City, State, ZIP+4 *Pro-Kem*
GW-202

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 7/27/01
or cash received on _____ in the amount of \$ 1,700.00

from Pro-Kem, Inc.

for Lovington Facility GW-202

Submitted by: [Signature] Date: 8/7/01

Submitted to ASD by: _____ Date: _____

Received in ASD by: _____ Date: _____

Filing Fee _____ New Facility _____ Renewal

Modification _____ Other _____

Organization Code 521.07 Applicable FY 2001

To be deposited in the Water Quality Management Fund.

Full Payment or Annual Increment _____



PRO-KEM, INC.
BOX 1506 396-7433
LOVINGTON, NM 88260

Western
Commerce
Bank
Lovington, NM

DATE July 27, 2001

95-108/1122
6

PAY ONE THOUSAND SEVEN HUNDRED AND NO/100-----DOLLARS \$ 1,700.00

TO
THE
ORDER
OF

WATER MANAGEMENT QUALITY MANAGEMENT FUND
% OIL CONSERVATION DIVISION
1220 SOUTH FRANCIS DRIVE
SANTA FE NM 87505

[Signature]
[Signature]



PRO-KEM, INC.
 LOVIN' ON, NM 88260

DETACH AND RETAIN THIS STATEMENT
 THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW
 NOT CORRECT, PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIF

DATE	DESCRIPTION	AMOUNT	DISTRIBUTIONS	
			ACCT. NO.	AMOUNT
7-27-01	Water Management Quality Management Fund Ground water discharge plan renewal GW-202	1,700.00		

EMPLOYEE _____

PERIOD ENDING	TOTAL EARNINGS	DEDUCTIONS							TOTAL DEDUCTIONS	NET PAY
		F.I.C.A.	WITHHOLDING U.S. INC TAX	STATE TAX	MEDICARE					

THE SANTA FE
NEW MEXICAN

Founded 1849

RECEIVED

APR 11 2001

NEW MEXICO OIL CONSERVATION DIVISION

ATTN: ED MARTIN

2040 S. PACHECO

SANTA FE, NM 87505

AD NUMBER: 200849 ACCOUNT: 56689
LEGAL NO: 69120 P.O.#: 01199000033
176 LINES 1 time(s) at \$ 77.58
AFFIDAVITS: 5.25
TAX: 5.18
TOTAL: 88.01

AFFIDAVIT OF PUBLICATION

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 4th day of April 2001.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

LORI WROTENBERY,
Director

Legal #69120
Pub. April 10, 2001

STATE OF NEW MEXICO
COUNTY OF SANTA FE

I, MM Weideman 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 #69120 a copy of which is hereto attached was published in said newspaper 1 day(s) between 04/10/2001 and 04/10/2001 and that the notice was published in the newspaper proper and not in any supplement; the first publication being on the 10 day of April, 2001 and that the undersigned has personal knowledge of the matter and things set forth in this affidavit.

/s/ MM Weideman
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this
10 day of April A.D., 2001

Notary Laura Z. Harding

Commission Expires 11/23/03

Ford, Jack

From: Martin, Ed
Sent: Wednesday, April 04, 2001 1:44 PM
To: 'Santa Fe New Mexican'
Cc: Ford, Jack; Anaya, Mary
Subject: Legal Notice

Attn: Betsy Perner

Please publish the attached notices one time, no later than April 6, 2001.
Upon completion, please send to this office:

1. Publisher's affidavit
2. Invoice

Our purchase order number for the New Mexican is: 01199000033



Publ. Notice GW-202



Publ. Notice
GW-232.doc

NOTICE OF PUBLICATION

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

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

(GW-202) – Pro-Kem, Inc., Mr. Gerald Phillips, P.O. Box 1506, Lovington, New Mexico 88260, has submitted a discharge plan renewal application for their Lovington facility located in the SE/4 NW/4, Section 15, Township 16 South, Range 36 East, NMPM, Lea County, New Mexico. All effluents that may be generated at the facility will be collected in a closed top tank prior to transport to an OCD approved off-site disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of 60 feet with a total dissolved solids concentrations ranging from 200 to 100 mg/l. The discharge plan addresses how spill, leaks, and other accidental discharges to the surface will be managed.

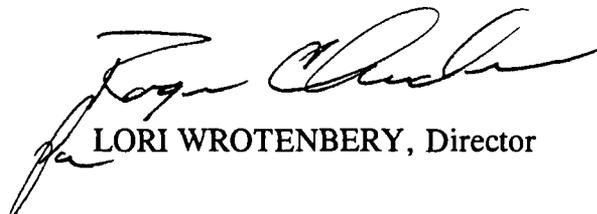
Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday thru 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. Request for public hearing shall set forth the reasons why a hearing shall be held.

A hearing will be held if the director determines that there is significant public interest.

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

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 4th day of April, 2001.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


LORI WROTENBERY, Director

SEAL

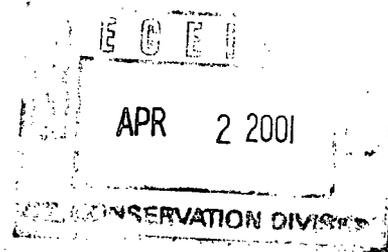


P.O. Box 1613
703 E. Clinton Suite 102
Hobbs, New Mexico 88240
505/397-0510
Fax 505/393-4388
www.sesi-nm.com

Safety & Environmental Solutions, Inc.

March 27, 2001

Mr. Jack Ford
NMOCD
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505



RE: ProKem Discharge Plan Application

Dear Mr. Ford:

As per our phone conversation, I've enclosed the first page to the discharge plan application, on behalf of ProKem, Inc. Being that no other changes were necessary, this stands as the application for renewal.

If you have any questions, or I can be of further assistance please contact me at (505) 397-0510.

Sincerely,

Bob Allen CHMM, REM, CET, CES
President

DISCHARGE PLAN APPLICATION

1. **Type of Operation**

Blending, sales and application of oilfield treating chemicals for producing wells.

2. **Name of Operator or Legally Responsible Party and Local Representative**

ProKem, Inc.
P.O. Box 1506
2400 South Main
Lovington, New Mexico 88260
Contact Person: Gerald Phillips
505-396-7433

3. **Location of the Discharge Plan Facility**

SE/4, NW/4 Section 15 Township 16S Range 36E, Lea County, New Mexico

4. **Landowners**

Pro-Kem, Inc.
2400 South Main
Lovington, New Mexico 88260
505-396-7433

5. **Facility Description**

Facility has had no additions or modifications since the previous application.

6. **Materials Stored or Used at the Facility**

Pro-Kem stores and uses the same materials as listed on the previous application.

7. **Sources and Quantities of Effluent and Waste Solids Generated at the Facility**

There have been no changes to the quantities of effluent and Waste Solids generated at the facility.

8. **Description of Current Liquid and Solid Waste Collection/Storage/Disposal Procedures**

No change in procedures since the previous application.

9. **Proposed Modifications**

There are no proposed modifications to the facility or this plan.

10. **Inspection, Maintenance and Reporting**

11. **Spill/Leak Prevention and Reporting Procedures (Contingency Plans)**

Spills or leaks will be handled according NMOCD Rule116 and WQCC Section 1203 for spill reporting purposes.

12. **Site Characteristics**

No changes in site characteristics.

13. **Other Compliance Information**

Spills or leaks will be handled according NMOCD Rule116 and WQCC Section 1203 for spill reporting purposes.

14. **Certification**

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Gerald Phillips

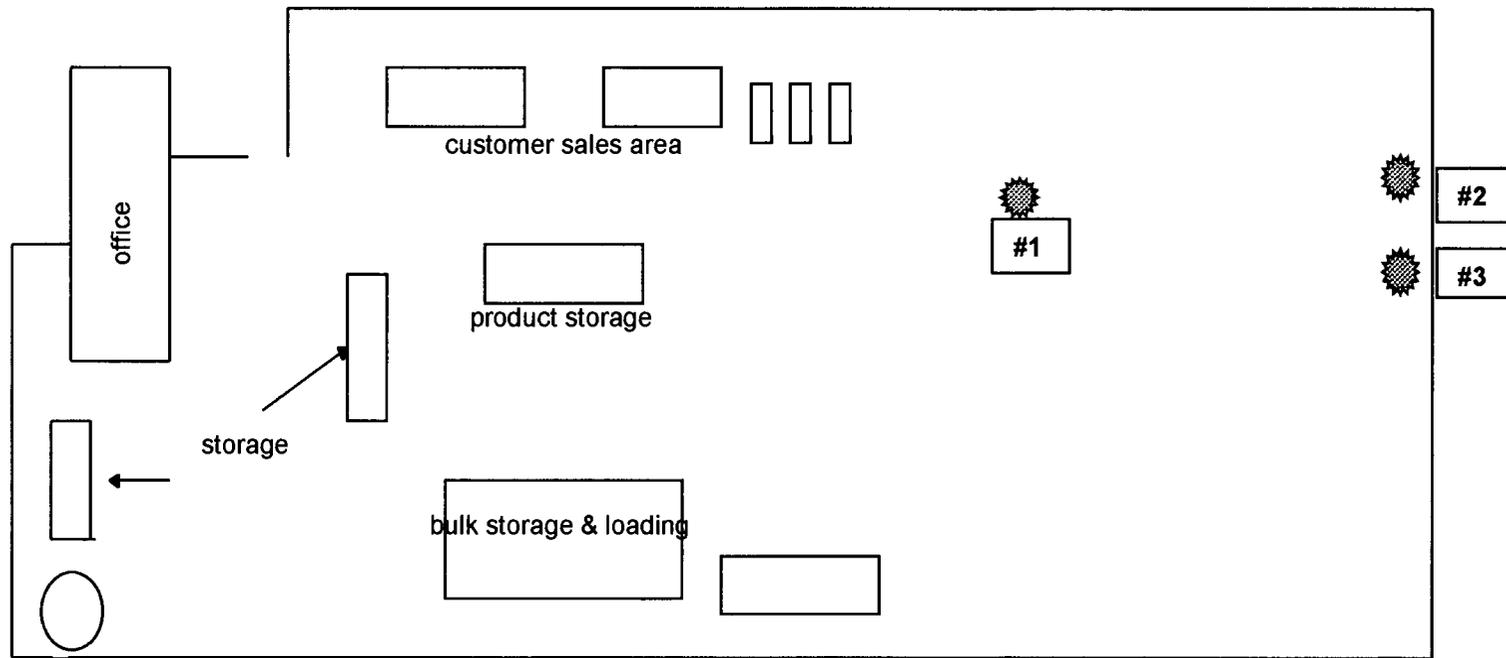
Signature: *Gerald Phillips*

Title: President

Date: March 28, 2001



Highway 18

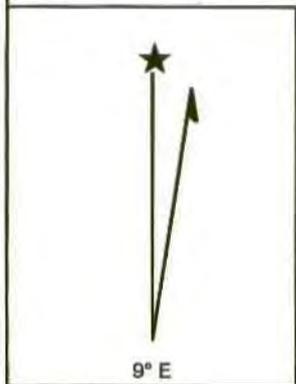
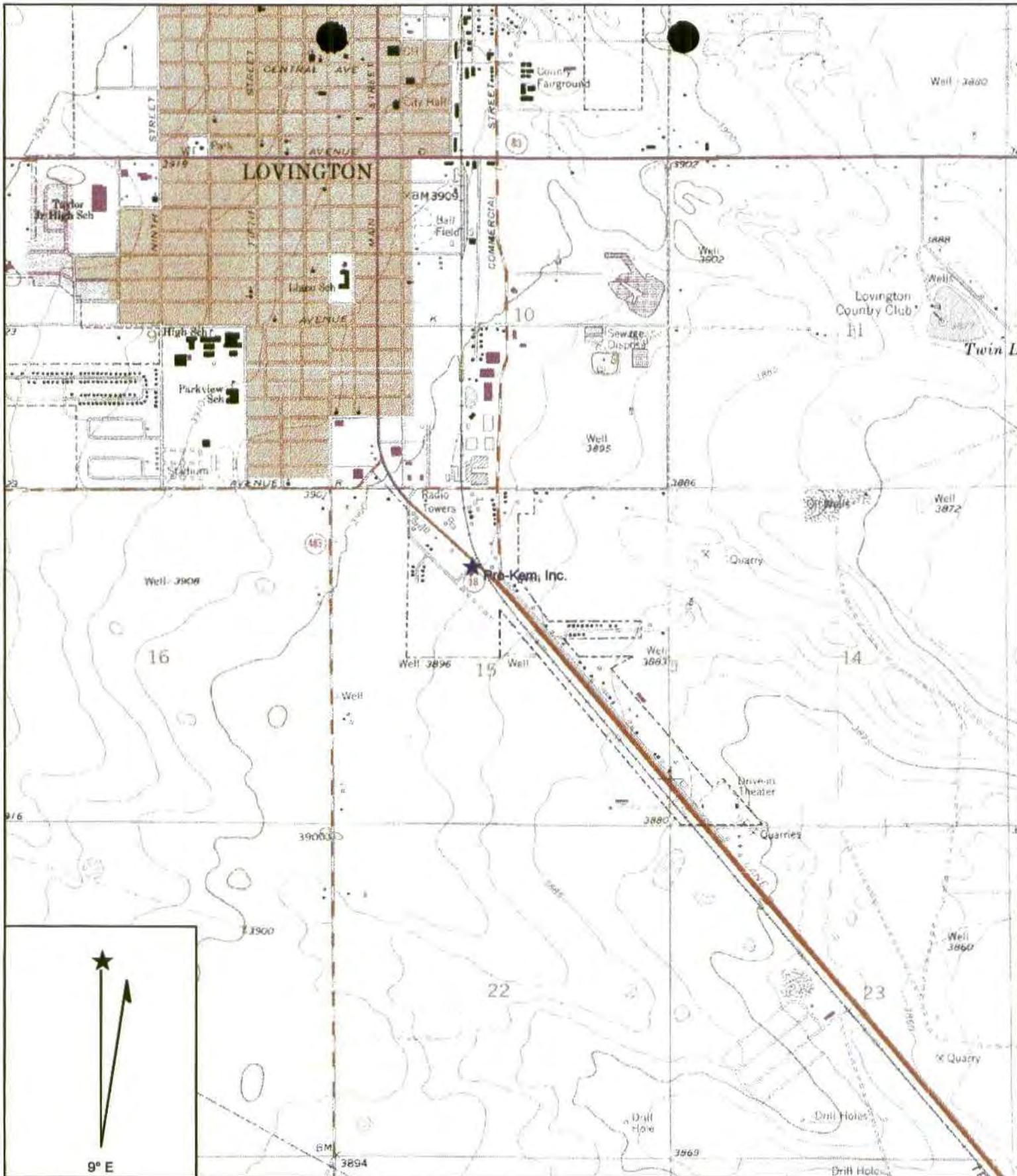


NOT TO SCALE

Pro-Kem, Inc.

Monitor Wells - Lovington Yard

Safety & Environmental Solutions, Inc.



Name: LOVINGTON
 Date: 3/27/2001
 Scale: 1 inch equals 2000 feet

Location: 032° 55' 29.6" N 103° 20' 29.4" W
 Caption: Pro-Kem, Inc.
 Vicinity Map
 SE/4, NW/4, Section 15,
 16S 36E



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 13, 2000

CERTIFIED MAIL
RETURN RECEIPT NO. 5050 9306

Mr. Gerald Phillips
Pro-Kem, Inc.
P.O. Box 1506
Lovington, New Mexico 88260

RE: Discharge Plan Renewal Notice for Pro-Kem, Inc. Facility

Dear Mr. Phillips:

Pro-Kem, Inc. has the following discharge plan which expires during the current calendar year.

GW-202 expires 8/23/2000 – Lovington Facility

WQCC 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 fees are to be submitted with the discharge plan renewal applications and are 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 Hobbs 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 also available on OCD's website at www.emnrd.state.nm.us/oed/).

Mr. Gerald Phillips
March 13, 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 Pro-Kem, Inc. has any questions, please do not hesitate to contact me at (505) 827-7152.

Sincerely,



Roger C. Anderson
Oil Conservation Division

cc: OCD Hobbs District Office

7099 320 0000 5050 9306

U.S. Postal Service	
CERTIFIED MAIL RECEIPT <i>600 000</i>	
<i>(Domestic Mail Only. No Insurance Coverage Provided)</i>	
Article Sent To: _____	
Postage	\$ _____
Certified Fee	_____
Return Receipt Fee (Endorsement Required)	_____
Restricted Delivery Fee (Endorsement Required)	_____
Total Postage & Fees	\$ _____
Name (Please Print Clearly) (To be completed by mailer) <i>G. Phillips</i>	
Street, Apt. No.; or PO Box No. <i>Pro Kem</i>	
City, State, ZIP+ 4 <i>Lawington</i>	
PS Form 3800, July 1999 See Reverse for Instructions	

Postmark Here
*SANTA FE NM 87502
MAR 14 2000*

GW-202

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87501

RECEIVED

JUN 07 1995

GW-202

Environmental Bureau
Oil Conservation Division

DISCHARGE PLAN APPLICATION FOR OILFIELD SERVICE

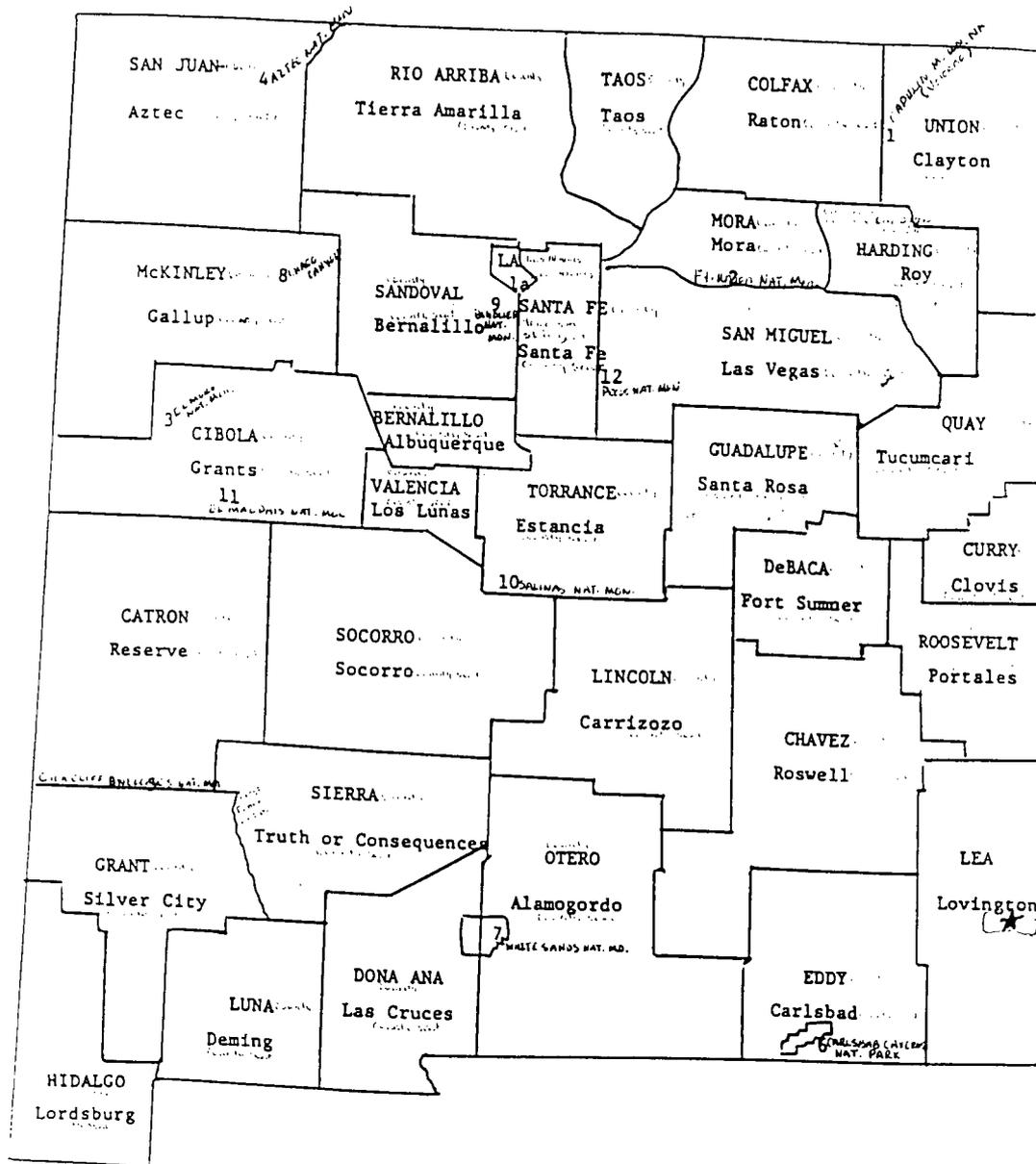
(Refer to OCD Guidelines for assistance in completing the application.)

Blending, sales and application of oilfield treating chemicals

- I. TYPE: for producing wells.
- II. OPERATOR: PRO-KEM, INC. (505) 396-7433
ADDRESS: P O BOX 1506, 2400 SOUTH MAIN, LOVINGTON NM 88260
CONTACT PERSON: GERALD PHILLIPS PHONE: 396-7433
- III. LOCATION: SE /4 NW /4 Section 15 Township 16S Range 36E
Submit large scale topographic map showing exact location.
- IV. Attach the name and address of the landowner of the disposal facility site.
- V. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.
- VI. Attach a description of all materials stored or used at the facility.
- VII. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
- VIII. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
- IX. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
- X. Attach a routine inspection and maintenance plan to ensure permit compliance.
- XI. Attach a contingency plan for reporting and clean-up of spills or releases.
- XII. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water. Depth to and quality of ground water must be included.
- XIII. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
- XIV. **CERTIFICATION**
I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: GERALD PHILLIPS Title: PRESIDENT
Signature: Gerald Phillips Date: 5/24/95

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office.



PRO-KEM YARD AND OFFICE

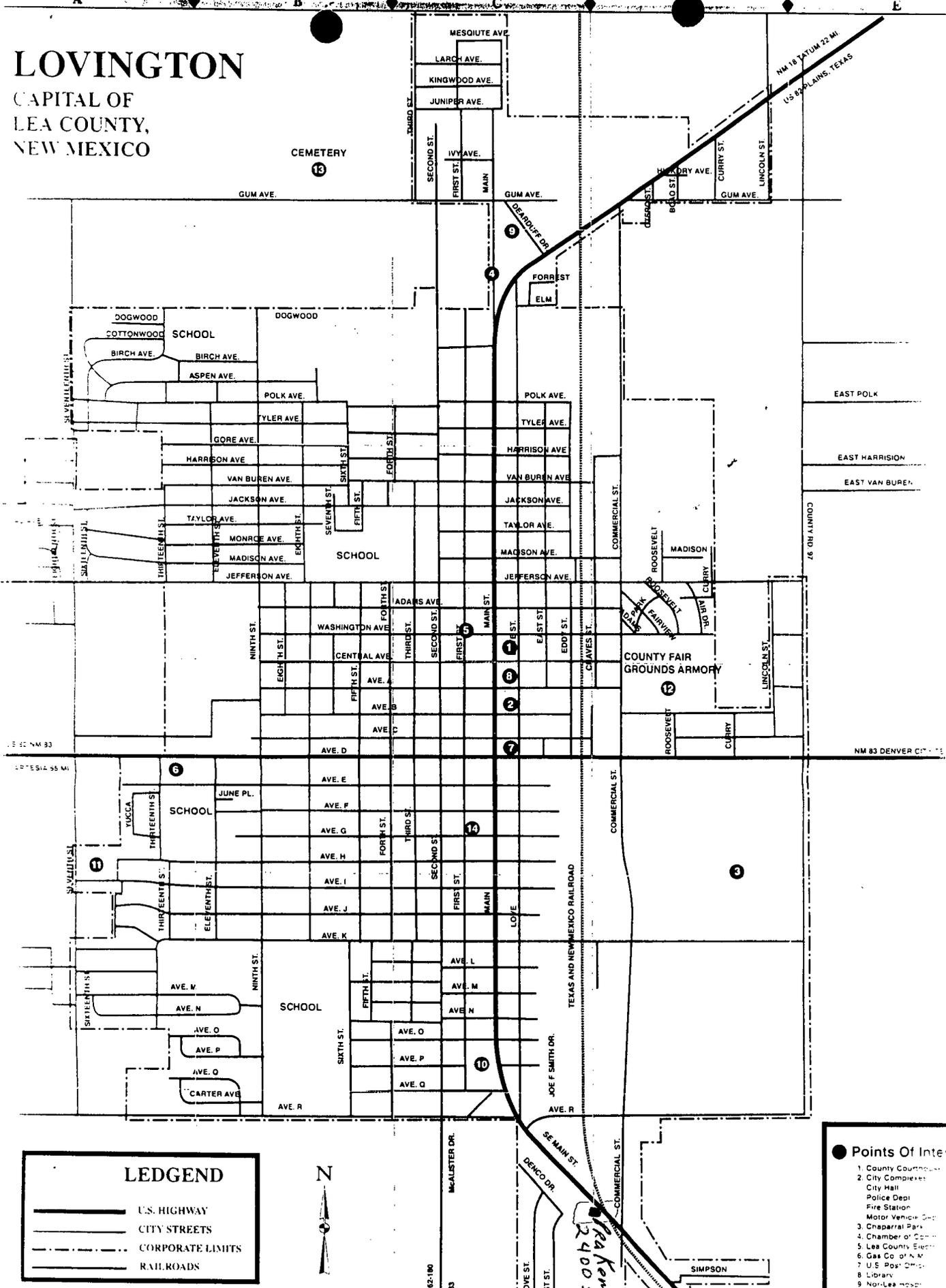
IN LOVINGTON, LEA COUNTY, NEW MEXICO

Latitude: North 32 degrees 55 minutes 32 seconds

Longitude: West 103 degrees 20 minutes 36 seconds

LOVINGTON

CAPITAL OF
LEA COUNTY,
NEW MEXICO



LEDGEND

- U.S. HIGHWAY
- CITY STREETS
- CORPORATE LIMITS
- RAILROADS



- Points Of Interest**
1. County Courthouse
 2. City Complexes
 - City Hall
 - Police Dept.
 - Fire Station
 - Motor Vehicle Dept.
 3. Chaparral Park
 4. Chamber of Commerce
 5. Lea County Electric
 6. Gas Co. of N.M.
 7. U.S. Post Office
 8. Library
 9. Non-Leaf Hospital

*SpaKam, Inc.
2400 South Main*



Bob Carter
City Manger
City of Lovington
Lovington, N.M. 88260

May 23, 1995

Dear Mr. Carter,

We at Pro-Kem, Inc. of Lovington, New Mexico request permission to dispose minute quantities of waste into the city sewer system.

These wastes consist of the resulting fluids from chlorides tests: one or two drops of potassium chromate, 2-18 milliliters of silver nitrate and 1-6 ounces of oil field produced water. The number of these tests performed at this site range from 0-6 per week.

Thank you for your consideration on this matter.

Sincerely,

A handwritten signature in cursive script that reads "Gerald Phillips".

Gerald Phillips
President/manager



CITY OF LOVINGTON

LOVINGTON, NEW MEXICO 88260

214 South Love
PO Box 1269
BUS: (505) 396-2884
FAX: (505) 396-6328

May 23, 1995

Gerald Phillips
Pro-Kem, Inc.
Box 1506
Lovington, NM 88260

Dear Gerald:

We are in receipt of your letter of May 23rd requesting permission to dispose of minute quantities of waste into the City sewer system. You stated that these wastes would consist of one or two drops of potassium chromate, 2-18 milliliters of silver nitrate and 1-6 ounces of oil field produced water with a frequency of 0-6 times per week.

If these are held within the ranges specified, the City of Lovington does hereby grant permission for disposal of these wastes in our sewer system.

Sincerely,

Bob G. Carter
City manager

BGC:jgr

**E P A MANIFEST RECORD
NON-HAZARDOUS
WASTE MANIFEST**

E & E ENTERPRISES

P.O. Box 683
Brownfield, Tx 79316

E & E ENTERPRISES
P.O. Box 683
Brownfield, TX 79316

Please print or type.

GENERATOR'S MAILING ADDRESS	PICK-UP LOCATION	ACCOUNT
<i>P/O Kern Inc</i>		NO: _____
<i>2400 S Main</i>		P.O. NO. _____
<i>Louisiana Ave</i>		EPA ID NO. _____
GENERATOR'S PHONE NO. <i>(505) 396-7477</i>		

DESCRIPTION OF NON-HAZARDOUS WASTE:

Type of Waste (Include US DOT Shipping Name, Hazard Class, and ID Number, if applicable)	QUANTITY	Type QTY*	Unit Cost	Total Cost
NON-HAZARDOUS USED OIL	<i>100</i>	<i>G</i>	<i>N/C</i>	
NON-HAZARDOUS USED OIL FILTERS				
USED ANTI-FREEZE				

*G=Gallons; P=Pounds; T=Tons; D=Drums TOTAL CHARGE \$

Additional Descriptions of Materials, if necessary

Special Handling Instructions and Additional Information

GENERATOR CERTIFICATION: I hereby declare that the contents of this consignment are full and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.

Print Name of Generator <i>Peter K. Phillips</i>	Signature of Generator <i>Peter K. Phillips</i>	MO. DAY YR. <i>5 11 95</i>
---	--	-------------------------------

DESIGNATED FACILITY: TRANSPORTER, STORER AND TREATOR OF MATERIALS

E & E ENTERPRISES	Phone: (806) 637 9336	US EPA ID NO TXD 982 75 6868
P.O. Box 683	1-800-658-2137	TWC Permit NO 41398
Brownfield, TX 79316	(TWC: (512) 463 7727)	TX RR NO 000013747C

Transporter Acknowledgement of Receipt of Materials

Print Name of Hauler <i>Robert Gonzalez</i>	Signature of Hauler <i>Robert Gonzalez</i>	MO. DAY YR. <i>5 11 95</i>
--	---	-------------------------------

Discrepancy Space

Facility Certification of Receipt of Materials Covered by this Manifest (except as noted above)

Print Name of Facility Operator	Signature of Facility Operator	MO. DAY YR.
---------------------------------	--------------------------------	-------------

DISCHARGE PLAN APPLICATION

Oilfield Service Facilities

Part VI. Form (Optional)

Materials Stored or Used at the Facility - 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 (include general makeup & types special additives [e.g. oil, chrome, etc.]	N/A				
2. Brines - (KCl, NaCl, etc.)	N/A				
3. Acids/Caustics (Provide names & MSD sheets)	Hydroxy Acetic Acid	L	DRUM	55 gallon	YARD
	Glacial Acetic Acid	L	DRUM	55 gallon	YARD
	Critic Acid	S	50 lb bag	150 lbs	Storage Shed
4. Detergents/Soaps	Inc-725	All	All	55 gallons	Yard
	Inc-1801	are	in	110 gallons	and
	Inc-1850	Liquid	Drums	55 gallons	Shop
	Inc-1875			55 gallons	
	Inc-1895			55 gallons	
5. Solvents & Degreasers (Provide names & MSD sheets)	BFL-9454			55 gallons	
	Heavy Aromatic Naptha	L	TANK	10,000 gallons	Cement
	Toluene	L	TANK	500 gallons	Containment
	Isopropyl Alcohol	L	TANK	400 gallons	in Yard
	Methanol	L	TANK	2000 gallons	
6. Paraffin Treatment/ Emulsion Breakers (Provide names & MSD sheets)	Arflow-168				
	OFC-1535	All	All	55 to 110 gallons	Yard
	Inc-2512	are	in	of each different	and
	Inc-2525	Liquid	Drums	chemical	Shop
	Inc-2571				
OFC-1057	INC-2102	INC-2133	INC-2155		
OFC-1085	INC-2117	INC-2141	INC-2160		
INC-2100	INC-2122	INC-2143	INC-2181		
			INC-2182		
7. Biocides (Provide names & MSD sheets)	N/A				
8. Others - (Include other liquids & solids, e.g. cement etc.)	Ammonium				Storage
	Bicarbonate	S	50 lb bags	500 lbs	Shed

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)
1. Truck Wastes (Describe types of original contents trucked [e.g. brine, produced water, drilling fluids, oil wastes, etc])	N/A		
2. Truck, Tank & Drum Washing	Long Star Drum Co 2502 Marco Odessa TX 79760 Pick up, cleaned and reconditioned all drums		
3. Steam Cleaning of Parts, Equipment, Tanks	N/A		
4. Solvent/Degreaser Use	N/A		
5. Spent Acids, Caustics, or Completion Fluids (Describe)	N/A		

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)
6. Waste Slop Oil	N/A		
7. Waste Lubrication and Motor Oils	E & E ENTERPRISES P O Box 683 Brownfield, TX 79316	5 gallons	N/A
8. Oil Filters	E & E ENTERPRISES P O Box 683 Brownfield TX 79316	6 filters every three months	N/A
9. Solids and Sludges from Tanks (Describe types of materials [e.g. crude oil tank bottoms, sand, etc.]	N/A		
10. Painting Wastes	N/A		
11. Sewage (Indicate if other wastes mixed with sewage; if no commingling, domestic sewage under jurisdiction of the NMEID)	One or two drops of potassium chromate 2-18 mililiters of silver nitrate and 1-6 ounces of oilfield produced water. Number of test 0-6 per week.		} City of Lovington says its okay.
12. Other Waste Liquids (Describe in detail)	Crude oil samples are disposed at the well site after testing.		
13. Other Waste Solids (Cement, construction materials, used drums)	Waste drums are picked up and disposed of by Lone Star Drum Co., Odessa, TX.		

DISCHARGE PLAN APPLICATION

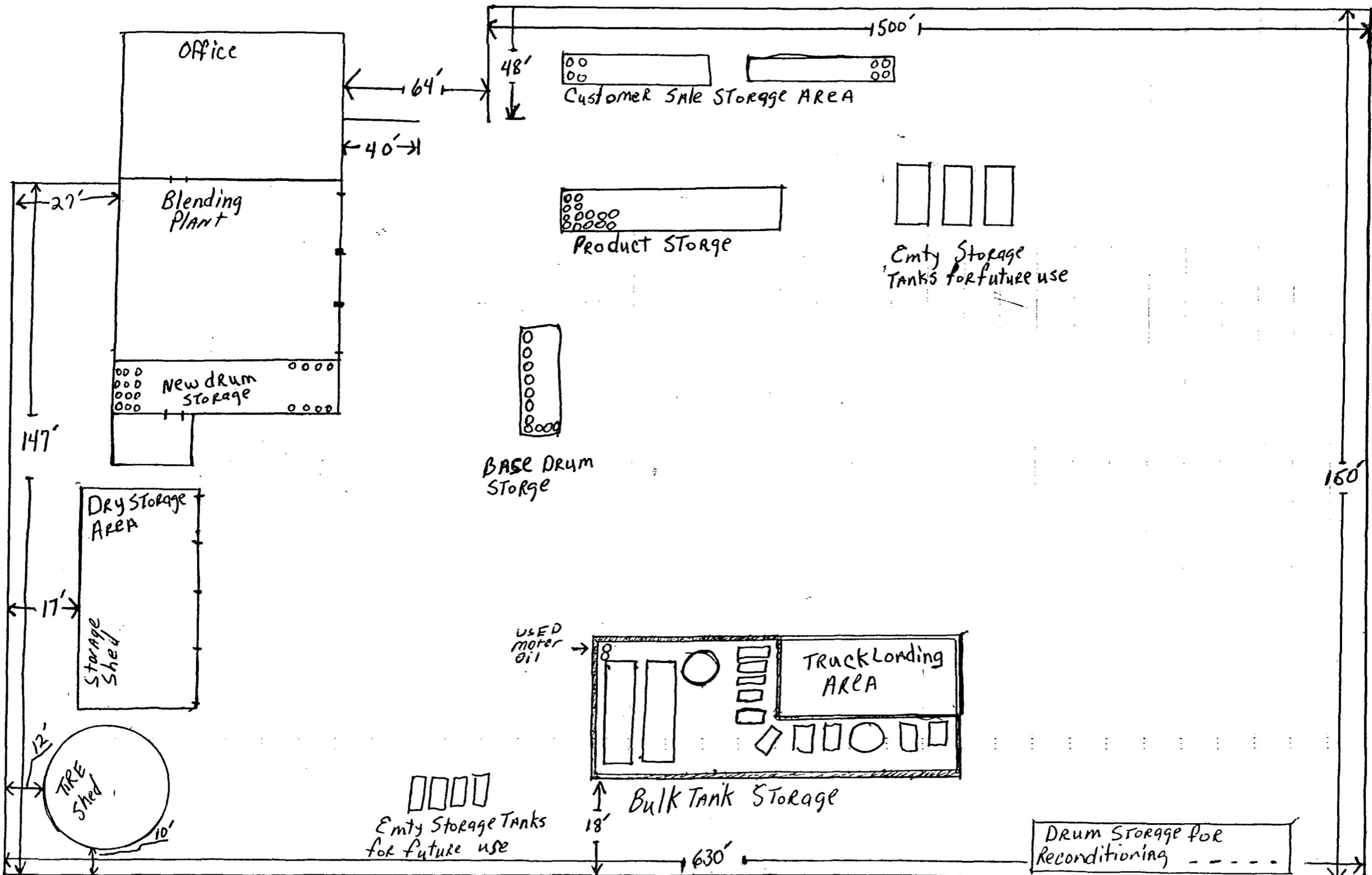
Oilfield Service Facilities

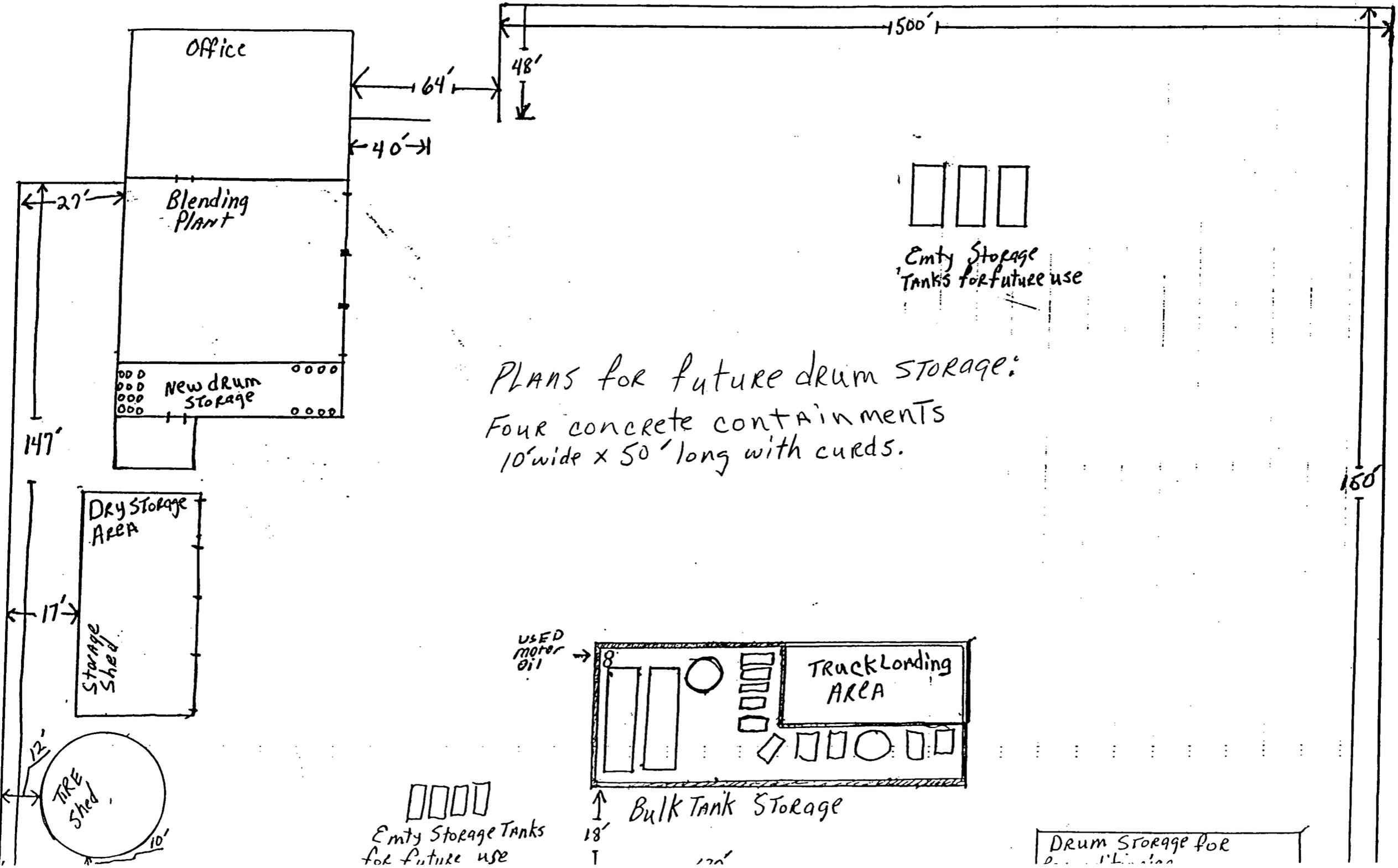
Part VIII. Form (Optional)

Summary Description of Existing Liquid and Solids Waste Collection and Disposal - 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 Drum Washing						Trucks (exterior) local car wash. We do not clean tanks. Drums are picked up by Lone Star Drum Co, 2502 Marco, Odessa TX 79760
3. Stream Cleaning of Parts, Equipment, Tanks	None					
4. Solvent/Degreaser Use	None					
5. Spent Acids, Caustics, or Completion Fluids	None					
6. Waste Slop Oil	None					

<i>Waste Type</i>	<i>Tank(T)/ Drum(S)</i>	<i>Floor Drain/(F) Sump(S)</i>	<i>Pits- Lined(L) or Unlined(U)</i>	<i>Onsite Injection Well</i>	<i>Leach Field</i>	<i>Offsite Disposal</i>
7. <i>Waste Lubrication and Motor Oils</i>						E & E Enterprises, Brownfield TX
8. <i>Oil Filters</i>						E & E Enterprises, Brownfield TX
9. <i>Solids and Sludges from Tanks</i>						None
10. <i>Painting Wastes</i>						N/A
11. <i>Sewage</i>						City of Lovington, NM
12. <i>Other Waste Liquids</i>						
13. <i>Other Waste Solids</i>						Floor sweep for small spills is provided and disposed by Safety-Kleen 10607 WCR 127 Midland TX 79711





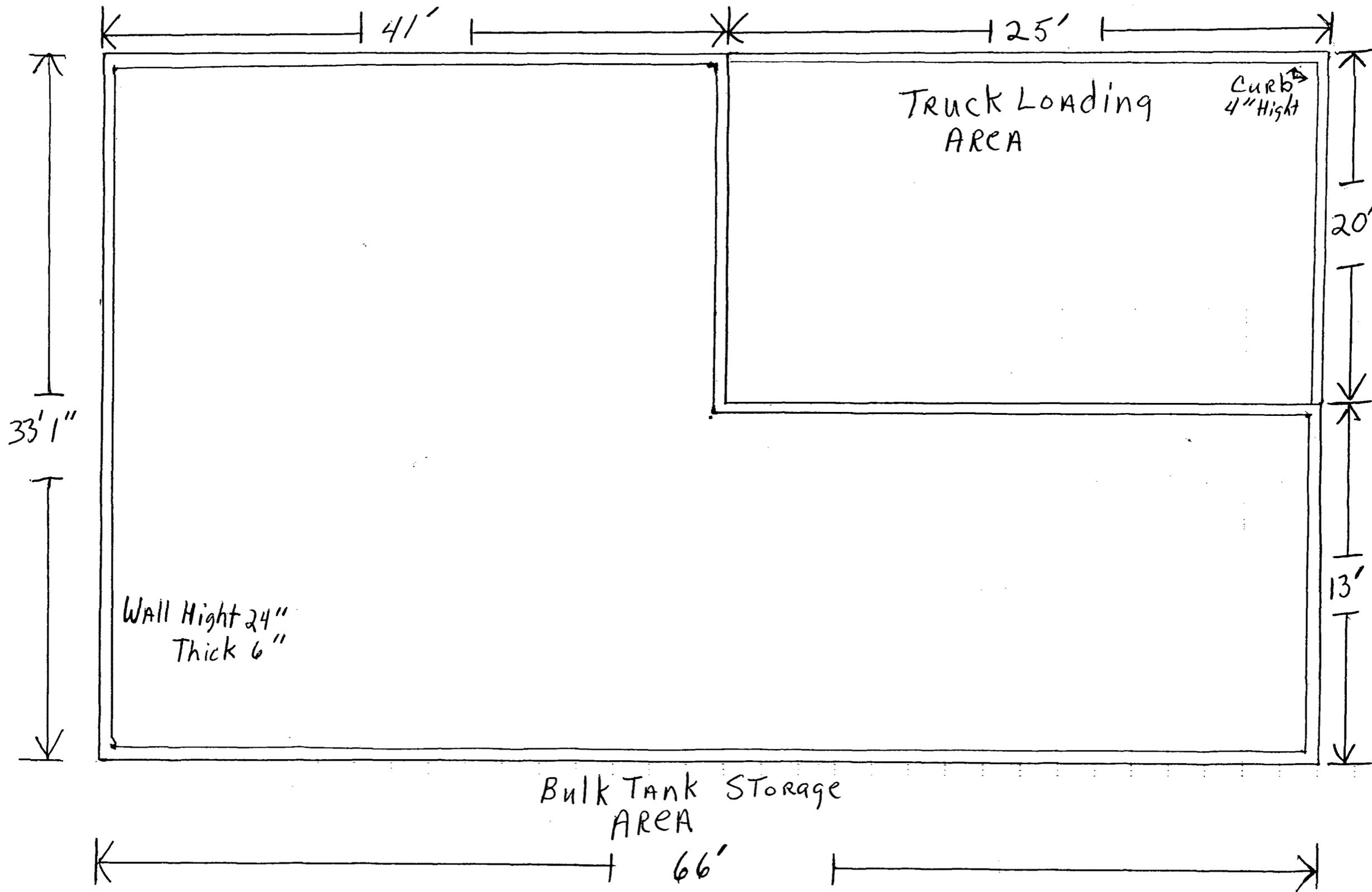
Plans for future drum storage:
 Four concrete containments
 10' wide x 50' long with curbs.

Empty Storage
 Tanks for future use

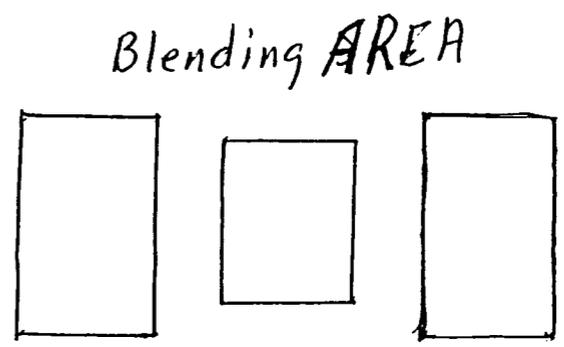
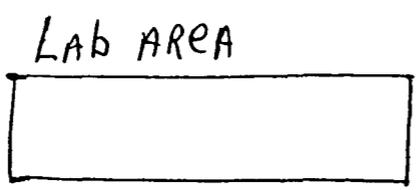
Empty Storage Tanks
 for future use

Bulk Tank Storage

Drum Storage for



(3391) (3391) ← WASTE
DRUM
Safety Kleen
^
Absorbent
3391
Safety Kleen



Blending
Plant

DU PONT**MATERIAL SAFETY DATA SHEET****IDENTIFICATION***Name*

Hydroxyacetic Acid, 70% solution technical

Synonyms

Glycolic acid; hydroxyethanoic acid

Chemical Family

Organic Acid, aqueous solution

CAS Name

Acetic Acid, hydroxy-

CAS Registry No.

79-14-1

I.D. Nos./Codes

NIOSH Access No. MG5250000

Wiswesser Line Notation QVIQ

Manufacturer/Distributor

E. I. du Pont de Nemours & Co. (Inc.)

*Formula: HO-CH₂-COOH**Product Information and Emergency Phone*

(302) 774-2421

Address

Wilmington, DE 19898

Transportation Emergency Phone

(800) 424-9300

HAZARDOUS COMPONENTS*Material(s)*

Hydroxyacetic Acid

Approximate %

70

PHYSICAL DATA*Boiling Point, 760 mm Hg*

112°C (234°F)

Melting Point

10°C (50°F)

Specific Gravity

1.3 (Water = 1)

Vapor Pressure

21 mm Hg @ 25°C (77°F); 44 mm Hg @ 37.7°C (100°F) (estimated values for water vapor)

Vapor Density

Vapor is water

Solubility in H₂O

100%

% Volatiles by Wt.

10% (Water)

Evaporation Rate (Butyl Acetate = 1)

~2

Form

Liquid

Appearance

Clear

Color

Light Amber

Odor

Mild-like burnt sugar

pH Information

0.5 at 25°C (77°F)

Octanol/Water Partition Coefficient

log P = -1.11

FIRE AND EXPLOSION DATA*Flash Point*

Will not burn

*Method**Autoignition Temperature**Flammable Limits in Air, % by Vol.*

Lower

Upper

Fire and Explosion Hazards

Contact with metals may release flammable hydrogen gas.

Extinguishing Media

Any media appropriate for the type of fire in which hydroxyacetic is involved.

Special Fire Fighting Instructions

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. The information set forth herein is furnished free of charge and is based on technical data that Du Pont believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents.

Stable

Incompatibility Reacts with metals, oxidizing agents (such as strong nitric acid), cyanides and sulfides to produce hydrogen, NO_x , HCN, or H_2S gases, respectively.

Decomposition

Polymerization

No hazardous polymerization is known

HEALTH HAZARD INFORMATION

Exposure Limits

None established

Routes of Exposure and Effects May cause eye and skin burns.

(See note below)

First Aid In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Call a physician.

If swallowed, drink milk, raw egg white, mucilage or gelatin solution. If these are not available, drink large quantities of water. Call a physician.

PROTECTION INFORMATION

Ventilation

Personal Protective Equipment Chemical splash goggles and rubber gloves. Also, rubber acid suit if there is reasonable possibility of contact.

Other

DISPOSAL PROCEDURES

Aquatic Toxicity

Spill, Leak or Release Neutralize with lime or soda ash. Flush spill area with plenty of water.

Waste Disposal Comply with Federal, State and local regulations. If approved, may be neutralized with lime or soda ash and flushed to wastewater treatment system.

SHIPPING PRECAUTIONS

Transportation

DOT Hazard Classification = Not regulated.

Shipping Containers

Railroad tank cars, tank trucks, drums, sample bottles.

Storage Conditions

Keep in well ventilated area. Protect bulk storage area from sparks and flame.

Keep packages tightly closed. Store above 10°C (50°F) freezing point.

REFERENCES AND ADDITIONAL INFORMATION

Do not get in eyes, on skin or on clothing.

Wash thoroughly after handling.

For more information, refer to Du Pont Hydroxyacetic Acid Data Sheet.

NOTE: Hydroxyacetic acid 70% has an LD_{50} (rats) of 4240 mg/kg. This product is registered under FIFRA (EPA Reg. No. 352-304-AA) and pursuant to EPA regulations, hydroxyacetic acid container labels carry the statement "May be harmful or fatal if swallowed".

DATE:
7/80



MATERIAL SAFETY
DATA SHEET

Ashland Chemical Company

DIVISION OF ASHLAND OILING, INC.

P.O. BOX 2219, COLUMBUS, OHIO 43216 • (614) 892-3333

Ashland

DEFINITIONS

THIS DEFINITION PAGE IS INTENDED FOR USE WITH MATERIAL SAFETY DATA SHEETS SUPPLIED BY THE ASHLAND CHEMICAL COMPANY. QUESTIONS CONCERNING THESE SHEETS SHOULD BE DIRECTED TO THE ENVIRONMENTAL AND OCCUPATIONAL SAFETY DEPARTMENT.

SECTION I
PRODUCT IDENTIFICATION

PRODUCT CLASS: GENERAL OR GENERIC IDENTIFICATION.

HAZARDOUS CLASSIFICATION: PRODUCT MEETS DOT CRITERIA FOR HAZARDS LISTED.

SECTION II
HAZARDOUS COMPONENTS

A HAZARDOUS INGREDIENT IS ONE WHICH MEETS ONE OR MORE OF THE FOLLOWING CRITERIA:

1. IT IS LISTED IN THE ANNUAL REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES, OR IT IS KNOWN TO BE TOXIC WITHIN THE PARAMETERS OF THAT REGISTRY.

AND/OR

2. IT HAS A OSHA ESTABLISHED, 8-HOUR TIME-WEIGHTED AVERAGE PERMISSIBLE EXPOSURE LIMIT (PEL) OR ACCEPTABLE CEILING (C), OR AN AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS' (ACGIH) THRESHOLD LIMIT VALUE, AND BY NATURE OF THE PRODUCT OR ITS KNOWN USE, IT IS LIKELY TO BECOME AIRBORNE.

AND/OR

3. IT CONTRIBUTES TO ONE OR MORE OF THE FOLLOWING HAZARDS OF THE PRODUCT:
 - A. FLASHPOINT BELOW 200 DEG F (93C), OR SUBJECT TO SPONTANEOUS HEATING OR DECOMPOSITION.
 - B. CAUSES SKIN BURNS. (DOT)
 - C. STRONG OXIDIZING AGENT. (DOT)
 - D. SUBJECT TO HAZARDOUS POLYMERIZATION

EACH INGREDIENT MEETING ONE OR MORE OF THE ABOVE CRITERIA IS LISTED IN SECTION II IF PRESENT AT A LEVEL AT LEAST GREATER THAN ONE PERCENT. INGREDIENTS WHICH ARE CLAIMED TO BE CARCINOGENS, TERATOGENS, MUTAGENS, OR CAUSATIVE AGENTS OF OTHER REPRODUCTIVE DISORDERS ARE LISTED IF KNOWN OR BELIEVED TO BE PRESENT, PROVIDED THAT THE DATA SUPPORTING SUCH CLAIMS IS CONSIDERED VALID.

EACH HAZARDOUS INGREDIENT IS LISTED BY CHEMICAL, GENERIC, OR PROPRIETARY NAME. ITS LEVEL IN THE PRODUCT IS EXPRESSED AS 1% OR LESS, 1-10%, 10-30%, 30-60%, OR GREATER THAN 60%, OR BY OTHER MEANS.

SECTION III
PHYSICAL DATA

INITIAL BOILING POINT: IF LIQUID AT 68 DEG F.

VAPOR PRESSURE: IF LIQUID AT 68 DEG F OR WHICH SUBLIMES.

VAPOR DENSITY: FOR VOLATILE PORTION OF PRODUCT.

SPECIFIC GRAVITY: IF SPECIFIC GRAVITY OF PRODUCT IS NOT KNOWN, INDICATED AS <1, =1, OR >1.

PERCENT VOLATILES: PERCENTAGE OF MATERIAL WITH INITIAL BOILING POINT BELOW 425 DEG F.

EVAPORATION RATE: INDICATED AS FASTER OR SLOWER THAN ETHYL ETHER, UNLESS STATED.

SECTION IV
PRODUCT IDENTIFICATION

FLASH POINT: CLOSED CUP.

LOWER EXPLOSION LIMIT: INDICATED FOR COMPONENT WITH LOWEST VALUE.

HAZARDOUS DECOMPOSITION PRODUCTS: KNOWN HAZARDOUS PRODUCTS RESULTING FROM HEATING, BURNING, ETC., OR REACTED RAW MATERIALS WHICH MAY ARISE THROUGH HEATING, BURNING, ETC.

SPECIAL FIREFIGHTING PROCEDURES: INDICATES EQUIPMENT TO PROTECT FIREMEN FROM TOXIC PROCEDURES OF COMBUSTION OR IF WATER IS NOT TO BE USED.

UNUSUAL FIRE AND EXPLOSION HAZARDS: HAZARDS NOT COVERED BY OTHER SECTIONS OF THIS REPORT ARE SHOWN HERE.

SECTION V
HEALTH HAZARD DATA

RECIPIENTS OF THIS DATA SHEET SHOULD CONSULT THE OSHA SAFETY AND HEALTH STANDARDS (29 CFR 1910), PARTICULARLY SUBPART G - OCCUPATIONAL HEALTH AND ENVIRONMENTAL CONTROL, AND SUBPART I - PERSONAL PROTECTIVE EQUIPMENT, FOR GENERAL GUIDANCE ON CONTROL OF POTENTIAL OCCUPATIONAL HEALTH HAZARDS.

PERMISSIBLE EXPOSURE LEVEL: OSHA ESTABLISHED PEL - IF NONE AVAILABLE, ADOPTED VALUE.

EFFECTS OF OVEREXPOSURE: GIVEN IN GENERAL TERMS: LOCAL AND SYSTEMIC EFFECTS TO THE EYES, SKIN, IF MATERIAL IS INHALED, UNLESS NOT APPLICABLE DUE TO PHYSICAL FORM OF PRODUCT.

SECTION VI
REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CONDITIONS TO AVOID HAZARDOUS POLYMERIZATION RESULTING IN A LARGE RELEASE OF ENERGY.

STABILITY: CONDITIONS TO AVOID IF UNSTABLE UNDER NORMAL CIRCUMSTANCES.

INCOMPATIBILITY: MATERIALS TO AVOID.

SECTION VII
SPILL OR LEAK PROCEDURES

REASONABLE PRECAUTIONS TO BE TAKEN AND THE METHODS OF CLEAN-UP TO BE USED IN THE EVENT OF SPILLAGE OF THE PRODUCT. CONSULT FEDERAL, STATE AND LOCAL REGULATIONS FOR ACCEPTED PROCEDURES AND ANY REPORTING OR NOTIFICATION REQUIREMENTS.

SECTION VIII
PROTECTIVE EQUIPMENT TO BE USED

THIS SECTION INDICATES PROTECTIVE EQUIPMENT TO BE USED WHEN HANDLING THE PRODUCT.

SECTION IX
SPECIAL PRECAUTIONS OR OTHER COMMENTS

THIS SECTION IS TO COVER ANY RELEVANT POINTS NOT PREVIOUSLY MENTIONED.

ADDITIONAL COMMENTS

ASHLAND WISHES TO INFORM YOU THAT SERIOUS ACCIDENTS HAVE RESULTED FROM THE MISUSE OF "EMPTIED" CONTAINERS (DRUMS, 1 AND 5 GALLON PAILS, ETC.). REFER TO SECTIONS IV AND IX.

WE RECOMMEND THAT CONTAINERS BE EITHER PROFESSIONALLY RECONDITIONED FOR REUSE BY CERTIFIED FIRMS OR PROPERLY DISPOSED OF BY CERTIFIED FIRMS TO HELP REDUCE THE POSSIBILITY OF AN ACCIDENT. DISPOSAL OF CONTAINERS SHOULD BE IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS. "EMPTY" DRUMS SHOULD NOT BE GIVEN TO INDIVIDUALS.

MATERIAL SAFETY DATA SHEET



001921

CITRIC AC ANH USP/FCC FNGR100#

Page: 1

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

Product Name: CITRIC AC ANH USP/FCC FNGR100#
CAS NUMBER: 77-92-9

05 50 039 2509470-

Data Sheet No: 0003677-003
Prepared: 12/12/86
Supersedes: 03/04/86

DELTA DISTRIBUTORS
108 E. 67TH STREET
ODESSA TX 79762

PRODUCT: 3191063
INVOICE: 323208
INVOICE DATE: 03/07/88
TO: DELTA DISTRIBUTORS
108 E. 67TH STREET
ODESSA TX 79762

ATTN: PLANT MGR./SAFETY DIR.

TX 79762

SECTION I - PRODUCT IDENTIFICATION

General or Generic ID: ORGANIC ACID

DOT Hazard Classification: NOT APPLICABLE

SECTION II - COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS ARE IDENTIFIED IN THIS SECTION
SEE DEFINITION PAGE FOR CLARIFICATION

Table with 5 columns: INGREDIENT, % (by WT), PEL, TLV, Note. Row 1: CITRIC ACID, CAS #: 77-92-9, 100, (1)

Notes:

(1) PEL/TLV NOT ESTABLISHED FOR THIS MATERIAL

SECTION III - PHYSICAL DATA

Table with 2 columns: Property, Value. Rows include Boiling Point, Vapor Pressure, Specific Vapor Density, Specific Gravity, Percent Volatiles, Evaporation Rate.

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT NOT APPLICABLE
EXPLOSIVE LIMIT NOT APPLICABLE
EXTINGUISHING MEDIA: WATER FOG OR CARBON DIOXIDE OR DRY CHEMICAL
HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS: , CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.
FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.
SPECIAL FIRE & EXPLOSION HAZARDS: CAN REACT WITH CHEMICALLY REACTIVE METALS SUCH AS ALUMINUM, ZINC, MAGNESIUM, COPPER ETC. TO RELEASE HYDROGEN GAS WHICH CAN FORM EXPLOSIVE MIXTURES WITH AIR.

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL: NOT ESTABLISHED FOR PRODUCT. SEE SECTION II.
EFFECTS OF ACUTE OVEREXPOSURE: FOR PRODUCT
EYES - CAN CAUSE IRRITATION.
SKIN - MAY CAUSE IRRITATION.
BREATHING - OF DUST CAN CAUSE IRRITATION OF NASAL AND RESPIRATORY PASSAGES.
IF SWALLOWED - BY NATURE OF PRODUCT PROBLEMS NOT EXPECTED, BUT INDUSTRIAL PRODUCTS ARE NEVER MEANT TO BE SWALLOWED.

FIRST AID:

IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED CLOTHING BEFORE RE-USE.
IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.
IF SWALLOWED: IMMEDIATELY DRINK TWO GLASSES OF WATER AND INDUCE VOMITING BY EITHER GIVING IPECAC SYRUP OR BY PLACING FINGER AT BACK OF THROAT. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION IMMEDIATELY.
IF BREATHED: REMOVE INDIVIDUAL TO FRESH AIR.

PRIMARY ROUTE(S) OF ENTRY:

**MATERIAL SAFETY
DATA SHEET**

Ashland Chemical Company

DIVISION OF ASHLAND OIL, INC.

P. O. BOX 2219, COLUMBUS, OHIO 43216 • (614) 899-3333

24-HOUR EMERGENCY TELEPHONE (606) 324-1133



001921

CITRIC AC ANH USP/FCC FNGR100#

Page: 2

~~SECTION V - HEALTH HAZARD DATA (continued)~~

INHALATION, SKIN CONTACT

~~SECTION VI - REACTIVITY DATA~~

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH: , STRONG ALKALIES. , REACTIVE METALS SUCH AS ALUMINUM AND MAGNESIUM

~~SECTION VII - SPILL OR LEAK PROCEDURES~~

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: SWEEP UP MATERIAL FOR DISPOSAL OR RECOVERY.

LARGE SPILL: SHOVEL MATERIAL INTO CONTAINERS. THOROUGHLY SWEEP AREA OF SPILL TO CLEAN UP ANY RESIDUAL MATERIAL.

WASTE DISPOSAL METHOD:

SMALL SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

LARGE SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

~~SECTION VIII - PROTECTIVE EQUIPMENT TO BE USED~~

RESPIRATORY PROTECTION: IF NEEDED USE A NIOSH/MSHA JOINTLY APPROVED DUST RESPIRATOR. (ASK YOUR SAFETY EQUIPMENT SUPPLIER)

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW LEVEL OF OVEREXPOSURE (FROM KNOWN, SUSPECTED OR APPARENT ADVERSE EFFECTS).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS: , NEOPRENE, NITRILE RUBBER, POLYVINYL CHLORIDE

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: NORMAL WORK CLOTHING COVERING ARMS AND LEGS.

~~SECTION IX - SPECIAL PRECAUTIONS OR OTHER COMMENTS~~

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.


**MATERIAL SAFETY
DATA SHEET**

24-HOUR EMERGENCY TELEPHONE (606) 324-1133

DEFINITIONS

This definition page is intended for use with Material Safety Data Sheets supplied by the Ashland Chemical Company. Recipients of these data sheets should consult the OSHA Safety and Health Standards (29 CFR 1910), particularly subpart G - Occupational Health and Environmental Control, and subpart I - Personal Protective Equipment, for general guidance on control of potential Occupational Health and Safety Hazards.

**SECTION I
PRODUCT IDENTIFICATION**

GENERAL OR GENERIC ID: Chemical family or product description.

DOT HAZARD CLASSIFICATION: Product meets DOT criteria for hazards listed.

**SECTION II
COMPONENTS**

Components are listed in this section if they present a physical or health hazard and are present at or above 1% in the mixture. If a component is identified as a CARCINOGEN by NTP, IARC or OSHA as of the date on the MSDS, it will be listed and footnoted in this section when present at or above 0.1% in the product. Negative conclusions concerning carcinogenicity are not reported. Additional information may be found in Section V. Other components may be listed if deemed appropriate.

Identities of components listed generically are declared trade secret.

Exposure recommendations are for components. OSHA Permissible Exposure Limits (PELs) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) appear on the line with the component identification. Other recommendations appear as footnotes.

**SECTION III
PHYSICAL DATA**

BOILING POINT: Of product if known. The lowest value of the components is listed for mixtures.

VAPOR PRESSURE: Of product if known. The highest value of the components is listed for mixtures.

SPECIFIC VAPOR DENSITY: Compared to AIR = 1. If Specific Vapor Density of product is not known, the value is expressed as lighter or heavier than air.

SPECIFIC GRAVITY: Compared to WATER = 1. If Specific Gravity of product is not known, the value is expressed as less than or greater than water.

pH: If applicable.

PERCENT VOLATILES: Percentage of material with initial boiling point below 425 degrees Fahrenheit.

EVAPORATION RATE: Indicated as faster or slower than ETHYL ETHER, unless otherwise stated.

**SECTION IV
FIRE AND EXPLOSION DATA**

FLASH POINT: Method identified.

EXPLOSION LIMITS: For product if known. The lowest value of the components is listed for mixtures.

HAZARDOUS DECOMPOSITION PRODUCTS: Known or expected hazardous products resulting from heating, burning or other reactions.

SECTION IV (cont.)

EXTINGUISHING MEDIA: Following National Fire Protection Association criteria.

FIREFIGHTING PROCEDURES: Minimum equipment to protect firefighters from toxic products of vaporization, combustion or decomposition in fire situations. Other firefighting hazards may also be indicated.

SPECIAL FIRE AND EXPLOSION HAZARDS: States hazards not covered by other sections.

NFPA CODES: Hazard ratings assigned by the National Fire Protection Association.

**SECTION V
HEALTH HAZARD DATA**

PERMISSIBLE EXPOSURE LIMIT: For product.

THRESHOLD LIMIT VALUE: For product.

EFFECTS OF ACUTE OVEREXPOSURE: Potential local and systemic effects due to single or short term overexposure to the eyes and skin or through inhalation or ingestion.

EFFECTS OF CHRONIC OVEREXPOSURE: Potential local and systemic effects due to repeated or long term overexposure to the eyes and skin or through inhalation or ingestion.

FIRST AID: Procedures to be followed when dealing with accidental overexposure.

PRIMARY ROUTE OF ENTRY: Based on properties and expected use.

**SECTION VI
REACTIVITY DATA**

HAZARDOUS POLYMERIZATION: Conditions to avoid to prevent hazardous polymerization resulting in a large release of energy.

STABILITY: Conditions to avoid to prevent hazardous or violent decomposition.

INCOMPATIBILITY: Materials and conditions to avoid to prevent hazardous reactions.

**SECTION VII
SPILL OR LEAK PROCEDURES**

Reasonable precautions to be taken and methods of containment, clean-up and disposal. Consult federal, state and local regulations for accepted procedures and any reporting or notification requirements.

**SECTION VIII
PROTECTIVE EQUIPMENT TO BE USED**

Protective equipment which may be needed when handling the product.

**SECTION IX
SPECIAL PRECAUTIONS OR OTHER COMMENTS**

Covers any relevant points not previously mentioned.

ADDITIONAL COMMENTS

Containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "EMPTY" drums should not be given to individuals. Serious accidents have resulted from the misuse of "EMPTIED" containers (drums, pails, etc.). Refer to Sections IV and IX.



MATERIAL SAFETY DATA SHEET

001096

ACETIC ACID GLACIAL 99.5% TEC

PAGE: 1

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

PRODUCT NAME: ACETIC ACID GLACIAL 99.5% TEC
CAS NUMBER: 64-19-7

CUSTOM CHEMCO
P.O. BOX 1507
MIDLAND,

TX 79701

DE 50 039 2326410-
DATA SHEET NO: 0000012-002
LATEST REVISION DATE: 03/86-R6063
PRODUCT: 3013000
INVOICE: 006176
INVOICE DATE: 05/06/86
TO: CUSTOM CHEMCO
EAST HWY 10 SERVICE ROAD
MIDLAND TX 79701

ATTN: PLANT MGR./SAFETY DIR.

SECTION I-PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: ORGANIC ACID

DOT HAZARD CLASSIFICATION: CORROSIVE (173.240) AND COMBUSTIBLE (173.115)

SECTION II-COMPONENTS

Table with 5 columns: INGREDIENT, % (BY WT), PEL, TLV, NOTE. Row 1: ACETIC ACID, 99.5, 10, 10 PPM.

SECTION III-PHYSICAL DATA

Table with 3 columns: PROPERTY, REFINEMENT, MEASUREMENT. Rows include Boiling Point, Vapor Pressure, Specific Vapor Density, Specific Gravity, Percent Volatiles, and Evaporation Rate.

SECTION IV-FIRE AND EXPLOSION INFORMATION

FLASH POINT (CC) 100.00 DEG F (32.77 DEG C)
EXPLOSIVE LIMIT (PRODUCT) LOWER - 4.0% UPPER - 19.9%
EXTINGUISHING MEDIA: ALCOHOL FOAM OR WATER FOG OR CARBON DIOXIDE OR DRY CHEMICAL
HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS: CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ACID VAPORS, ETC.
FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING WHEN FIGHTING FIRES.
SPECIAL FIRE & EXPLOSION HAZARDS: VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY HEAT, PILOT LIGHTS, OTHER FLAMES AND IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.
NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.
ACID REACTS WITH MOST METALS TO RELEASE HYDROGEN GAS WHICH CAN FORM EXPLOSIVE MIXTURES WITH AIR.
NFPA CODES: HEALTH- 2 FLAMMABILITY- 2 REACTIVITY- 1
REACTS VIOLENTLY WITH WATER

SECTION V-HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL 10 PPM
THRESHOLD LIMIT VALUE 10 PPM

NOT ESTABLISHED FOR PRODUCT. SEE SECTION II.

EFFECTS OF ACUTE OVEREXPOSURE: FOR PRODUCT

EYES - CAUSES SEVERE DAMAGE AND EVEN BLINDNESS VERY RAPIDLY.
SKIN - CAUSES BURNS.
BREATHING - MIST CAN CAUSE DAMAGE TO NASAL AND RESPIRATORY PASSAGES.
SWALLOWING - RESULTS IN SEVERE DAMAGE TO MUCOUS MEMBRANES AND DEEP TISSUES.


**MATERIAL SAFETY
DATA SHEET**

24-HOUR EMERGENCY TELEPHONE (606) 324-1133

001986

ACETIC ACID GLACIAL 99.5% TFC

PAGE: 2

 SECTION V-HEALTH HAZARD DATA (CONTINUED)

FIRST AID:

- IF ON SKIN: IMMEDIATELY FLUSH EXPOSED AREA WITH WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED CLOTHING BEFORE RE-USE. DISCARD CONTAMINATED SHOES.
- IF IN EYES: IMMEDIATELY FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES, LIFTING UPPER AND LOWER LIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION. IF PHYSICIAN IS NOT IMMEDIATELY AVAILABLE, CONTINUE FLUSHING WITH WATER. DO NOT USE CHEMICAL ANTIDOTE.
- IF SWALLOWED: DO NOT INDUCE VOMITING. VOMITING WILL CAUSE FURTHER DAMAGE TO THE THROAT. DILUTE BY GIVING WATER. GIVE MILK OF MAGNESIA. KEEP WARM, QUIET. GET MEDICAL ATTENTION IMMEDIATELY.
- IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

 SECTION VI-REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH: STRONG OXIDIZING AGENTS, STRONG ALKALIES, STRONG MINERAL ACIDS.

 SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: COVER WITH SODA ASH. MIX AND SCOOP INTO A BEAKER OF WATER.

LARGE SPILL: PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING. PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

WASTE DISPOSAL METHOD:

SMALL SPILL: FLUSH DOWN DRAIN WITH LARGE AMOUNTS OF WATER IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL: DESTROY BY LIQUID INCINERATION.

 SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF TLV OF THE PRODUCT OR ANY COMPONENT IS EXCEEDED, A NIOSH/MSHA JOINTLY APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS: NEOPRENE, NITRILE RUBBER

EYE PROTECTION: CHEMICAL SPLASH GOGGLES AND FACE SHIELD (8" MIN.) IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED. HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

 SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUE (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

P.O. Box 13166
 3803 Mankins
 INTERCHEM, INC. Odessa, Tx
 79768 79763

NON-FLAMMABLE NON-TOXIC NON-CORROSIVE	TRANSPORTATION-CHEMICAL	NFPA 704 HAZARD RATING	HEALTH	ISSUED	REVISED
	800-424 9300	4 - Extreme 3 - High 2 - Moderate 1 - Slight 0 - Minimal			
	(915)550-7027	Chronic Health Hazard (SEE SECT 2)	1	1	01-30-90

PRODUCT IDENTITY	PRODUCT NAME LABEL	INC-2215				CHEMICAL FAMILY	Phosphonic Acid			
	CHEMICAL NAME SYNONYMS	Amino Methylene Phosphonic Acid								
	CAS NO	69009-91-2	FORMULA	C ₂ H ₂₅ N ₃ O ₃ P ₄			CARCINOGEN REFERENCE APPLIED			

HAZARDOUS INGREDIENTS	CAS NO	COMPONENTS	SUBJECT TO SAHA Section 313 Reporting	%	ACGIH TLV	OSHA PEL
					PPM or mg/m ³	
	69009-91-2	Diethylene Triamine Tetra Methylene Phosphonic Acid	No	48-52	N.E.	N.E.

SHIPPING DATA	DOT SHIPPING NAME	Corrosive Liquid NOS - UN1760	DOT HAZARD CLASSIFICATION	Corrosive
	(Phosphonic Acid)			

PHYSICAL PROPERTIES	INITIAL BOILING POINT	°C	210	°F	400	MELTING/FREEZING POINT	°C	ND	°F	ND	MOLECULAR WEIGHT	250	SPECIFIC GRAVITY (20/20)	1.25
	VAPOR PRESSURE	mmHg	ND	VAPOR DENSITY (AIR)	ND	SOLUBILITY IN WATER	g/100 ml	Complete	VOLATILES BY WEIGHT	48-52	EVAPORATION RATE - BUTYLACETATE = 1	ND		
	APPEARANCE & ODOR Amber Liquid with pungent odor													

FIRE AND EXPLOSION DATA	FLASH POINT	°C	200	°F	392	TEST METHOD	FLAMMABLE LIMITS IN AIR	% By vol	ND	AUTO-IGNITION TEMPERATURE	°C	ND	°F	ND	DOT EMERGENCY GUIDE NO.	6.1
	EXTINGUISHING MEDIA															
	SPECIAL FIRE FIGHTING PROCEDURES Wear usual fire protective clothing and self contained breathing apparatus in emergencies.															

REACTIVITY DATA	STABILITY	<input checked="" type="checkbox"/> Stable	<input type="checkbox"/> Unstable	CONDITIONS CONTRIBUTING TO INSTABILITY	<input type="checkbox"/> Thermal decomposition	<input type="checkbox"/> Photo oxidation	<input type="checkbox"/> Polymerization	<input type="checkbox"/> Contamination
	HAZARDOUS POLYMERIZATION	<input checked="" type="checkbox"/> Will Not Occur	<input type="checkbox"/> May Occur	INCOMPATIBILITY - AVOID CONTACT WITH	<input type="checkbox"/> Strong Acids	<input checked="" type="checkbox"/> Strong Bases	<input checked="" type="checkbox"/> Strong Oxidizers	
	HAZARDOUS DECOMPOSITION PRODUCTS - THERMAL AND OTHER (LIST)							

LEAK OR SPILL	STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	<input checked="" type="checkbox"/> Keep upwind	<input checked="" type="checkbox"/> Avoid skin contact	<input checked="" type="checkbox"/> Flush with water	<input checked="" type="checkbox"/> Absorb with sand or inert material	<input checked="" type="checkbox"/> Neutralize	<input checked="" type="checkbox"/> Sweep or scoop out and remove	<input checked="" type="checkbox"/> Prevent spread of spill	
	WASTE DISPOSAL - Consult federal, state, and local authorities for proper disposal procedures.							UNDER CERCLA (SUPERFUND)	REPORTABLE QUANTITY RQ = N.E. Pounds
	Under RCRA, it is the responsibility of the user to determine, at the time of disposal, whether product meets RCRA criteria for hazardous waste.							CONTINUED ON REVERSE SIDE	

NA-NOT APPLICABLE ND-NOT DETERMINED <-LESS THAN >-GREATER THAN ~-APPROXIMATELY R-REVISION ON THIS LINE

TOXICITY	8	DERMAL (SKIN) No specific data available - skin irritant
	ACUTE	EYE No specific data available - eye irritant
		INHALATION No specific data available - avoid prolonged exposure
		ORAL No specific data available - Avoid contact
		OTHER The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

HEALTH HAZARD INFORMATION	9	DERMAL May cause irritation
	Effect of Over Exposure	EYE May cause severe irritation
		INHALATION May irritate mucous membranes
		INGESTION Highly acidic material
First Aid	10	DERMAL Wash with soap and water. Seek medical attention if indicated.
	EYE CONTACT <input type="checkbox"/> Immediately flush with water for at least 15 minutes. Contact lenses should be removed if the initial flush doesn't wash them out. <input type="checkbox"/> Get medical attention	
	INHALATION <input type="checkbox"/> Remove to fresh air <input type="checkbox"/> If not breathing, give artificial respiration <input type="checkbox"/> Give oxygen if needed <input type="checkbox"/> Get medical attention, if indicated	
First Aid	11	INGESTION NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON! <input type="checkbox"/> Do not induce vomiting <input type="checkbox"/> Induce vomiting <input checked="" type="checkbox"/> Give plenty of water <input type="checkbox"/> Get medical attention

SPECIAL PROTECTION INFORMATION	11	HANDS (GLOVE MATERIALS TO MINIMIZE CHEMICAL CONTACT) <input type="checkbox"/> Nitrile <input type="checkbox"/> Natural rubber <input type="checkbox"/> Polyethylene <input type="checkbox"/> Butyl rubber <input type="checkbox"/> Polyvinyl alcohol <input type="checkbox"/> Polyvinyl chloride
	EYES Chemical splash goggles or face shield	
	VENTILATION REQUIREMENTS - Always maintain exposure below permissible exposure limits Area: mechanical	
	RESPIRATOR TYPE - For reducing contaminant concentration in inhaled air <input type="checkbox"/> Filter - dust fume mist <input type="checkbox"/> Can or cartridge gas or vapor	
SPECIAL PROTECTION INFORMATION	12	OTHER <input checked="" type="checkbox"/> Safety shower and/or eye wash should be available

SPECIAL PRECAUTIONS	12	<input type="checkbox"/> Do not store near combustibles <input checked="" type="checkbox"/> Wash thoroughly after handling <input checked="" type="checkbox"/> Do not get in eyes, on skin or clothing <input checked="" type="checkbox"/> Do not breathe dust, vapor, mist, gas <input checked="" type="checkbox"/> Keep container closed <input type="checkbox"/> Keep from freezing <input type="checkbox"/> Empty container may contain hazardous residues <input type="checkbox"/> Keep away from heat, sparks, and open flames <input type="checkbox"/> Use explosion proof equipment
---------------------	----	--

OTHER	13	
	13	

	SIGNATURE	TITLE	DATE
--	-----------	-------	------

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2216
 PART NUMBER: 2216
 PRODUCT NAME: INC 2216 Scale Inhibitor Intermediate
 CAS NUMBER: 69009-91-2
 CHEMICAL NAME: Phosphonic Acid Salt

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

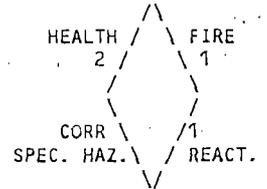
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 10/07/93

HMSIS RATINGS:

HEALTH: 2
 FIRE: 1
 REACTIVITY: 1
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB-			SARA		OTHER LIMITS	
		NTP	IARC	PART/Z	313	OSHA PEL	ACGIH TLV	RECOMMENDED PERCENT
12125-02-9	Ammonium chloride	?	?	?	N	NI	NI	5-10
69009-91-2	Trade Secret # 2216-01	?	?	?	N	NI	NI	45-50

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	212 F.	SPECIFIC GRAVITY (H2O = 1)	1.24000
VAPOR PRESSURE (mm Hg.)	NI	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Complete

APPEARANCE AND ODOR: Amber Liquid / Pungent Odor

OTHER INFORMATION:

Viscosity Units = AP 28 pH = AP 1.0
 Freezing Point = NI Dry Point = NI

DANGER

Physical Hazards:-
 Combustible Liquid
 Corrosive to Metals

Generic Name:- Phosphonic Acid Salt

UN/NA Number:- UN 1760

DOT Proper Shipping Name:- Corrosive Liquid, N.O.S. (Phosphonic Acid Salt)

DOT Hazard Class:- Corrosive Liquid

DOT/CERCLA RQ:- NE

This product contains no SARA Section 313 Listed Chemicals

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: > 200 F.

FLAMMABLE LIMITS: LEL: NI UEL: NI

EXTINGUISHING MEDIA: NI

Dry Chemical
 CO2
 Water Spray
 Water Fog

SPECIAL FIRE FIGHTING PROCEDURES: Do not enter fire area without proper protection. see section V - decomposition products possible.

Fight fire from safe distance / protected location.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

May become combustible following evaporation of non-combustible carrier.

Use water spray / fog for cooling. Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES: May become combustible upon loss of water carrier.

SECTION V - REACTIVITY DATA

STABILITY:

Stable

INCOMPATIBILITY (MATERIALS TO AVOID):

Heat, open flame.
Evaporation of all water content.
Strong Oxidizing Agents.
Strong Bases (Alkalies)

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

When heated to decomposition, may emit Carbon Monoxide, as well as trace oxides and/or compounds of Nitrogen and Phosphorous.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Inhalation is unlikely except at elevated temperatures and/or pressure. However, if exposed to vapor / aerosol for even a short time, coughing and shortness of breath may result. More severe symptoms are also possible.

Eye Contact:- Primary Route

May cause destruction of eye tissue.

Skin Absorption:-

No appropriate human or animal health effects data are known to exist.

Skin Irritation:- Primary Route

May produce skin irritation, blistering, ulcers, and deep scarring.

Ingestion:-

Ingestion of this material may cause corrosion or irritation of the linings of the mouth, throat, and gastrointestinal tract.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Corrosive to Eyes.
Corrosive to Skin.
Severe Ingestion Hazard.
No data on Inhalation Found.
No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

Eye Contact:-

Severe eye irritation may develop immediately on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

If ingested, may cause corrosion of the Gastrointestinal tract. If may also cause corrosion of skin and eye on contact. Prompt treatment is essential to minimize damage.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt actions is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often. Obtain emergency medical

~~PRODUCT NAME: INC-2216-Scale-Inhibitor-Intermediate~~

SECTION VI - HEALTH HAZARD DATA (Continued)

attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see Section VIII). Impound / recover large land spill. Soak up small spill with inert solids. Shovel into suitable disposal containers. Flush / dilute residue with water.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, fiberglass, lined steel, or stainless steel.

OTHER PRECAUTIONS:

Decontamination Procedures:-

Equipment containing this material should be isolated and thoroughly drained, washed, and pruned prior to maintenance / repair operations. Wear recommended personal protective equipment.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

This product contains no SARA Section 313 listed chemicals.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness.

PRODUCT NAME: INC 2216 Scale Inhibitor Intermediate

SECTION IX - ADDITIONAL INFORMATION (Continued)

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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).



Material Safety Data Sheet

GULF Heavy Aromatic Distillate

125 Solvent

Page 1 of 8

RECEIVED

JUL 26 1990

Ans'd.....

This Material Safety Data Sheet contains environmental, health and toxicology information for your employees. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information incorporated in your MSDS. Discard any previous edition of this MSDS.

The Chevron MSDSs have been reformatted and expanded to provide you with useful hazard warnings and health evaluations and to facilitate your compliance with local, State and Federal regulations.

1. PRODUCT IDENTIFICATION

GULF Heavy Aromatic Distillate

- DANGER: - HARMFUL OR FATAL IF SWALLOWED
- MAY CAUSE SKIN IRRITATION
- COMBUSTIBLE

PRODUCT INFORMATION: (713)754-4432

Revision Number: 4 Revision Date: 09/16/89 MSDS Number: PE0047
NDA - No Data Available NA - Not Applicable

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200) by the Chevron Environmental Health Center, Inc., P.O. Box 4054, Richmond, CA 94804.

2. FIRST AID

EYE CONTACT:

No first aid procedures are required. However, as a precaution flush eyes with fresh water for 15 minutes. Remove contact lenses if worn.

SKIN CONTACT:

Remove contaminated clothing. Wash skin thoroughly with soap and water. See a doctor if any signs or symptoms described in this document occur. Discard contaminated non-waterproof shoes and boots. Wash contaminated clothing.

INHALATION:

If respiratory irritation or any signs or symptoms as described in this document occur, move the person to fresh air. If any of these effects continue, see a doctor.

INGESTION:

If swallowed, give water or milk to drink and telephone for medical advice. DO NOT make person vomit unless directed to do so by medical personnel. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital. Note to Physician: Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid which can cause pneumonitis.

3. IMMEDIATE HEALTH EFFECTS

EYE CONTACT:

This substance is not expected to cause prolonged or significant eye irritation.

SKIN IRRITATION:

This substance is a moderate skin irritant so contact with the skin could cause prolonged (days) injury to the affected area. The degree of injury will depend on the amount of material that gets on the skin and the speed and thoroughness of the first aid treatment. Signs and symptoms may include pain or a feeling of heat, discoloration, swelling, and blistering.

DERMAL TOXICITY:

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if it gets on the skin.

RESPIRATORY/INHALATION:

This substance is slightly toxic to internal organs if inhaled. The degree of injury will depend on the airborne concentration and duration of exposure. Signs and symptoms of central nervous system effects may include one or more of the following: headache, dizziness, loss of appetite, weakness and loss of coordination.

INGESTION:

If swallowed, this substance is considered practically non-toxic to internal organs. Because of the low viscosity of this substance, it can directly enter the lungs if it is swallowed (this is called aspiration).

Revision Number: 4

Revision Date: 09/16/89

MSDS Number: PE0047

NDA - No Data Available

NA - Not Applicable

This can occur during the act of swallowing or when vomiting the substance. Once in the lungs, the substance is very difficult to remove and can cause severe injury to the lungs and death.

4. PROTECTIVE EQUIPMENT

EYE PROTECTION:

No special eye protection is usually necessary.

SKIN PROTECTION:

Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including gloves.

RESPIRATORY PROTECTION:

Wear approved respiratory protection when working with this material unless ventilation is adequate to keep airborne concentrations below recommended exposure standards.

VENTILATION:

Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

5. FIRE PROTECTION

FLASH POINT: (PM) 126F

AUTOIGNITION: NDA

FLAMMABILITY: NDA

EXTINGUISHING MEDIA:

CO₂, dry chemical, foam and water fog.

NFPA RATINGS: Health 1; Flammability 2; Reactivity 0; Special NDA;

HMIS RATINGS: Health 1; Flammability 2; Reactivity 0; Other NDA;

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association or, if applicable, the National Paint and Coating Association, and do not necessarily reflect the hazard evaluation of the Chevron Environmental Health Center. Read the entire document and label before using this product.

FIRE FIGHTING PROCEDURES:

Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 85 F.

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of normal products of combustion or oxygen deficiency. Read the entire document.

COMBUSTION PRODUCTS:

Normal combustion forms carbon dioxide and water vapor; incomplete combustion can produce carbon monoxide.

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MSDS Number: PE0047

NDA - No Data Available

NA - Not Applicable

6. STORAGE, HANDLING, AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS:

NA.

STABILITY:

Stable.

HAZARDOUS POLYMERIZATION:

Polymerization will not occur.

INCOMPATIBILITY:

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

SPECIAL PRECAUTIONS:

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

DO NOT USE OR STORE near flame, sparks or hot surfaces. USE ONLY IN WELL VENTILATED AREA. Keep container closed. DO NOT weld, heat or drill container. Replace cap or bung. Emptied container still contains hazardous or explosive vapor or liquid. CAUTION! Do not use pressure to empty drum or explosion may result.

7. PHYSICAL PROPERTIES

SOLUBILITY: Soluble in hydrocarbon solvents; insoluble in water.**APPEARANCE:** Colorless liquid with an aromatic odor**BOILING POINT:** 290 - 359F (IBP)**MELTING POINT:** NA**EVAPORATION:** NDA**SPECIFIC GRAVITY:** 0.89 - 0.93 @ 15.6/15.6C**VAPOR PRESSURE:** 0.2 - 0.4PSI (Reid)**PERCENT VOLATILE (VOLUME %):** NDA**VAPOR DENSITY (AIR=1):** NDA**VISCOSITY:** NDA**POUR POINT:** 70F (Max.)

8. SPILL RESPONSE AND DISPOSAL

CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300 (24 hour).**SPILL/LEAK PRECAUTIONS:**

Certain geographical areas have air pollution restrictions concerning the use of materials in work situations which may release volatile components to the atmosphere. Air pollution regulations should be studied to determine if this material is regulated in the area where it is to be used.

Eliminate all open flame in vicinity of spill or released vapor. Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Protective Equipment. Contain liquid to prevent

Revision Number: 4**Revision Date:** 09/16/89**MSDS Number:** PE0047

NDA - No Data Available

NA - Not Applicable

further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases. If this material is released into a work area, evacuate the area immediately. Persons entering the contaminated area to correct the problem and determine whether it is safe to resume normal activities must comply with all instructions in Protective Equipment section.

DISPOSAL METHODS:

Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

9. EXPOSURE STANDARDS, REGULATORY LIMITS AND COMPOSITION

COMPOSITION COMMENT:

All the components of this material are on the Toxic Substances Control Act Chemical Substances Inventory.

The percent compositions are given to allow for the various ranges of the components present in the whole product and may not equal 100%.

PERCENT/CAS# COMPONENT/REGULATORY LIMITS

100.0 % GULF Heavy Aromatic Distillate

CONTAINING

< 41.0 % PARAFFINS

> 36.0 % DISTILLATES, HEAVY AROMATIC
CAS67891796

< 20.0 % ETHYL BENZENE
CAS100414 A toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
100ppm ACGIH TLV
125ppm ACGIH STEL
100ppm OSHA PEL
125ppm OSHA STEL
CERCLA 302.4 RQ=1000 POUNDS

< 10.0 % XYLENE
CAS1330207 A toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
100ppm ACGIH TLV
150ppm ACGIH STEL
100ppm OSHA PEL
150ppm OSHA STEL

Revision Number: 4 Revision Date: 09/16/89 MSDS Number: PE0047
NDA - No Data Available NA - Not Applicable

CERCLA 302.4 RQ=1000 POUNDS

< 2.0 %
CAS91203

NAPHTHALENE

A toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

10ppm ACGIH TLV

15ppm ACGIH STEL

10ppm OSHA PEL

15ppm OSHA STEL

CERCLA 302.4 RQ=100 POUNDS

< 2.0 %
CAS98828

CUMENE

A toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

50ppm ACGIH TLV

50ppm OSHA PEL

CERCLA 302.4 RQ=5000 POUNDS

1.0 %
CAS25551137

TRIMETHYLBENZENE

25ppm ACGIH TLV

25ppm OSHA PEL

1.0 %
CAS6004382

4,7-METHANO-1H-INDENE, OCTAHYDRO

PROPLY BENZENE-N

< 0.5 %
CAS108883

TOLUENE

A toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

100ppm ACGIH TLV

150ppm ACGIH STEL

100ppm OSHA PEL

150ppm OSHA STEL

CERCLA 302.4 RQ=1000 POUNDS

< 0.1 %
CAS71432

BENZENE

A toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

10ppm ACGIH TLV

1ppm OSHA PEL

5ppm OSHA STEL

CERCLA 302.4 RQ=1000 POUNDS

Refer to the OSHA Benzene Standard (29 CFR 1910.1028) for detailed training, exposure monitoring, respiratory protection and medical surveillance requirements before using this product.

TLV - Threshold Limit Value

PEL - Permissible Exposure Limit

STEL - Short-term Exposure Limit

TPQ - Threshold Planning Quantity

Revision Number: 4

Revision Date: 09/16/89

MSDS Number: PE0047

NDA - No Data Available

NA - Not Applicable

RQ - Reportable Quantity
 CC - Chevron Chemical Company

CPS - CUSA Product Code
 CAS - Chemical Abstract Service Number

10. REGULATORY INFORMATION

DOT SHIPPING NAME: NDA
 DOT HAZARD CLASS: NDA
 DOT IDENTIFICATION NUMBER: NDA

SARA 311 CATEGORIES:

1. Immediate (Acute) Health Effects; YES
2. Delayed (Chronic) Health Effects; NO
3. Fire Hazard; YES
4. Sudden Release of Pressure Hazard; NO
5. Reactivity Hazard; NO

WHEN A COMPONENT OF THIS MATERIAL IS SHOWN IN THIS SECTION, THE REGULATORY LIST ON WHICH IT APPEARS IS INDICATED.

ETHYLBENZENE	01,02,10,14,15,17,18,26,28,
TOLUENE	01,02,10,14,15,17,18,26,28,
DIMETHYL BENZENE/XYLENE	01,02,10,14,15,17,18,
TRIMETHYLBENZENE	02,10,14,17,24,26,28,
BENZENE	01,02,03,04,10,14,17,18,20,28,
NAPHTHALENE	01,02,10,14,15,17,18,26,28,
CUMENE	01,02,10,14,17,21,24,26,28,

REGULATORY LISTS:

01=SARA 313	02=MASS RTK	03=NTP Carcinogen
04=CA Prop. 65	05=MI 406	06=IARC Group 1
07=IARC Group 2A	08=IARC Group 2B	09=SARA 302/304
10=PA RTK	11=NJ RTK	12=CERCLA 302.4
13=MN RTK	14=ACGIH TLV	15=ACGIH STEL
16=ACGIH Calculated TLV	17=OSHA PEL	18=OSHA STEL
19=Chevron TLV	20=EPA Carcinogen	21=TSCA SECT 4
22=TSCA SECT 5 SNUR	23=TSCA SECT 6 RULE	24=TSCA SECT 12 EXPORT
25=TSCA SECT 8A CAIR	26=TSCA SECT 8D REPORT	27=TSCA SECT 8E
28=Canadian WHMIS		

11. PRODUCT TOXICOLOGY DATA

EYE IRRITATION:

The Draize Eye Irritation Score (range, 0-110) in rabbits is 3.2.

SKIN IRRITATION:

The Draize Skin Primary Irritation Score (range 0-8) for a 24-hour exposure (rabbits) is 4.0.

DERMAL TOXICITY:

The dermal LD50 in rabbits is > 2.0 g/kg.

RESPIRATORY/INHALATION:

The 4-hour Inhalation LC50 in rats is 8.5 g/m3.

Revision Number: 4 Revision Date: 09/16/89 MSDS Number: PE0047
 NDA - No Data Available NA - Not Applicable

INGESTION:

The oral LD50 in rats is > 6.0 g/kg.

ADDITIONAL TOXICOLOGY DATA:

Results of a 14-day dermal toxicity study showed that repeated application of undiluted Heavy Aromatic Distillate to the skin of rats resulted in severe skin irritation at the site of contact which resulted in cracking, peeling and scarring. No other biologically significant changes were noted.

Results of a 5-day inhalation toxicity study with rats showed that inhalation of 800 ppm Heavy Aromatic Distillate vapor in air for six hours a days caused decreased body weights and death of one female rat but no observable gross pathological effects in surviving animals.

The result of the In Vitro Unscheduled DNA Synthesis in Rat Primary Hepatocytes Assay for this material was negative. The result of the Cell Transformation in BALB/c-3T3 Cells Assay for this material was negative. The result of the Chinese Hamster Ovary (CHO) Cell HGPRT Gene Mutation Assay was negative. The result of the Micronucleus Test for this material was negative.

Results of a 5-day dermal toxicity study in rats show that repeated dermal application of Light Pyrolysis Gasoline causes severe skin irritation with the possibility of skin damage.

12. ADDITIONAL HEALTH DATA

ADDITIONAL HEALTH DATA COMMENT:

This product contains xylene which has been reported to be embryotoxic and to cause developmental disturbances in rats and mice exposed before birth. Xylene has given negative results in several mutagen testing assays including the Ames assay. In a cancer study sponsored by the National Toxicology Program (NTP), technical grade xylene gave no evidence of carcinogenicity in rats or mice dosed daily for two years.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Revision Number: 4 Revision Date: 09/16/89 MSDS Number: PE0047
NDA - No Data Available NA - Not Applicable

Material Safety Data Sheet
Toluene

5/18/90

HILL PETROLEUM COMPANY
P.O. BOX 5038
HOUSTON, TEXAS 77262

PHIBRO ENERGY, INC.
600 STEAMBOAT ROAD
GREENWICH, CT. 06830

Emergency Phone Numbers
24 Hour Emergency 713-923-6641
Chemtrec Emergency 800-424-9300

General Assistance
Medical Assistance 713-651-0870
General Assistance 713-921-8301

I. GENERAL INFORMATION

Trade Name
Toluene
Chemical Family
Aromatic Hydrocarbon
Synonyms
Toluol, Nitration Grade
Toluene, Methyl Benzene

CAS Registry Number
108-88-3
DOT Proper Shipping Name
Toluene (toluol)
DOT Hazard Class
Flammable Liquid
DOT Identification Number
UN 1294
Reportable Quantity
1000 lb

II. SUMMARY OF HAZARDS

May cause irritation to eyes, skin and respiratory system. Avoid liquid, mist and vapor contact. Harmful or fatal if swallowed. Aspiration hazard, can enter lungs and cause damage. May cause irritation or be harmful if inhaled or absorbed through the skin. Avoid liquid, mist and vapor contact. Flammable Liquid. Vapors may explode.

III. HAZARDOUS INGREDIENTS

Component	CAS No.	Concentration (%)
Toluene	108-88-3	99+x

IV. PHYSICAL DATA

Boiling Point: 230°F
Melting Point: not applicable
Vapor Density (air=1): 3.1
Solubility in Water: Negligible (<0.1%)
Appearance and Odor: Colorless liquid with aromatic hydrocarbon odor

Specific Gravity: 0.87 @ 60°F
Vapor Pressure: 1.05 psi @ 100°F
Percent Volatile: essentially 100%

V. FIRE AND EXPLOSION HAZARD DATA

Flash Point: 40°F
Flammability Limits in Air
Lower Explosive Limit: 1.2%
NEPA Classification
Health: Hazardous (2)
Reactivity: Stable (0)

Autoignition Temperature: 896°F
Upper Explosive Limit: 7.1%
Fire: High (3)
Specific Hazard: not applicable

Material Safety Data Sheet
Toluene

V. FIRE AND EXPLOSION HAZARD DATA (cont'd)

Basic Firefighting Procedures

Flammable Liquid. Use dry chemical, foam or carbon dioxide to extinguish the fire. Consult foam manufacturer for appropriate media, application rates and water/foam ratio. Water can be used to cool fire-exposed containers, structures and to protect personnel. If a leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to flush spills away from sources of ignition. Do not flush down public sewers.

Unusual Fire and Explosion Hazards

Dangerous when exposed to heat or flame. Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources (pilot lights, welding equipment, electrical equipment, etc.) and flash back. Vapors may accumulate in low areas. Vapors may concentrate in confined areas. Flowing product can be ignited by self generated static electricity. Use adequate grounding to prevent static buildup. Runoff to sewer may cause fire or explosion hazard. Containers may explode in heat of fire. Irritating or toxic substances may be emitted upon thermal decomposition. For fires involving this material, do not enter any enclosed or confined space without proper protective equipment, which may include NIOSH approved self-contained breathing apparatus with full face mask. Clothing, rags or similar organic material contaminated with this product and stored in a closed space may undergo spontaneous combustion. Transfer to and from commonly grounded containers.

VI. REACTIVITY INFORMATION

Stability: Stable under normal conditions of use

Incompatibility: Avoid strong oxidizing agents (peroxide, permanganate, dichromate, chlorine, etc.), strong acids, caustics and halogens.

Hazardous Polymerization: Will not occur

Exothermic Reactions/Decomposition Products: Combustion may produce carbon monoxide, carbon dioxide and reactive hydrocarbons (aldehydes, aromatics, etc.)

Conditions to Avoid: Heat, sparks, open flame, static electricity or any other potential ignition sources should be avoided. Prevent vapor accumulation. Do not switch load.

VII. HEALTH HAZARD INFORMATION

Product Listed as a Carcinogen or Potential Carcinogen by:

NTP - No IARC - No OSHA - No Other - No

Target Organs: Respiratory system, skin

Primary Routes of Entry: Inhalation, ingestion, dermal or eye contact

Occupational Exposure Limits

Compound	Source	Year	Adopted Value for Time Period		
Toluene	OSHA-PEL	1989	TWA	100 ppm	8 hour
	ACGIH-TLV	1989	TWA	100 ppm	8 hour
	NIOSH-REL	1989	TWA	100 ppm	8 hour
	OSHA-PEL	1989	STEL	150 ppm	15 min
	ACGIH-TLV	1989	STEL	150 ppm	15 min
	NIOSH-REL	1989	CL	200 ppm	10 min

VII. HEALTH HAZARD INFORMATION (cont'd)

Effects and Hazards of Eye Contact

May cause severe irritation, redness, tearing, blurred vision and conjunctivitis.

Effects and Hazards of Skin Contact

Prolonged or repeated contact may cause moderate irritation, defatting (cracking), redness, itching, inflammation, dermatitis and possible secondary infection. High pressure skin injections are SERIOUS MEDICAL EMERGENCIES. Injury may not appear serious at first. Within a few hours, tissues will become swollen, discolored and extremely painful. See Notes to Physician section.

Effects and Hazards of Inhalation

Nasal and respiratory tract irritation, central nervous system effects including excitation, euphoria, contracted eye pupils, dizziness, drowsiness, blurred vision, fatigue, nausea, headache, loss of reflexes, tremors, convulsions, seizures, loss of consciousness, coma, respiratory arrest and sudden death could occur as a result of long term and/or high concentration exposure to vapors. May also cause anemia and irregular heart rhythm. Repeated or prolonged exposure may cause behavioral changes.

Effects and Hazards of Ingestion

This product may be harmful or fatal if swallowed. This product may cause nausea, vomiting, diarrhea and restlessness. DO NOT INDUCE VOMITING. Aspiration into the lungs can cause severe chemical pneumonitis or pulmonary edema/hemorrhage, which can be fatal. May cause gastrointestinal disturbances. Symptoms may include irritation, depression, vomiting and diarrhea. May cause harmful central nervous system effects, similar to those listed under "inhalation".

Medical Conditions Aggravated by Exposure

Preexisting eye, skin, heart, central nervous system and respiratory disorders may be aggravated by exposure to this product.

Toxicological Information

TOLUENE can affect the body if it is inhaled, comes in contact with the eyes or skin or it is swallowed. It may also enter the body through the skin. Toluene vapors cause narcosis. Controlled exposures of human subjects to 200 ppm for 8 hours produced mild fatigue, weakness, confusion, lacrimation and paresthesia. At 600 ppm for 8 hours, there was euphoria, headache, dizziness, dilated pupils and nausea. At 800 ppm for 8 hours, symptoms were more pronounced, and after effects included nervousness, muscular fatigue and insomnia persisting for several days. In workers exposed for many years to concentrations in the range of 80 to 300 ppm, there was no clinical or laboratory evidence of altered liver function. Toluene exposure does not result in the same chronic injury to bone marrow caused by benzene. Liquid splashed in the eyes of workers has caused transient corneal damage and conjunctival irritation, complete recovery occurred within 48 hours. Animal studies have shown that inhalation of high levels of toluene produced cardiac sensitization. Such sensitization may cause fatal changes in heart rhythms. This later effect was shown to be enhanced by hypoxia or the injection of adrenalin-like agents. Workers exposed at less than 200 ppm have complained of headache, lassitude and nausea, but physical findings were essentially negative. At concentrations between 200 and 500 ppm, impairment of coordination, momentary loss of memory and anorexia were present. Between 500 and 1500 ppm, palpitation, extreme weakness, pronounced loss of coordination and impairment of reaction time were noted. The red cell count fell in many instances and there were cases of aplastic anemia in which recovery followed

VII. HEALTH HAZARD INFORMATION (cont'd)

Toxicological Information (cont'd)

intensive hospital treatment (although some of the effects may have been due to benzene impurity). Toluene has been reported to decrease immunological responses and cause recordable hearing loss in test animals. Damages genetic material in mammalian test systems. May cause adverse reproductive effects based on animal testing.

VIII. EMERGENCY AND FIRST AID INFORMATION

Treatment for Eye Contact

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if pain or redness continues.

Treatment for Skin Contact

Wash exposed area thoroughly with soap and water. Remove contaminated clothing promptly and launder before reuse. Contaminated leather goods should be discarded. If irritation persists or symptoms described in the MSDS develop, seek medical attention. High pressure skin injections are SERIOUS MEDICAL EMERGENCIES. Get immediate medical attention.

Treatment for Inhalation

Remove to fresh air. If breathing is difficult, ensure clear airway and administer oxygen. If not breathing, apply artificial respiration or cardiopulmonary resuscitation. Keep person warm, quiet and get medical attention.

Treatment for Ingestion

Never give anything by mouth to an unconscious person. DO NOT induce vomiting. Aspiration of material into the lungs due to vomiting can cause chemical pneumonitis which can be fatal. Give vegetable oil or charcoal slurry to retard absorption. If spontaneous vomiting occurs, keep head below hips to prevent aspiration of liquid into lungs and monitor for breathing difficulty. SEEK IMMEDIATE MEDICAL ATTENTION. Keep person warm and quiet.

Notes to Physician

In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption. Consideration should be given to the use of an intratracheal tube, to prevent aspiration. Irregular heart beat may occur, use of adrenalin is not advisable. Individuals intoxicated by the product should be hospitalized immediately, with acute and continuing attention to neurological and cardiopulmonary function. Positive pressure ventilation may be necessary. After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary edema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated. In case of skin injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss.

IX. PRECAUTIONARY MEASURES

Respiratory Protection

If workplace exposure limits for product or components are exceeded, NIOSH

Material Safety Data Sheet
Toluene

IX. PRECAUTIONARY MEASURES (cont'd)

Respiratory Protection (cont'd)

equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.

Eye Protection

Keep away from eyes. Eye contact can be avoided by wearing safety glasses or chemical splash goggles. Do not wear contact lenses when working around this product.

Skin Protection

Keep away from skin. Skin contact can be minimized by wearing protective gloves such as neoprene, nitrile-butadiene rubber, etc. and, where necessary, impervious clothing and boots. Leather goods contaminated with this product should be discarded. A source of clean water should be available in the work area for flushing eyes and skin.

Ventilation

Avoid breathing mists and vapor. Use in well ventilated area. In confined space, mechanical ventilation may be necessary to reduce vapor concentrations to levels below the allowable exposure limits.

Other Precautionary Measures

Tanks, vessels or other confined spaces which have contained product should be freed of vapors before entering. The container should be checked with an explosimeter for safety and an oxygen meter to ensure a safe breathing atmosphere before entry. Empty containers may contain toxic, flammable/combustible or explosive residues or vapors. Do not cut, grind, drill, weld or reuse empty containers that contained this product. Do not transfer this product to another container unless the container receiving the product is labeled with proper DOT shipping name, hazard class and other information that describes the product and its hazards.

Precautions to be Taken in Handling and Storing

Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch" load (load into containers which previously contained gasoline or other low flash material) because of possible accumulation of a static charge resulting in a source of ignition. Use good personal hygiene practices. After handling this product, wash hands before eating, drinking, smoking or using toilet facilities.

X. SPILL AND LEAK PROCEDURES

Precautions in Case of a Spill or Release

If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Extremely flammable. Review Fire and Explosion Hazard Data before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from

X. SPILL AND LEAK PROCEDURES (cont'd)

Precautions in Case of a Spill or Release (cont'd)

release. Contain spill in smallest possible area. Recover as much product as possible (e.g., by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment/drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 800-424-8802. For highway or railway spills, contact Chemtrec at 800-424-9300.

Waste Disposal Method

Dispose of material in accordance with local, county, state and federal regulations. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

XI. SARA TITLE III INFORMATION

Section 302/304 Extremely Hazardous Substances

None

Section 311 Hazard Category

Acute	Chronic	Fire	Pressure	Reactive	Not Applicable
X	X	X			

Section 313 Toxic Chemicals

Toluene

99+X

XII. LABELING INFORMATION

May cause irritation to eyes, skin and respiratory system. Avoid liquid, mist and vapor contact. Harmful or fatal if swallowed. Aspiration hazard, can enter lungs and cause damage. May cause irritation or be harmful if inhaled or absorbed through the skin. Avoid liquid, mist and vapor contact. Flammable Liquid. Vapors may explode.

If swallowed, do not induce vomiting, aspiration hazard. Call physician immediately. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Wash skin with soap and plenty of water. Product soaked clothing should be removed and laundered before reuse. Read Emergency and First Aid Information section of the MSDS.

Use only in well ventilated locations. Keep away from heat, spark and flames. In case of fire, use water spray, foam, dry chemical or carbon dioxide as described in the Fire and Explosion Hazard Data section of the MSDS. Do not pressurize, cut, weld, braze, solder, drill on or near this container. "Empty" container contains residue (liquid and/or vapor) and may explode in heat of a fire.

For industrial use only. Keep out of reach of children. Failure to use caution may cause serious injury or illness. Never siphon by mouth.

Material Safety Data Sheet
Toluene

DISCLAIMER

The information, recommendations and suggestions herein were compiled from reference material and other sources believed to be reliable. However, the MSDS's accuracy or completeness is not guaranteed by Phibro Energy, Inc. or its affiliates, nor is any responsibility assumed or implied for any loss or damage resulting from inaccuracies or omissions. Since conditions of use are beyond our control, no warranties of merchantability or fitness for a particular purpose are expressed or implied. This MSDS is not intended as a license to operate under, or recommendation to infringe on, any patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.

Prepared By:

Sue Bottom
Corporate Manager
Environmental Affairs & Safety



MATERIAL SAFETY DATA SHEET

MSDS NUMBER ▶

5,120-14

PAGE 1

97367 (4-85)

24 HOUR EMERGENCY ASSISTANCE			GENERAL MSDS ASSISTANCE		
SHELL: 713-473-9461 CHEMTREC: 800-424-9300			SHELL: 713-241-4819		
ACUTE HEALTH + 2	FIRE 3	REACTIVITY 0	HAZARD RATING	LEAST - 0 HIGH - 3	SLIGHT - 1 EXTREME - 4
*For acute and chronic health effects refer to the discussion in Section III					



SECTION I	NAME
PRODUCT ▶	ISOPROPYL ALCOHOL
CHEMICAL NAME ▶	IPA, ISOPROPANOL, 2-PROPANOL
CHEMICAL FAMILY ▶	ALCOHOL
SHELL CODE ▶	31110

SECTION II-A	PRODUCT/INGREDIENT	CAS NUMBER	PERCENT
NO.	COMPOSITION		
1	ISOPROPYL ALCOHOL (IPA)	67-63-0	100

SECTION II-B	ACUTE TOXICITY DATA		
NO.	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
1	5840 MG/KG (RAT)	13000 MG/KG (RABBIT)	12000 PPM (RAT) 8 HRS

SECTION III HEALTH INFORMATION

THE HEALTH EFFECTS NOTED BELOW ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

EYE CONTACT
MODERATELY IRRITATING TO THE EYES.

SKIN CONTACT
MILDLY IRRITATING TO THE SKIN.

INHALATION
MAY CAUSE MILD IRRITATION TO THE NOSE, THROAT AND RESPIRATORY TRACT AND MAY RESULT IN CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

INGESTION
IRRITATING TO THE GASTROINTESTINAL TRACT, CAUSING ABDOMINAL PAIN AND VOMITING, SOMETIMES BLOODY. INGESTION MAY CAUSE CNS DEPRESSION, LOW BLOOD PRESSURE, RAPID HEART BEAT AND LIVER DAMAGE.

SIGNS AND SYMPTOMS
IRRITATION AS NOTED ABOVE. EARLY TO MODERATE CNS (CENTRAL NERVOUS SYSTEM) DEPRESSION MAY BE EVIDENCED BY GIDDINESS, HEADACHE, DIZZINESS AND NAUSEA; IN EXTREME CASES, UNCONCIOUSNESS, RESPIRATORY DEPRESSION AND DEATH MAY OCCUR. LIVER DAMAGE MAY BE EVIDENCED BY LOSS OF APPETITE, JAUNDICE (YELLOWISH SKIN COLOR) AND SOMETIMES PAIN IN THE UPPER ABDOMEN ON THE RIGHT SIDE.

AGGRAVATED MEDICAL CONDITIONS

PREEXISTING EYE, SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. IMPAIRED FUNCTION FROM PREEXISTING DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

SEE SECTION VI FOR ADDITIONAL HEALTH INFORMATION.

SECTION IV OCCUPATIONAL EXPOSURE LIMITS

NO.	OSHA		ACGIH		OTHER
	PEL/TWA	PEL/CEILING	TLV/TWA	TLV/STEL	
1	400 PPM		400 PPM	500 PPM	500 PPM*

50% ODOR RECOGNITION THRESHOLD IS 7.5 PPM. *OSHA PEL/STEL.

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN CONTACT

FLUSH SKIN WITH WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

INHALATION

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION.

INGESTION

DO NOT GIVE LIQUIDS IF VICTIM IS UNCONSCIOUS OR VERY DROWSY. OTHERWISE, GIVE NO MORE THAN 2 GLASSES OF WATER AND INDUCE VOMITING BY GIVING 30CC (2 TABLESPOONS) SYRUP OF IPECAC.* IF IPECAC IS UNAVAILABLE, GIVE 2 GLASSES OF WATER AND INDUCE VOMITING BY TOUCHING FINGER TO BACK OF VICTIM'S THROAT. KEEP VICTIM'S HEAD BELOW HIPS WHILE VOMITING. GET MEDICAL ATTENTION.

NOTE TO PHYSICIAN

*IF VICTIM IS A CHILD, GIVE NO MORE THAN 1 GLASS OF WATER AND 15CC (1 TABLESPOON) SYRUP OF IPECAC. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE SHOULD BE CONSIDERED FOLLOWING INTUBATION WITH A CUFFED ENDOTRACHEAL TUBE.

SECTION VI SUPPLEMENTAL HEALTH INFORMATION

IPA: IN RESPONSE TO A TSCA TEST RULE, SEVERAL STUDIES OF IPA HAVE NOW BEEN COMPLETED. THE STUDIES AND THEIR RESULTS ARE AS FOLLOWS 1) BOTH MUTAGENICITY STUDIES, THE MOUSE MICRONUCLEUS AND CHD ASSAYS, WERE NEGATIVE. 2) RAT AND RABBIT ORAL TERATOGENICITY AND DEVELOPMENTAL TOXICOLOGY: A) THERE WAS NO EVIDENCE THAT IPA CAUSED TERATOGENICITY IN RATS OR RABBITS. B) DEVELOPMENTAL TOXICITY WAS SEEN IN RATS AT 1200 MG/KG (EVIDENCED BY DECREASED BODY WEIGHT**) WHILE NO DEVELOPMENTAL TOXICITY WAS SEEN IN THE RABBIT STUDY. FOR RATS, THE NOEL WAS 400 MG/KG; FOR RABBITS, 480 MG/KG. THIS WORK ALSO IDENTIFIED PREGNANT RABBITS TO BE APPROXIMATELY EIGHT TIMES MORE SENSITIVE TO IPA'S LETHAL EFFECTS THAN NON-PREGNANT RABBITS**.

OTHER TEST RULE RELATED STUDIES: 3) RAT ORAL REPRODUCTIVE TOXICITY: IN THE RAT REPRODUCTIVE TOXICITY STUDY, THE NOEL FOR REPRODUCTION INDICES WAS 1000 MG / KG, HOWEVER, THERE WAS A MARKED INCREASE IN POST - WEANING PUP MORTALITY AT THIS LEVEL**; THE NOEL FOR THIS EFFECT WAS 500 MG / KG. ALSO, THE NOEL FOR PARENTAL FEMALE BODY WEIGHT DECREASE WAS 100 MG / KG. 4) IN RAT INHALATION NEUROTOXICITY AND ORAL DEVELOPMENTAL NEUROTOXICITY STUDIES, THERE WAS NO EVIDENCE THAT IPA CAUSED NEUROTOXICITY IN ADULTS (MAX DOSE 5000 PPM) OR OFFSPRING (MAX DOSE 1200 MG / KG). 5) SUBCHRONIC RAT AND MOUSE INHALATION TOXICITY: THE SUBCHRONIC NOEL WAS 500 PPM BASED ON CLINICAL SIGNS OF CNS DEPRESSION (BOTH SPECIES) AND INCREASED BODY WEIGHT AND BLOOD EFFECTS (RAT ONLY) SEEN AT 1500 PPM. (NOTE: THE INFORMATION TAGGED BY "***" ABOVE WERE SUBMITTED TO EPA UNDER THE REQUIREMENTS OF TSCA 8(E).)

SECTION VII PHYSICAL DATA

BOILING POINT: 180 (DEG F)	SPECIFIC GRAVITY: 0.79 (H2O=1)	VAPOR PRESSURE: 32 @ 68 DEG F (MM HG)
MELTING POINT: -127 (DEG F)	SOLUBILITY: COMPLETE (IN WATER)	VAPOR DENSITY: 2.1 (AIR=1)
EVAPORATION RATE (N-BUTYL ACETATE = 1): 1.4		VOC: 100% @ 6.51 LB/GAL

APPEARANCE AND ODOR:
COLORLESS, MOBILE LIQUID. MILD ODOR.

SECTION VIII FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD: 53 DEG F --TCC	FLAMMABLE LIMITS /% VOLUME IN AIR LOWER: 2 UPPER: 12
---	--

EXTINGUISHING MEDIA
USE WATER-FOG, "ALCOHOL" FOAM, DRY CHEMICAL OR CO2.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS
WARNING: FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS), INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS
CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

SECTION IX REACTIVITY

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID:
AVOID HEAT, SPARKS, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS. DO NOT STORE OR HANDLE IN ALUMINUM EQUIPMENT AT TEMPERATURES ABOVE 120 DEG. F.

HAZARDOUS DECOMPOSITION PRODUCTS
CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION X EMPLOYEE PROTECTION

RESPIRATORY PROTECTION
IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SEC. IV) USE A NIOSH-APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134 USE EITHER AN ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

OSHA HAS ESTABLISHED TRANSITIONAL OCCUPATIONAL EXPOSURE LIMITS FOR THIS PRODUCT AND/OR COMPONENTS OF THIS PRODUCT. REFER TO 29 CFR 1910.1000 FOR THESE TRANSITIONAL LIMITS AND REQUIREMENTS FOR MEETING THESE LIMITS.

PROTECTIVE CLOTHING

AVOID CONTACT WITH EYES. WEAR CHEMICAL GOGGLES IF THERE IS LIKELIHOOD OF CONTACT WITH EYES. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. WEAR CHEMICAL-RESISTANT GLOVES AND OTHER CLOTHING AS REQUIRED TO MINIMIZE CONTACT. TEST DATA FROM PUBLISHED LITERATURE AND/OR GLOVE AND CLOTHING MANUFACTURERS INDICATE THE BEST PROTECTION IS PROVIDED BY NITRILE, NEOPRENE AND NATURAL RUBBER GLOVES.

ADDITIONAL PROTECTIVE MEASURES

USE EXPLOSION-PROOF VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS. EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE FOR EMERGENCY USE.

SECTION XI ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES

WARNING. FLAMMABLE. ELIMINATE ALL IGNITION SOURCES. HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING. *** LARGE SPILLS *** EVACUATE THE HAZARD AREA OF UNPROTECTED PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. IF VAPOR CLOUD FORMS, WATER FOG MAY BE USED TO SUPPRESS; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE. *** SMALL SPILLS *** TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS; SEAL TIGHTLY FOR PROPER DISPOSAL.

SECTION XII SPECIAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHTS, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE.

VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE; FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION. CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS. DO NOT PRESSURIZE DRUM CONTAINERS TO EMPTY THEM. STATIC ELECTRICITY MAY ACCUMULATE AND CREATE A FIRE HAZARD. GROUND FIXED EQUIPMENT. BOND AND GROUND TRANSFER CONTAINERS AND EQUIPMENT.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. LAUNDRER CONTAMINATED CLOTHING BEFORE REUSE. AIR-DRY CONTAMINATED CLOTHING IN A WELL VENTILATED AREA BEFORE LAUNDERING.

DO NOT STORE OR HANDLE IN ALUMINUM EQUIPMENT AT TEMPERATURES ABOVE 120 DEG. F.

SECTION XIII TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION:

FLAMMABLE LIQUID

D.O.T. PROPER SHIPPING NAME:

ISOPROPANOL

OTHER REQUIREMENTS:

DOT ID NUMBER = UN 1219 - GUIDE SHEET 26

SECTION XIV OTHER REGULATORY CONTROLS

THIS PRODUCT IS LISTED ON THE EPA/TSCA INVENTORY OF CHEMICAL SUBSTANCES.

IN ACCORDANCE WITH SARA TITLE III, SECTION 313, THE ENVIRONMENTAL DATA SHEET (EDS) SHOULD ALWAYS BE COPIED AND SENT WITH THE MSDS.

SECTION XV

STATE REGULATORY INFORMATION

THE FOLLOWING CHEMICALS ARE SPECIFICALLY LISTED BY INDIVIDUAL STATES; OTHER PRODUCT SPECIFIC HEALTH AND SAFETY DATA IN OTHER SECTIONS OF THE MSDS MAY ALSO BE APPLICABLE FOR STATE REQUIREMENTS. FOR DETAILS ON YOUR REGULATORY REQUIREMENTS YOU SHOULD CONTACT THE APPROPRIATE AGENCY IN YOUR STATE.

STATE LISTED COMPONENT	PERCENT	STATE CODE
ISOPROPYL ALCOHOL (CAS NO: 67-63-0)	100	CA, FL, IL, MA, ME, MN, NJ, PA, RI

CA = CALIFORNIA HAZ. SUBST. LIST; CA65 = CALIFORNIA SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT LIST; FL = FLORIDA SUBST. LIST; IL = ILLINOIS TOX. SUBST. LIST; MA = MASSACHUSETTS SUBST. LIST; ME = MAINE HAZ SUBST. LIST; MN = MINNESOTA HAZ. SUBST. LIST; NJ = NEW JERSEY HAZ. SUBST. LIST; PA = PENNSYLVANIA HAZ. SUBST. LIST; RI = RHODE ISLAND HAZ. SUBST. LIST.

SECTION XVI

SPECIAL NOTES

SEE ENVIRONMENTAL DATA SHEET FOR WASTE DISPOSAL AND OTHER ENVIRONMENTAL INFORMATION. THIS MSDS REVISION HAS CHANGES IN SECTIONS III.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, SHELL MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SHELL ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

DATE PREPARED: DECEMBER 04, 1991

G. A. VAN GELDER

BE SAFE

READ OUR PRODUCT
SAFETY INFORMATION ... AND PASS IT ON
(PRODUCT LIABILITY LAW
REQUIRES IT)

SHELL OIL COMPANY
PRODUCT SAFETY AND COMPLIANCE
P. O. BOX 4320
HOUSTON, TX 77210



ENVIRONMENTAL DATA SHEET

EDS NUMBER ▶ 5,120-2

PAGE 1

97449 (9-87)

PRODUCT ▶	ISOPROPYL ALCOHOL
PRODUCT CODE ▶	31110

SECTION I PRODUCT/COMPOSITION

NO.	COMPONENT	CAS NUMBER	PERCENT
P	ISOPROPYL ALCOHOL	67-63-0	100

SECTION II SARA TITLE III INFORMATION

NO.	EHS RQ (LBS) (*1)	EHS TPQ (LBS) (*2)	SEC 313 (*3)	313 CATEGORY (*4)	311/312 CATEGORIES (*5)
P					H-1, P-3

FOOTNOTES

- *1 = REPORTABLE QUANTITY OF EXTREMELY HAZARDOUS SUBSTANCE, SEC.302
- *2 = THRESHOLD PLANNING QUANTITY, EXTREMELY HAZARDOUS SUBSTANCE, SEC 302
- *3 = TOXIC CHEMICAL, SEC 313
- *4 = CATEGORY AS REQUIRED BY SEC 313 (40 CFR 372.65 C), MUST BE USED ON TOXIC RELEASE INVENTORY FORM
- *5 = HAZARD CATEGORY FOR SARA SEC. 311/312 REPORTING

HEALTH	H-1 = IMMEDIATE (ACUTE) HEALTH HAZARD	H-2 = DELAYED (CHRONIC) HEALTH HAZARD
PHYSICAL	P-3 = FIRE HAZARD	P-4 = SUDDEN RELEASE OF PRESSURE HAZARD
	P-5 = REACTIVE HAZARD	

SECTION III ENVIRONMENTAL RELEASE INFORMATION

KEEP OUT OF SURFACE WATERS, SEWERS, AND WATERWAYS ENTERING OR LEADING TO SURFACE WATERS. NOTIFY AUTHORITIES IF ANY EXPOSURE TO THE GENERAL PUBLIC OR ENVIRONMENT OCCURS OR IS LIKELY TO OCCUR.

SECTION IV RCRA INFORMATION

UNDER EPA-RCRA (40 CFR 261.21), IF THIS PRODUCT BECOMES A WASTE MATERIAL, IT WOULD BE IGNITABLE HAZARDOUS WASTE, HAZARDOUS WASTE NUMBER D001. REFER TO LATEST EPA OR STATE REGULATIONS REGARDING PROPER DISPOSAL.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, SHELL MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SHELL ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

DATE PREPARED: NOVEMBER 04, 1991

SHELL OIL COMPANY
SAFETY, INDUSTRIAL HYGIENE AND ENVIRONMENT
P. O. BOX 4320
HOUSTON, TX 77210

FOR ADDITIONAL INFORMATION ON THIS ENVIRONMENTAL DATA PLEASE CALL
(713) 241-2252

FOR EMERGENCY ASSISTANCE PLEASE CALL
SHELL: (713) 473-9461
CHEMTREC: (800) 424-9300

**Novacor**

METHANOL LABEL INFORMATION

CAS Registry Number: 67-56-1

FLAMMABLE LIQUID, EYE IRRITANT, INGESTION HAZARD

RISK PHRASES

- Eliminates all ignition sources, stop spill and use absorbent materials.
- Burns with a clean clear flame which is almost invisible in daylight.
- Eye irritant. Toxic by ingestion.

PRECAUTIONARY MEASURES

- In confined areas, local and general ventilation should be provided to maintain airborne concentrations below permissible exposure limits.
- Electrically ground and bond containers when transferring is taking place.
- Face shield and safety glasses with side shield when transferring is taking place.
- Wear chemical resistant pants and jackets, preferably neoprene.
- Store in totally enclosed equipment, designed to avoid human contact.

FIRST AID MEASURES

- Remove to fresh air, restore or assist breathing, obtain medical attention immediately.
- Dilute stomach contents by giving large amounts of water or milk and induce vomiting. Seek medical attention.
- Flush eyes immediately with gently running water for 15 minutes, ensuring all surfaces and crevices are flushed. Obtain medical attention if necessary.
- Remove clothing and wash under shower with soap and water for 15 minutes. Seek medical attention if irritation occurs.
- **Read the Material Safety Data Sheet before using this product.**
- **EMERGENCY TELEPHONE NUMBER: 1-403-527-8141**

NOVACOR CHEMICALS INC., 1 Gatehall Drive, Parsippany, New Jersey, USA, 07054.


Novacor
METHANOL MATERIAL SAFETY DATA SHEET
1. PRODUCT INFORMATION

Product Name	METHANOL
Trade Name/Synonyms	Methyl alcohol, methyl hydrate
WHMIS Classification	B2, D1A
U.N. Number	1230
TDG Classification	TDG Class 3.2 and 6.1, Packing Group II
Product Use	Solvent, fuel, feedstock
Emergency Phone No.	1-403-527-8141

2. HAZARDOUS COMPONENTS

	Wt %	CAS No.	LD50	LC50
Methyl Alcohol	99.85%	67-56-1	6.2-13.0 g/kg (Oral, rat) 20 ml/kg (Dermal, rabbit)	64,000 ppm (Rat, Inhal.)

3. POTENTIAL HEALTH EFFECTS

Skin Contact: Yes

Skin Absorption: Yes

Eye Contact: Yes

Ingestion: Yes

Inhalation: Yes

Exposure Limits

Methyl alcohol: ACGIH TLV-TWA = 200 ppm, STEL = 250 ppm - Skin notation
OSHA PEL = 200 ppm, STEL = 250 ppm - Skin

Irritancy of Product

1000 ppm in air may cause irritation of mucous membrane

Sensitization

No

Synergism with

Not available

Short Term Effects

Swallowing even small amounts of methanol can cause blindness and death other effects may be nausea, headache, abdominal pain, vomiting and visual disturbances ranging from blurred vision to light sensitivity. Inhalation of high airborne concentration can also irritate mucous membranes, cause headaches, sleepiness, nausea, confusion, loss of consciousness, digestive and visual disturbances and death. NOTE: The odor threshold of methanol is several times higher than the TLV-TWA. High vapor concentration or liquid contact causes irritation, tearing and burning. May be absorbed through the skin in toxic or lethal amounts. Causes mild irritation, redness, cracking and drying. Repeated exposure by inhalation or absorption may cause systemic poisoning, brain disorders, impaired vision and blindness. Inhalation may worsen conditions such as emphysema or bronchitis. Repeated skin contact may cause irritation, dryness and cracking.

Long Term Effects

Reproductive Effects

Reported to cause birth defects in rats exposed to 20,000 ppm

Teratogenicity

No

Mutagenicity

No

Carcinogenicity

Not listed with IARC, NTP, ACGIH or OSHA as a carcinogen


Novacor

METHANOL MATERIAL SAFETY DATA SHEET

4. FIRST AID INFORMATION

Skin	Remove contaminated clothing and wash under shower with soap and water for 15 minutes. Seek medical attention if irritation occurs.
Eye	Flush immediately with gently running water for 15 minutes, ensuring all surfaces and crevices are flushed. Obtain medical attention.
Inhalation	Remove to fresh air, restore or assist breathing if necessary, obtain medical attention immediately.
Ingestion	Swallowing methanol is life threatening. If conscious and medical aid is not immediately available, dilute stomach contents by giving large amounts of water or milk and induce vomiting. Transport to medical attention immediately.

5. FIRE AND EXPLOSION HAZARD

Flammable/Combustible (yes/no)	Yes
If yes, under what conditions?	In the presence of an ignition source.
Extinguishing Media	Water spray, dry powder, AFFF (Aqueous Film Forming Foam), Alcohol resistant type with 6% foam proportioning equipment or CO ₂
Special Firefighting Instructions	Methanol burns with a clean clear flame which is almost invisible in daylight. Concentrations of greater than 20% methanol in water can be ignited. Water may be ineffective depending upon depth of methanol burning. Use fine water spray or fog to control fire spread and cool structures or containers. Fire fighters must wear full face, positive pressure, self-contained breathing apparatus or airline and appropriate protective clothing.
Flashpoint and Method	11°C (52°F)(TCC)
Lower Explosive Level (% volume)	6 %
Upper Explosive Level (% volume)	36 %
Auto Ignition Temp.	385°C (725°F)
Impact/Shock Sensitivity	Not available
Rate of Burning	Not available
Sensitivity to Static Discharge	Low
Hazardous Combustion Products	Toxic gases and vapors; oxides of carbon and formaldehyde.

6. REACTIVITY DATA

Chemically Stable (yes/no)	Yes
If no, under what conditions?	Not applicable
Incompatible with other substances	Yes
If yes, which ones?	Strong oxidizers, strong acids, strong bases. May be corrosive to lead and aluminum
Conditions of Reactivity	Presence of incompatible materials and ignition sources.
Hazardous Decomposition Products	Formaldehyde and carbon monoxide


Novacor

METHANOL MATERIAL SAFETY DATA SHEET

7. SPILL AND LEAK RESPONSE

Spill or Leak Response

Extremely flammable liquid. Release can cause an immediate fire/explosion hazard. Eliminate all ignition sources, stop spill and use absorbent materials. If necessary, contain spill by diking. Maximize methanol recovery for recycling or reuse if applicable. Collect liquid with explosion proof pumps. For small spills, collect with a non-combustible sorbent. Recover methanol or dilute with water to reduce fire hazard. Prevent it from entering sewer, confined spaces, drains or waterways. Restrict access to unprotected personnel. Full-face, positive pressure self-contained breathing apparatus or airline and protective clothing must be worn.

Waste Disposal

Incineration is the recommended disposal method. Biodegradation may be used on dilute aqueous waste methanol. Methanol wastes are not suitable for underground injection. Waste materials must be disposed of in accordance with your municipal, state, provincial and federal regulations. Contact the proper authorities for specific instructions or contact the 24 HOUR EMERGENCY NUMBER: (403) 527-8141.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT

Engineering Controls

In confined areas, local and general ventilation should be provided to maintain airborne concentrations below permissible exposure limits. Ventilation systems must be designed according to approved engineering standards.

PERSONAL PROTECTIVE EQUIPMENT
Gloves

Butyl and nitrile rubbers are recommended. Check with glove manufacturer.

Respiratory

NIOSH approved supplied air respirators; NIOSH approved cartridges to the best of our knowledge are NOT available because of poor warning properties.

Eye

Face shield and safety glasses with side shield when transferring is taking place.

Footwear

Chemical resistant.

Clothing

Wear chemical resistant pants and jackets, preferably butyl or nitrile rubber. Check with manufacturer.

Other

Not available

PPE must not be considered a long term solution to exposure control. PPE must be accompanied by employer programs to properly select, maintain, clean, fit and use. Consult a competent industrial hygiene resource to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

9. STORAGE AND HANDLING REQUIREMENTS

Storage

Store in totally enclosed equipment, designed to avoid ignition and human contact. Tanks must be grounded and vented and should be nitrogen blanketed. Tanks must be diked. Avoid storage with incompatible materials.

Handling

No smoking or open flame in storage, use or handling areas. Use explosion proof electrical equipment. Ensure proper electrical grounding procedures are in place.

Shipping Information

All shipments of methanol must be properly classified, described, packaged, marked and labelled to conform with regulations set by Transport Canada, Transportation of Dangerous Goods Regulations and U.S. Department of Transport (DOT), Bureau of Explosives and Hazardous Materials Regulations.


Novacor

METHANOL MATERIAL SAFETY DATA SHEET

10. PHYSICAL DATA

Physical State	Liquid
Odor	Slight alcohol odor
Odor Threshold	2000 ppm, Irritation at 1000 ppm, poor warning properties
Appearance	Clear, colorless
Specific Gravity	0.792 (H ₂ O = 1)
Freezing Point	-97.8° C (-144° F)
Boiling Point	64.5° C (148° F)
Vapor Pressure	96 mm Hg at 20° C (68° F)
Vapor Density (air=1)	1.105 at 15° C (59° F)
Evaporation Rate (n-Butyl acetate = 1)	2.1
Volatile, Percent by Volume	100%
Solubility in Water at 20° C	Soluble
pH	Not available
Water/Oil Distribution Coefficient	Readily soluble in water, separates from oil.

11. REGULATORY INFORMATION

Transportation	Canadian TDG: Methanol, Flammable Liquid, 3.2 (6.1), UN 1230, Packing Group II
WHMIS - Canada	USA DOT: Methyl Alcohol (RQ 5000/2270), Flammable Liquid, UN 1230
OSHA - USA	B2, D1A
Other	Hazardous according to 29 CFR 1910.1200
	OSHA 29 CFR 1910.1200: Hazardous
	NFPA Rating: Health = 1, Fire = 3, Reactivity = 0

12. SUPPLEMENTAL INFORMATION

NOTES TO PHYSICIAN: Acute exposure to methanol, either through ingestion or breathing very high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours. Symptoms and signs are usually limited to the CNS eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with Ipecac or lavage is indicated in any patient presenting within two hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended.

**Novacor****METHANOL MATERIAL SAFETY DATA SHEET****13. PREPARATION INFORMATION**

Prepared by Novacor Chemicals Ltd.
Toxicology and Product Safety
P.O. Box 2535, Station M
Calgary, Alberta T2P 2N6
Telephone: 1-403-290-6023

Date of Issue November 16, 1992
Previous Issue July 17, 1992

References Used American Conference of Governmental Industrial Hygienists, Documentation of
Threshold Limit Values, 1991-1992
Proctor & Hughes Chemical Hazards of the Workplace (1978)
CCOHS 92-2 and Methanol Chemical Infogram
Clinical Toxicology of Commercial Products, 5th Edition
Dangerous Goods Initial Emergency Response Guide 1992, Transport Canada

Indicates the location of a change from the previous issue of this MSDS.

For additional copies of this MSDS, please call (403)-527-8141 extension 225

 **Novacor** is a trademark of NOVA Corporation of Alberta used under licence

The above represents our present knowledge about this product. Work is continuing to assess the properties and characteristics for compliance under new governmental laws and regulations as they are ratified.

Novacor Chemicals Inc., One Gatehall Drive, Parsippany, New Jersey, USA, 07054

ISSUE DATE: November 16, 1992

PAGE 5 of 5

OF (R) 1057 EMULSION BREAKER INTERMEDIATE
 MSDS ID: 6-002866

1 - GENERAL INFORMATION

CHEMLINK PETROLEUM
 9100 W. 21ST STREET
 SAND SPRINGS, OK 74063

800/424-9300 ChemTrec
 800/444-8969 Emergency
 918/245-2224 Information

TRADE NAME
 OFC 1057 EMULSION BREAKER INTERMEDIATE

MSDS NO.: 3-002866
 DATE REVISED: 02-26-87

GENERIC NAME
 ALKYLARYL SULFONIC ACID
 DOT PROPER SHIPPING NAME
 ALKYLARYL SULFONIC ACID
 DOT HAZARD CLASS
 CORROSIVE MATERIAL

UN/NA NUMBER
 UN 2584

2 - SUMMARY OF HAZARDS

DANGER
 PHYSICAL HAZARDS:

CORROSIVE TO METALS
 SLIGHTLY COMBUSTIBLE LIQUID

ACUTE HEALTH EFFECTS:
 (SHORT-TERM)

EXTREME INHALATION HAZARD
 CORROSIVE TO EYES
 CORROSIVE TO SKIN
 HIGH INGESTION HAZARD
 NO SKIN ABSORP. HAZARD IDENTIFIED FROM DATA FOUND

CHRONIC HEALTH EFFECTS:
 (LONG-TERM)

NO LONG TERM HEALTH HAZARDS HAVE BEEN ATTRIBUTED
 TO THIS MATERIAL. IN GENERAL, REPEATED CONTACT
 WITH EVEN SMALL AMOUNTS OF A CORROSIVE IRRITANT
 CAN CAUSE DERMATITIS AND SHOULD BE AVOIDED.

3 - COMPONENTS

COMPONENT NAME	CAS NUMBER	% COMPOSITION BY (WT.)
TRADE SECRET 2866-01# *SULFURIC ACID	7664-93-9	1

* THIS IS A SARA SECTION 313 LISTED CHEMICAL

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT
 N/DA
 FREEZING POINT
 N/DA
 SPECIFIC GRAVITY (H2O=1 AT 39.2F)
 1.06
 VISCOSITY UNITS, TEMP. (BROOK)
 GT 100 100F
 VAPOR PRESSURE
 LT 1.0 MM HG AT 70F
 VAPOR SP GR (AIR=1 AT 60 - 90F)
 GT 1.0
 APPEARANCE AND ODOR
 DARK BROWN LIQUID; STRONG ACID ODOR.

PH
 LT 3.0
 DRY POINT
 N/DA
 VOLATILE CHARACTERISTICS
 SLIGHT
 SOLUBILITY IN WATER
 COMPLETE
 STABILITY
 STABLE
 HAZARDOUS POLYMERIZATION
 NOT EXPECTED TO OCCUR

DFC(R) 1057 EMULSION BREAKER INTERMEDIATE
 MSDS ID: 8-002866

 4 - PHYSICAL AND CHEMICAL DATA (continued)

CONDITIONS AND MATERIALS TO AVOID

CORROSIVE TO STEEL, BRASS AND ALUMINUM.
 STRONG OXIDIZING AGENTS, ALKALI AND MOST METALS.
 HAZARDOUS DECOMPOSITION PRODUCTS

OXIDES OF SULFUR, CARBON DIOXIDE, HYDROGEN.

 5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
SULFURIC ACID	OSHA	1971	TWA	1 MG/M3	8 HRS

 6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(PMCC) AUTOIGNITION TEMP. METHOD=
 GT 200F UK

FLAMMABLE LIMITS (% VOLUME IN AIR)

LOWER: N/DA

UPPER: N/DA

FIRE AND EXPLOSION HAZARDS

ON CONTACT WITH ORDINARY METALS (STEEL, GALVANIZED, ALUMINUM) CORROSION MAY OCCUR AND GENERATE HIGHLY FLAMMABLE HYDROGEN GAS. RELEASED GASES MAY ACCELERATE THE BURNING OF OTHER COMBUSTIBLE MATERIALS. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. OVERPRESSURE CAN ALSO OCCUR, RUPTURING CLOSED CONTAINERS.

EXTINGUISHING MEDIA

DRY CHEMICAL

CO2

WATER SPRAY

WATER FOG

SPECIAL FIREFIGHTING PROCEDURES

DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. DO NOT PUT OUT FLAMMABLE GAS FIRE BEFORE GAS FLOW STOPPED, TO AVOID REIGNITION. ALLOW BURNOUT THEREAFTER. IF UNSTOPPABLE FLOW, USE WATER SPRAY/FOG TO LIMIT EXPOSED AREA. IF VAPOR UNIGNITED, DO NOT ENTER AREA. USE WATER SPRAY/FOG TO DISPERSE VAPORS BELOW FLAMMABLE LIMIT. EXTINGUISH ALL IGNITION SOURCES. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

 7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION

EXPOSURE FOR EVEN A SHORT TIME MAY CAUSE COUGHING, SHORTNESS OF BREATH, COLLAPSE, AND DEATH. HOWEVER, DUE TO LOW VAPOR PRESSURE INHALATION WOULD BE UNLIKELY EXCEPT IF MATERIAL WAS AT ELEVATED TEMPERATURE AND/OR PRESSURES.

EYE CONTACT -- PRIMARY ROUTE

MAY CAUSE DESTRUCTION OF EYE TISSUE.

SKIN ABSORPTION

NO SIGNIFICANT SIGNS OR SYMPTOMS INDICATIVE OF ANY HEALTH HAZARD ARE EXPECTED TO OCCUR AS A RESULT OF SKIN ABSORPTION EXPOSURE.

SKIN IRRITATION -- PRIMARY ROUTE

MAY PRODUCE SKIN IRRITATION, BLISTERING, ULCERS, AND DEEP SCARRING.

INGESTION

INGESTION OF THIS MATERIAL MAY CAUSE CORROSION OR IRRITATION OF THE LININGS OF THE MOUTH, THROAT, AND GASTROINTESTINAL TRACT.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY DEFAT SKIN, CAUSE CONTACT DERMATITIS, OR OTHERWISE AGGRAVATE EXISTING SKIN DISEASE.

OFC (R) 1057 EMULSION BREAKER INTERMEDIATE
MSDS ID: 8-002866

7 - HEALTH HAZARDS (continued)

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EVEN APPROACH THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE AS SPECIFIED IN THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING/SPRAYING LIQUID AIRBORNE PARTICLES OR VAPOR. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

FULLY ENCLOSED IMPERVIOUS PROTECTIVE SUIT WITH INTEGRAL OR TIGHT-FITTING GLOVES, BOOTS, SELF-CONTAINED OR SUPPLIED AIR RESPIRATOR MUST BE WORN. CLEAN AFTER EACH USE.

ENGINEERING CONTROLS

BOTH LOCAL EXHAUST AND GENERAL ROOM VENTILATION ARE USUALLY REQUIRED TO MEET EXPOSURE STANDARD(S).

OTHER HYGIENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

THIS MATERIAL SHOULD NOT BE DILUTED WITH WATER OR NEUTRALIZED WITH STRONG BASES SUCH AS CAUSTIC OR AMMONIA EXCEPT UNDER SUPERVISION AND FOLLOWING SAFE AND PROPER CHEMICAL ENGINEERING PROCEDURES.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

FOR EVEN MINOR EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT

FOR EVEN MINOR CONTACT, IMMEDIATELY REMOVE CONTAMINATED CLOTHING/WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER OR MILK (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING BECAUSE OF CORROSIVE EFFECTS. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

MAINTAIN AIRWAY. IF PATIENT IS CYANOTIC, PROVIDE ARTIFICIAL VENTILATION/OXYGEN IMMEDIATELY. CPR MAY BE INDICATED.

IF EYE PAIN, BLINKING, TEARS, OR REDNESS CONTINUE, PATIENT SHOULD CONTACT OPHTHALMOLOGIST.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

MAY CONTAMINATE WATER SUPPLIES/CORRUDE EQUIPMENT/ BE TOXIC TO AQUATIC LIFE/IRRITATE EYES AND SKIN. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. USE NON-CORRODABLE DISPOSAL CONTAINERS. NEUTRALIZE COLLECTED WASTE. UN WATER, CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE (CORROSIVE) BASED ON PH (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. ACIDIC OR ALKALINE AQUEOUS

OFC (R) 1057 EMULSION BREAKER INTERMEDIATE
MSDS ID: 8-002866-----
10 - SPILL AND DISPOSAL (continued)

WASTE MAY BE DISCHARGED TO PUBLIC WATERS AFTER IT HAS BEEN DILUTED, NEUTRALIZED, OR TREATED AND IS FREE OF FLOATING OIL. ASSURE DISCHARGE COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

MATERIAL SAMPLING PROCEDURES SHOULD AVOID VAPOR INHALATION AND SKIN/EYE CONTACT AND ONLY BE CONDUCTED WITH PROPER PROTECTIVE EQUIPMENT. USE SPECIAL CARE WHEN HANDLING/TRANSPORTING SAMPLES. STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS WITH VENTS DIRECTED TO LOCATIONS REMOVED FROM POTENTIAL PERSONNEL EXPOSURE. ALL CONTAINERS SHOULD BE LABELLED TO WARN AGAINST EXPOSURE. HANDLE "EMPTY" CONTAINERS WITH CARE/RESIDUE MAY BE COMBUSTIBLE.

DECONTAMINATION PROCEDURES

WHEN CLEANING OR REPAIRING EQUIPMENT CONTAMINATED WITH THIS MATERIAL, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN TO PREVENT ANY CONTACT. A POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS AND/OR A SUPPLIED AIR RESPIRATOR SHOULD BE USED.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

ANGER

PHYSICAL HAZARDS

CORROSIVE TO METALS
COMBUSTIBLE

HEALTH HAZARDS

EXTREME INHALATION HAZARD
CORROSIVE TO EYES
CORROSIVE TO SKIN
HIGH INGESTION HAZARD
PRECAUTIONARY MEASURES

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
DO NOT STORE NEAR COMBUSTIBLE MATERIALS.
STORE IN TIGHTLY CLOSED CONTAINERS.
DO NOT GET IN EYES.
AVOID CONTACT WITH SKIN.
HAVE AVAILABLE EMERGENCY SELF-CONTAINED OR SUPPLIED AIR RESPIRATOR.
PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
DO NOT TASTE/SWALLOW.

13 - SUPPLEMENT

IN PURE FORM, THIS MATERIAL IS A STRONG ACID WHICH CAN BE CORROSIVE TO EYES, SKIN, AND MUCOUS MEMBRANES. ITS CORROSIVITY WILL DIMINISH WHEN DILUTED IN WATER, AS A FUNCTION OF ITS PH. EXPOSURES WOULD BE EXPECTED TO BE SELF-LIMITING DUE TO THE IRRITANT PROPERTIES OF THIS MATERIAL.
SUPPLEMENT TO COMPONENT HEALTH HAZARDS - SULFURIC ACID
IN A CASE CONTROL EPIDEMIOLOGY STUDY (COHORT 50; CONTROLS 50), SULFURIC ACID WAS FOUND TO INCREASE THE RISK FOR LARYNGEAL CANCER BY A FACTOR OF 4. (INHALATION ROUTE) (SUSKOLNE AND ZEIGHAMI, AM. J. EPIDEMIOL 118:151, 1983)

THIS STUDY HAS NOT BEEN CONFIRMED. HOWEVER, BECAUSE OF THE RELATIVELY SMALL COHORT IN THE STUDY AND THE FACT THAT NO OTHER POSITIVE STUDY WAS FOUND IN THE SEARCH, IT MAY BE PREMATURE TO LABEL SULFURIC ACID A HUMAN CARCINOGEN.

OFC (R) 1057 EMULSION BREAKER INTERMEDIATE
MSDS ID: 6-002866-----
13 - SUPPLEMENT (continued)

ACID MUST BE TRANSFERRED THROUGH HOSE RATED AND CERTIFIED FOR THIS SERVICE. ANY SUCH HOSE IN DETERIORATED PHYSICAL CONDITION MUST NOT BE USED IN THIS SERVICE.

EMPTY CONTAINER SHOULD BE THOROUGHLY RINSED WITH COPIOUS AMOUNTS OF CLEAN WATER. THE RINSE WATER SHOULD BE PROPERLY DISCARDED.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ	= EQUAL	AP	= APPROXIMATELY
LT	= LESS THAN	GT	= GREATER THAN
TR	= TRACE	UK	= UNKNOWN
N/AP	= NOT APPLICABLE	N/P	= NO APPLICABLE INFORMATION FOUND
N/DA	= NO DATA AVAILABLE		

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS 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.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

OF C (R) 1085 EMULSION BREAKER INTERMEDIATE
 MSDS ID: 6-002702

1 - GENERAL INFORMATION

CHEMLINK PETROLEUM
 9100 W. 21ST STREET
 SAND SPRINGS, OK 74063

 800/424-9300 ChemTrec
 800/232-1616 Emergency
 800/772-5660 In Oklahoma
 918/493-4347 Out Cont. US

GENERIC NAME: OXALKYLATED PHENOLIC RESIN
 DOT PROPER SHIPPING NAME: COMBUSTIBLE LIQUID, N.O.S.
 DOT HAZARD CLASS: COMBUSTIBLE LIQUID
 UN/NA NUMBER: NA 1993
 DATE REVISED: 4-19-88
 NFPA CLASSIFICATION: HEALTH:(1) FLAMMABILITY:(2) REACTIVITY:(0)
 SPECIFIC HAZARD:(N/A)
 DOT/CERCLA RQ: 7400 LBS (XYLENE)

2 - SUMMARY OF HAZARDS

WARNING
 PHYSICAL HAZARDS: MODERATELY COMBUSTIBLE LIQUID

 ACUTE HEALTH EFFECTS: (SHORT-TERM)
 NO DATA FOUND; SUSPECT INHALATION HAZARD
 NO DATA FOUND; SUSPECT EYE CONTACT HAZARD
 NO DATA FOUND; SUSPECT SKIN IRRITATION HAZARD
 NO DATA FOUND; SUSPECT INGESTION HAZARD
 NO DATA FOUND ON SKIN ABSORPTION

 CHRONIC HEALTH EFFECT: (LONG TERM)
 SEE SUPPLEMENT.

3 - COMPONENTS

COMPONENT NAME	CAS NUMBER	% COMPOSITION BY (WT.)
*XYLENE HEAVY AROMATIC SOLVENT TRADE SECRET 2702-01#	1330-20-7 64741-68-0	< 19

* THIS IS A SARA SECTION 313 LISTED CHEMICAL

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT AP 280F	PH N/DA
FREEZING POINT N/DA	DRY POINT N/DA
SPECIFIC GRAVITY (H2O=1 AT 39.2F) AP 1.02	VOLATILE CHARACTERISTICS SLIGHT
VISCOSITY UNITS, TEMP. N/DA	SOLUBILITY IN WATER SLIGHT
VAPOR PRESSURE 4.5 MM HG AT 70F	STABILITY STABLE
VAPOR SP GR (AIR=1 AT 60 - 90F) N/DA	HAZARDOUS POLYMERIZATION NOT EXPECTED TO OCCUR

OFC(R) 1085 EMULSION BREAKER INTERMEDIATE
 MSDS ID: 6-002702

4 - PHYSICAL AND CHEMICAL DATA (continued)

APPEARANCE AND ODOR
 DARK BROWN LIQUID - ALCOHOL ODOR
 CONDITIONS AND MATERIALS TO AVOID
 HEAT AND OPEN FLAME
 STRONG OXIDIZING AGENTS; STRONG ALKALIES
 HAZARDOUS DECOMPOSITION PRODUCTS
 INCOMPLETE COMBUSTION MAY PRODUCE CARBON MONOXIDE AND/OR OXIDES OF SULFUR.

5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
XYLENE	OSHA	1971	PEL	100 PPM	8 HRS
	ACGIH	1987	TWA	100 PPM	8 HRS
			STEL	150 PPM	15 MIN

6 - FIRE AND EXPLOSION

FLASH POINT METHOD= 103F
 AUTOIGNITION TEMP. METHOD= AP 867F
 FLAMMABLE LIMITS (% VOLUME IN AIR)
 AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
 LOWER: 1.0 UPPER: 7.0
 FIRE AND EXPLOSION HAZARDS
 WHEN HEATED ABOVE FLASH POINT, RELEASES VAPORS. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. FINE SPRAYS/MIST MAY BE COMBUSTIBLE AT TEMPERATURES BELOW NORMAL FLASH POINT.
 EXTINGUISHING MEDIA
 DRY CHEMICAL
 CO2
 WATER SPRAY
 FOAM
 WATER FOG
 SPECIAL FIREFIGHTING PROCEDURES
 DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING LIQUID MAY FLOAT ON WATER. ALTHOUGH SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE
 INHALATION -- PRIMARY ROUTE
 PROLONGED OVEREXPOSURE MAY CAUSE COUGHING, SHORTNESS OF BREATH, DIZZINESS AND INTOXICATION.
 EYE CONTACT -- PRIMARY ROUTE
 ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE SEVERE EYE IRRITATION.
 SKIN ABSORPTION
 NO SIGNIFICANT SIGNS OR SYMPTOMS INDICATIVE OF ANY HEALTH HAZARD ARE EXPECTED TO OCCUR AS A RESULT OF SKIN ABSORPTION EXPOSURE.
 SKIN IRRITATION -- PRIMARY ROUTE
 ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SEVERE SKIN IRRITANT.

OFC(R) 1085 EMULSION BREAKER INTERMEDIATE
MSDS ID: 8-002702

7 - HEALTH HAZARDS (continued)

INGESTION

NO DATA AVAILABLE. INGESTION OF THIS MATERIAL MAY RESULT IN ASPIRATION INTO THE LUNGS CAUSING CHEMICAL PNEUMONIA.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
THIS MATERIAL OR ITS EMISSIONS MAY AFFECT THE CENTRAL NERVOUS SYSTEM AND/OR AGGRAVATE PRE-EXISTING DISORDERS. PROLONGED OBSERVATION MAY BE INDICATED.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE EXCEEDS THE PEL/TLV, USE NIOSH/MSHA APPROVED RESPIRATORY PROTECTION EQUIPMENT AS SPECIFIED IN THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

IMPERVIOUS PROTECTIVE SUIT WITH GLOVES, BOOTS, AND FULL HEAD AND FACE PROTECTION MUST BE WORN. THE EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

AT ELEVATED TEMPERATURES, SPECIAL VENTILATION MAY BE REQUIRED EVEN IF THE FLASH POINT HAS NOT BEEN EXCEEDED. FLAMMABLE MISTS OR AEROSOLS CAN BE GENERATED BELOW THE FLASH POINT OF HIGH BOILING LIQUIDS.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EMERGENCY MEDICAL TREATMENT PROCEDURES

VIGOROUS ANTI-INFLAMMATORY/STEROID TREATMENT MAY BE REQUIRED AT FIRST EVIDENCE OF PULMONARY/UPPER AIRWAY EDEMA.

IF INGESTION SUSPECTED DO NOT INDUCE VOMITING. ADMINISTER CATHARTIC SUCH AS MAGNESIUM CITRATE OR SORBITOL.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

RELEASE CAN CAUSE FIRE/EXPLOSION. EXTINGUISH ALL IGNITION SOURCES. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

OFC (R) 1085 EMULSION BREAKER INTERMEDIATE
MSDS ID: 6-002702

10 - SPILL AND DISPOSAL (continued)

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

SLIGHTLY COMBUSTIBLE. KEEP CONTAINERS CLOSED WHEN NOT IN USE. STORE AWAY FROM HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. STORAGE TEMPERATURE - MAX. 140 F; MIN. 32 F. IF FROZEN, THAW AND MIX THOROUGHLY BEFORE USE.

DECONTAMINATION PROCEDURES

WHEN CLEANING OR REPAIRING EQUIPMENT CONTAMINATED WITH THIS MATERIAL, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN TO PREVENT ANY CONTACT. A POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS AND/OR A SUPPLIED AIR RESPIRATOR SHOULD BE USED.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

WARNING

PHYSICAL HAZARDS

COMBUSTIBLE

HEALTH HAZARDS

INHALATION HAZARD

SEVERE SKIN AND EYE IRRITANT

HIGH INGESTION HAZARD-CHEMICAL PNEUMONIA

SIMILAR MATERIAL INDUCES TUMORS IN LAB ANIMALS

PRECAUTIONARY MEASURES

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
AVOID CONTACT WITH EYES.
AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.
AVOID PROLONGED OR REPEATED CONTACT WITH SKIN.
USE WITH ADEQUATE VENTILATION.
PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
WASH THOROUGHLY AFTER HANDLING.
DO NOT TASTE/SWALLOW.
DO NOT TAKE INTERNALLY.

13 - SUPPLEMENT

ACUTE AND CHRONIC HEALTH EFFECTS - SECTIONS 2 AND 7

PROLONGED, REPEATED EXPOSURES TO HIGH LEVELS OF XYLENE CAN INDUCE CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DEPRESSION, DIZZINESS, NUMBNESS, TREMORS, IMPAIRED MEMORY, HEADACHE, NAUSEA AND LACK OF APPETITE. MODERATE LIVER ENLARGEMENT, KIDNEY INVOLVEMENT AND EVEN DEATH IS POSSIBLE IF EXPOSURE IS NOT CONTROLLED.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ = EQUAL	AP = APPROXIMATELY
LT = LESS THAN	GT = GREATER THAN
TR = TRACE	UK = UNKNOWN
N/AP = NOT APPLICABLE	N/P = NO APPLICABLE INFORMATION FOUND
N/DA = NO DATA AVAILABLE	

OFC(R) 1085 EMULSION BREAKER INTERMEDIATE
MSDS ID: 8-002702

13 - SUPPLEMENT (continued)

14 - DISCLAIMERS

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THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2100
 PART NUMBER: INC 2100
 PRODUCT NAME: INC 2100 Emulsion Breaker Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: OxyAlkylated Amine

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

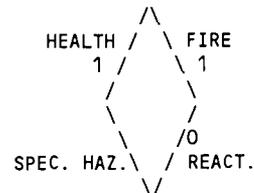
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMS R RATINGS:

HEALTH: 1
 FIRE: 1
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA				OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/Z	313			
75-21-8	Ethylene oxide	?	?	?	?	NI	NI	Traces

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	NI	SPECIFIC GRAVITY (H2O = 1)	1.06200
VAPOR PRESSURE (mm Hg.)	< 1.0	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Soluble at 70° F.

APPEARANCE AND ODOR: Slightly hazy liquid, bland odor

OTHER INFORMATION:

Viscosity Units > 100 pH = 9.0 to 10.5
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.84

DANGER
 Physical Hazards:-

Generic Name:- Cleaning Compound

UN/NA Number:- Not Regulated

DOT Response Number:- N/App.

DOT Proper Shipping Name:- DOT Not Regulated

DOT Hazard Class:- N/App.

DOT Packing Group:- N/App.

DOT/CERCLA RQ:- N/App.

This product does not contain any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: > 200 °F.	FLAMMABLE LIMITS: LEL: NI	UEL: NI
EXTINGUISHING MEDIA: Dry Chemical CO2 Water Spray Water Fog		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

May become combustible upon loss of aqueous carrier.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

None.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is not expected to cause eye irritation.

Skin absorption:-

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be absorbed through the skin.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

No Data Available.

SIGNS AND SYMPTOMS OF EXPOSURE: NI

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

SECTION VI - HEALTH HAZARD DATA (Continued)

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

Ethylene Oxide may accumulate in the head space of drum and bulk containers. However, the concentration of ethylene oxide in the head space should not cause the OSHA 0.5 ppm. action level for ethylene oxide exposure to be exceeded. Ethylene Oxide is listed as a potential carcinogen by OSHA, NTP, IARC. If the product is handled as recommended in this MSDS, the trace amounts of ethylene oxide are not expected to result in acute or chronic hazards.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

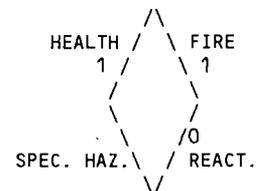
MSDS NUMBER: 2117
 PART NUMBER: INC 2117
 PRODUCT NAME: INC 2117 Emulsion Breaker Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: Oxyalkylated Glycol Ester

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.
 ADDRESS: 3803 Mankins
 Odessa, TX 79763
 EMERGENCY TELEPHONE NUMBER: (915)550-7027
 INFORMATION TELEPHONE NUMBER: (915)550-7027
 DATE PREPARED: 03/01/94

HMIS RATINGS:

HEALTH: 1
 FIRE: 1
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- NTP IARC	SARA PART/Z	313	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
0							

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	NI	SPECIFIC GRAVITY (H2O = 1)	1.02000
VAPOR PRESSURE (mm Hg.)	< 1	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Insoluble at 77 °F.

APPEARANCE AND ODOR: Clear, Light Amber Viscous Liquid, Bland Odor

OTHER INFORMATION:

Viscosity Units > 100 pH = (1%) 2.5 to 3.5
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.5

DANGER

Physical Hazards:-
 NI

Generic Name:- Oil Well Treating Compound

UN/NA Number:- DOT Not Regulated

DOT Response Number:- N/App.

DOT Proper Shipping Name:- DOT Not Regulated

DOT Hazard Class:- N/App.

DOT Packing Group:- N/App.

DOT/CERCLA RQ:- N/App.

This product does not contain any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: > 200 °F. PMCC	FLAMMABLE LIMITS: LEL: N/App	UEL: N/App
-----------------------------	------------------------------	------------

EXTINGUISHING MEDIA:

Dry Chemical
 CO2
 Water Spray
 Water Fog

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

May become combustible under extreme temperature conditions.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

None.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and carbon dioxide from burning.

HAZARDOUS POLYMERIZATION:

Not expected to occur under normal conditions.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is NOT expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material IS expected to cause eye irritation.

Skin absorption:-

Although no appropriate human or animal health effects data are known to exist, this material is NOT expected to be absorbed through the skin.

Skin irritation:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material IS expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material IS expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Moderate Ingestion Hazard.

No data on Inhalation Found.

No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

Eye Contact:-

Moderate eye irritation may develop on exposure.

Ingestion:-

Moderate irritation of the linings of the mouth, throat, and stomach may develop.

Inhalation:-

No data available.

SECTION VI - HEALTH HAZARD DATA (Continued)

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: No Data Available.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel. Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch" load (load into containers which previously contained gasoline or other low flash material) because of possible accumulation of a static charge resulting in a source of ignition. Use good personal hygiene practices.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.
Do not get it eyes, on skin, or clothing.
Do not breathe dust, vapor, mist, or gas.
Keep Container closed when not in use.
Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive

PRODUCT NAME: INC 2117 Emulsion Breaker Intermediate

SECTION VIII - CONTROL MEASURES (Continued)

pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

Store between 40° F. and 120° F.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

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

INC-2102

PAGE 2

Product Code:

(Section II continued)

pH (5% in 75% IPA): 4.0 to 6.0

Stability: Product is stable under normal conditions

Viscosity SUS at 100°F: greater than 100

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FIRE AND EXPLOSION DATA---SECTION III

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Special Fire Fighting Procedures:

Firefighters must be equipped to prevent breathing of vapors or products of combustion. Wear an approved self-contained breathing apparatus and protective clothing.

Unusual Fire and Explosion Hazards:

none

Flashpoint: (Method Used) Pensky-Martens closed-cup 100°F

Flammable limits %: not applicable

Extinguishing agents:

Drychemical or CO₂ or Foam or Sand/Earth

=====

HEALTH HAZARD DATA---SECTION IV

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Permissible concentrations (air):

aromatic petroleum solvent (supplier's recommendation): 100 ppm (563 mg/m³) for an 8 hour workday.

isopropyl alcohol: 400 ppm, 980 mg/m³ (OSHA/ACGIH); STEL 500 ppm, 1225 mg/m³ (OSHA/ACGIH)

n-butyl alcohol: C 50ppm, 150 mg/m³ (OSHA/ACGIH)

naphthalene: 10 ppm, 50 mg/m³ (TWA); 15 ppm, 75 mg/m³ (STEL) (OSHA/ACGIH)

Chronic effects of overexposure:

isopropyl alcohol: irritation of eyes, nose, throat; headache, nausea, and dizziness.

Acute toxicological properties:

for stoddard solvent and heavy aromatic naphtha: inhalation-irritation of eyes, nose and throat, dizziness; skin contact-dermatitis; eyes-irritation; ingestion-nausea, vomiting. Large amounts, if retained, lead to symptoms of central nervous system depression.

Emergency First Aid Procedures:

Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.

Skin Contact: Flush with large amounts of water for 15 minutes.

Inhalation: Remove to fresh air. If breathing is difficult, give oxygen and call a physician

If Swallowed: Call a physician.

(Continued on next page)

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

INC-2102

Product Code:

PAGE 3

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SPECIAL PROTECTION INFORMATION---SECTION V

=====

Ventilation Type Required (Local, mechanical, special):
mechanical

Respiratory Protection (Specify type):

Use NIOSH/MSHA-certified respirator with organic vapor cartridge if vapor concentration exceeds permissible exposure limit

Protective Gloves:

rubber or plastic, solvent resistant

Eye Protection:

chemical safety goggles

Other Protective Equipment:

neoprene protective type apron.

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HANDLING OF SPILLS OR LEAKS---SECTION VI

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Procedures for Clean-Up:

Absorb with an inert material such as sand, soil or vermiculite; sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal:

Dispose of in accordance with all applicable federal, state and local regulations.

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SPECIAL PRECAUTIONS---SECTION VII

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Precautions to be taken in handling and storage:

Store between 40½ F and 120½ F.

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TRANSPORTATION DATA---SECTION VIII

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D.O.T.: Regulated

U.S. D.O.T. Proper Shipping Name: Combustible liquid, n.o.s. (Petroleum solvent, Butanol)

U.S. D.O.T. Hazard Class: Combustible liquid

I.D. Number: NA 1993 PG III

Label(s) Required: none

Reportable Quantity: 100 lb for naphthalene

Freight Classification: Oil Well Treating Compound

Special Transportation Notes:

Unregulated by DOT when shipped in containers of less than 118.9 gallons.

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ENVIRONMENTAL/SAFETY REGULATIONS---SECTION IX

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Section 313 (Title III Superfund Amendment and Reauthorization Act):

This product contains the following chemical(s) subject to the reporting

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2122
 PART NUMBER: INC 2122
 PRODUCT NAME: INC 2122 Emulsion Breaker Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: Polyoxyalkylated (vic) diol, Phenol derivative

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

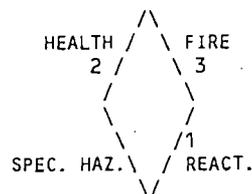
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 01/01/94

HMIS RATINGS:

HEALTH: 2
 FIRE: 3
 REACTIVITY: 1
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB-		SARA		OTHER LIMITS		
		NTP	IARC	PART/2	313	OSHA PEL	ACGIH TLV	RECOMMENDED PERCENT
7664-93-9	Sulfuric acid	?	?	?	Y	1 ppm	1 ppm	< 1
67-63-0	Isopropanol	?	?	?	?	400 ppm	400 ppm	15-18
91-20-3	Naphthalene	?	?	?	Y	10 ppm	15 ppm	< 1
75-21-8	Ethylene oxide	?	?	?	?	NI	NI	Traces

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	App 180° F	SPECIFIC GRAVITY (H2O = 1)	0.91000
VAPOR PRESSURE (mm Hg.)	App. 34	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	2.0	EVAPORATION RATE (Butyl Acetate = 1)	1.3

SOLUBILITY IN WATER: Dispersible at 60° F.

APPEARANCE AND ODOR: Amber Liquid, Alcohol Odor

OTHER INFORMATION:

Viscosity Units = App. 78 pH = 7.0 - 7.5
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 7.5

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- Oil Well Treating Compound

UN/NA Number:- UN 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- Flammable Liquid, n.o.s.
 (Contains Isopropanol)

DOT Hazard Class:- 3

DOT Packing Group:- II

DOT/CERCLA RQ:- 100 Lb. (Naphthalene)

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 60° F.

FLAMMABLE LIMITS: LEL: 2.0 UEL: 12.0

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

EXTINGUISHING MEDIA:

Dry Chemical
CO2
Water Spray
Water Fog
"Alcohol" Foam
Sand/Earth

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Strong Acids.
Strong Alkalies.
Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide, carbon dioxide, and oxides and/or compounds of sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

No appropriate human or animal health effects data are known to exist.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Moderate Ingestion Hazard.

Mild Inhalation Hazard

No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

SECTION VI - HEALTH HAZARD DATA (Continued)

Eye Contact:-

Moderate eye irritation may develop on exposure.

Ingestion:-

Moderate irritation and burning of the linings of the mouth, throat, and stomach may develop, causing abdominal pain and vomiting. Sometimes bloody vomitus. Ingestion may cause central nervous system depression, low blood pressure, rapid heartbeat and liver damage.

Inhalation:-

Coughing and shortness of breath may result. More severe symptoms are also possible. May cause mild irritation to the nose, throat and respiratory tract and may result in central nervous system depression.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Preexisting eye, skin and respiratory disorders may be aggravated by exposure to this product. Impaired function from preexisting disorders may be aggravated by exposure to this product.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If victim is completely conscious and alert, give 2 glasses of water, and induce vomiting by administering 2 tablespoons of Syrup of Ipecac, or by touching finger to back of victim's throat. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal-hygiene-practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS: NI

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2133
 PART NUMBER: INC 2133
 PRODUCT NAME: INC 2133 Emulsion Breaker Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: OxyAlkylated Phenolic Resin

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

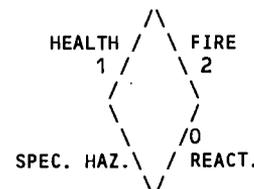
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMS RATINGS:

HEALTH: 1
 FIRE: 2
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA				OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/Z	313			
64742-95-6	Petroleum Solvent	?	?	?	?	100 ppm	NI	29-31
91-20-3	Naphthalene	?	?	?	Y	10 ppm	15	5

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	NI	SPECIFIC GRAVITY (H2O = 1)	0.96900
VAPOR PRESSURE (mm Hg.)	NI	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	N/App.

SOLUBILITY IN WATER: Insoluble at 60° F.

APPEARANCE AND ODOR: Dark Amber Liquid, Solvent Odor

OTHER INFORMATION:

Viscosity Units > 100 pH = 10 - 12
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.072

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- OxyAlkylated Phenolic Resin

UN/NA Number:- NA 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- Flammable Liquid, n.o.s.
 (Petroleum Solvent)

DOT Hazard Class:- 3

DOT Packing Group:- III

DOT/CERCLA RQ:- 100 Lbs. (Naphthalene)

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 142 ° F.

FLAMMABLE LIMITS: LEL: NI UEL: NI

EXTINGUISHING MEDIA:

Dry Chemical
 CO2
 Water Spray

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

None.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide, carbon dioxide, and oxides and/or compounds of nitrogen.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

Although no appropriate human or animal health effects data are known to exist, this product is expected to absorb through the skin.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Moderate Ingestion Hazard.

Respiratory Irritant.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

Eye Contact:-

Moderate eye irritation may develop on exposure.

Ingestion:-

Nausea, vomiting. Large amounts, if retained, lead to symptoms of central nervous system depression.

Inhalation:-

Dizziness, coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

PRODUCT NAME: INC 2133 Emulsion Breaker Intermediate

SECTION VI - HEALTH HAZARD DATA (Continued)

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

SECTION VIII - CONTROL MEASURES (Continued)

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS: NI

OTHER PRECAUTIONS AND COMMENTS:**Disclaimers:-**

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2143
 PART NUMBER: INC 2143
 PRODUCT NAME: INC 2143 Emulsion Breaker Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: OxyAlkylated Phenolic Resin

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

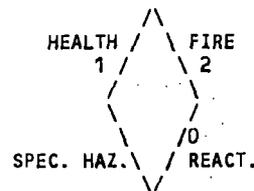
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMIS RATINGS:

HEALTH: 1
 FIRE: 2
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA				OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/Z	313			
64742-95-6	Petroleum Solvent	?	?	?	N	100 ppm	100 ppm	10-20 %
91-20-3	Naphthalene	?	?	?	Y	10 ppm.	10 ppm.	2-3 %
75-56-9	Propylene oxide	?	Y	?	?	20 ppm.	20 ppm.	Traces
75-21-8	Ethylene oxide	?	Y	?	N	1 ppm.	5 ppm.	Traces

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	NI	SPECIFIC GRAVITY (H2O = 1)	1.00000
VAPOR PRESSURE (mm Hg.)	NI	MELTING POINT	6 ° F.
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Dispersible at 77 ° F.

APPEARANCE AND ODOR: Dark Amber Viscous Liquid, Solvent Odor.

OTHER INFORMATION:

Viscosity Units > 100 pH = (5%) 10 - 12
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.33

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- OxyAlkylated Phenolic Resin

UN/NA Number:- NA 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- Flammable Liquid, n.o.s.
 (Contains Petroleum Solvent)

DOT Hazard Class:- 3

DOT Packing Group:- III

DOT/CERCLA RQ:- 100 Lbs. (Naphthalene)

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 147 ° F. (PMCC)

FLAMMABLE LIMITS: LEL: N/App. UEL: N/App.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

EXTINGUISHING MEDIA:

Dry Chemical
CO2
Water Spray
Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.
Fight fire from safe distance / protected location.
Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.
Use water spray / fog for cooling.
Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

None

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Strong Acids.
Strong Alkalies.
Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and carbon dioxide from burning.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:- Primary Route
Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Eye Contact:- Primary Route
Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.
Skin Absorption:-
No appropriate human or animal health effects data are known to exist.
Skin Irritation:- Primary Route
Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.
Ingestion:-
Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)
Irritant to Eyes.
Irritant to Skin.
Severe Ingestion Hazard.
Vapors, if inhaled, will irritate the nasal mucosae.
No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-
Irritation or redness of the skin may develop after exposure (dermatitis)
Eye Contact:-
Severe eye irritation may develop on exposure.
Ingestion:-
Severe irritation and burning of the linings of the mouth, throat, and stomach may develop, along with nausea, vomiting.

SECTION VI -- HEALTH HAZARD DATA (Continued)

Inhalation:-

Irritation of the eyes, nose and throat, dizziness, along with coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

This material or its emissions may affect the central nervous system and/or aggravate pre-existing disorders. Prolonged observation may be indicated.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye-Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). **SMALL SPILL:-** Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch" load (load into containers which previously contained gasoline or other low flash material) because of possible accumulation of a static charge resulting in a source of ignition. Use good personal hygiene practices.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

-Wash-Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA-approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS: NI

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2160
 PART NUMBER: INC 2160
 PRODUCT NAME: INC 2160 Emulsion Breaker Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: PolyOxyAlkylated Glycol

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

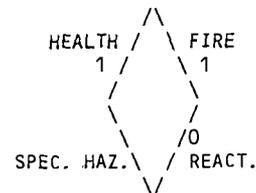
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMSI RATINGS:

HEALTH: 1
 FIRE: 1
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB-		SARA		OTHER LIMITS		
		NTP	IARC	PART/Z	313	OSHA PEL	ACGIH TLV	RECOMMENDED PERCENT
75-21-8	Ethylene oxide	?	?	?	?	NI	NI	Traces

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	NI	SPECIFIC GRAVITY (H2O = 1)	1.06000
VAPOR PRESSURE (mm Hg.)	< 1.0	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Insoluble at 70° F.

APPEARANCE AND ODOR: Cream Colored Hazy liquid, bland odor

OTHER INFORMATION:

Viscosity Units > 100 pH = 11.0 to 13.0
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 9.00

DANGER

Physical Hazards:-
 May become combustibile at very high temperatures.

Generic Name:- Cleaning Compound

UN/NA Number:- Not Regulated

DOT Response Number:- N/App.

DOT Proper Shipping Name:- DOT Not Regulated

DOT Hazard Class:- N/App.

DOT Packing Group:- N/App.

DOT/CERCLA RQ:- N/App.

This product does not contain any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Ammendments and Reauthorization Act of 1986.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: > 200 °F.

FLAMMABLE LIMITS: LEL: NI

UEL: NI

EXTINGUISHING MEDIA:

Dry Chemical
 CO2
 Water Spray
 Water Fog

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

May become combustible upon exposure to very high temperatures.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

None.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is not expected to cause eye irritation.

Skin absorption:-

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be absorbed through the skin.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Possible eye irritant.
Possible skin irritant.

SIGNS AND SYMPTOMS OF EXPOSURE: NI

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

SECTION VI - HEALTH HAZARD DATA (Continued)

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

Ethylene Oxide may accumulate in the head space of drum and bulk containers. However, the concentration of ethylene oxide in the head space should not cause the OSHA 0.5 ppm. action level for ethylene oxide exposure to be exceeded. Ethylene Oxide is listed as a potential carcinogen by OSHA, NTP, IARC. If the product is handled as recommended in this MSDS, the trace amounts of ethylene oxide are not expected to result in acute or chronic hazards.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness.

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This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2141
 PART NUMBER: INC 2141
 PRODUCT NAME: INC 2141 Emulsion Breaker Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: OxyAlkylated Phenolic Resin

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

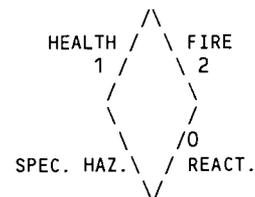
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMIS RATINGS:

HEALTH: 1
 FIRE: 2
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB-		SARA		ACGIH TLV	OTHER LIMITS	
		NTP	IARC	PART/Z	313		OSHA PEL	RECOMMENDED PERCENT
64742-95-6	Petroleum Solvent	?	?	?	N	100 ppm	100 ppm	10-20 %
91-20-3	Naphthalene	?	?	?	Y	10 ppm.	10 ppm.	2-5 %
75-56-9	Propylene oxide	?	Y	?	?	20 ppm.	20 ppm.	Traces
75-21-8	Ethylene oxide	?	Y	?	N	1 ppm.	5 ppm.	Traces

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	NI	SPECIFIC GRAVITY (H2O = 1)	1.00000
VAPOR PRESSURE (mm Hg.)	NI	MELTING POINT	6 ° F.
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Dispersible at 77 ° F.

APPEARANCE AND ODOR: Dark Amber Viscous Liquid, Solvent Odor.

OTHER INFORMATION:

Viscosity Units > 100 pH = (5%) 10 - 12
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.33

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- OxyAlkylated Phenolic Resin

UN/NA Number:- NA 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- Flammable Liquid, n.o.s.
 (Contains Petroleum Solvent)

DOT Hazard Class:- 3

DOT Packing Group:- III

DOT/CERCLA RQ:- 100 Lbs. (Naphthalene)

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 145 °F. (PMCC)

FLAMMABLE LIMITS: LEL: N/App.

UEL: N/App.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

EXTINGUISHING MEDIA:

Dry Chemical
CO2
Water Spray
Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

None.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Strong Acids.
Strong Alkalies.
Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and carbon dioxide from burning.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

No appropriate human or animal health effects data are known to exist.

Skin irritation:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.
Irritant to Skin.
Severe Ingestion Hazard.
Vapors, if inhaled, will irritate the nasal mucosae.
No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure (dermatitis)

Eye Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop, along with nausea, vomiting.

SECTION VI - HEALTH HAZARD DATA (Continued)

Inhalation:-

Irritation of the eyes, nose and throat, dizziness, along with coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

This material or its emissions may affect the central nervous system and/or aggravate pre-existing disorders. Prolonged observation may be indicated.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch" load (load into containers which previously contained gasoline or other low flash material) because of possible accumulation of a static charge resulting in a source of ignition. Use good personal hygiene practices.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS: NI

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2155
 PART NUMBER: INC 2155
 PRODUCT NAME: INC 2155 Emulsion Breaker Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: Proprietary

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

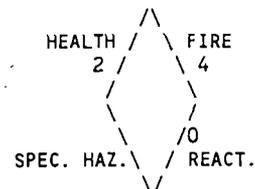
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMIS RATINGS:

HEALTH: 2
 FIRE: 4
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB-		SARA		OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/Z	313			
67-63-0	2-Butanol	?	?	?	?	400 ppm.	400 ppm.	20-30 %
64741-68-0	Heavy Aromatic Xylene Bottoms	?	Y	?	Y	100 ppm	100 ppm.	5-12 %

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	App. 180 F	SPECIFIC GRAVITY (H2O = 1)	0.99000
VAPOR PRESSURE (mm Hg.)	57.1	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	App. 1.0	EVAPORATION RATE (Butyl Acetate = 1)	Apprec.

SOLUBILITY IN WATER: Appreciable at 77 °F.

APPEARANCE AND ODOR: Dark Amber Liquid, Ammonia Odor

OTHER INFORMATION:

Viscosity Units = NI pH = App. 9.0
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.25

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- Oil Well Treating Compound

UN/NA Number:- UN 1993

DOT-Response-Number:- 27

DOT Proper Shipping Name:- Flammable Liquid, n.o.s.
 (Contains Isopropanol, Petroleum Solvent)

DOT Hazard Class:- 3

DOT Packing Group:- II

DOT/CERCLA RQ:- None

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 71 °F.

FLAMMABLE LIMITS: LEL: App. 2.0 UEL: App. 16.8

EXTINGUISHING MEDIA:

Dry Chemical
 CO2
 Water Spray

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Strong Acids.

Strong Alkalies.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur under normal conditions.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material IS expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material IS expected to cause eye irritation.

Skin absorption:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material IS expected to be absorbed through the skin.

Skin irritation:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material IS expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material IS expected to be a severe ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Corrosive to Eyes.

Corrosive to Skin.

Severe Ingestion Hazard.

Moderate Inhalation Hazard.

May be absorbed through the skin.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

Eye Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

PRODUCT NAME: INC 2155 Emulsion Breaker Intermediate

SECTION VI - HEALTH HAZARD DATA (Continued)

Inhalation:-

Coughing, shortness of breath, dizziness, and intoxication may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

This material or its emissions may affect pregnancy and/or fetal development.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch" load (load into containers which previously contained gasoline or other low flash material) because of possible accumulation of a static charge resulting in a source of ignition. Use good personal hygiene practices.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PRODUCT NAME: INC 2155 Emulsion Breaker Intermediate

SECTION VIII - CONTROL MEASURES (Continued)

PERSONAL PROTECTIVE EQUIPMENT:**Respiratory Protection:-**

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS: NI

OTHER PRECAUTIONS AND COMMENTS:**Disclaimers:-**

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2182
 PART NUMBER: INC 2182
 PRODUCT NAME: INC 2182 Emulsion Breaker Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: Polymerized Polyol

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

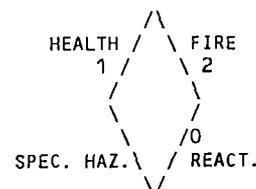
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMIS RATINGS:

HEALTH: 1
 FIRE: 2
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA				OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/Z	313			
64742-95-6	Petroleum Solvent	?	?	?	?	100 ppm	NI	5-8
71-36-3	N-BUTANOL	?	?	?	Y	50 ppm.	150	7-10
75-56-9	Propylene oxide	?	?	?	?	NI	NI	Traces

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	NI	SPECIFIC GRAVITY (H2O = 1)	0.98600
VAPOR PRESSURE (mm Hg.)	4.4	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Insoluble at 60° F.

APPEARANCE AND ODOR: Amber Liquid, Bland Odor

OTHER INFORMATION:

Viscosity Units > 100 pH = 6.0 - 7.5
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.21

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- Polymerized Polyol

UN/NA Number:- NA 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- Flammable Liquid, n.o.s.
 (Petroleum Solvent, Butanol)

DOT Hazard Class:- 3

DOT Packing Group:- III

DOT/CERCLA RQ:- N/App.

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 101 ° F.

FLAMMABLE LIMITS: LEL: NI UEL: NI

EXTINGUISHING MEDIA:

Dry Chemical
 CO2

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

Water Spray
Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:-

None.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and carbon dioxide.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be absorbed through the skin.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Moderate Ingestion Hazard.

Moderate Inhalation Irritant.

No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure. (Dermatitis)

Eye Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop. Large amounts, if retained, may lead to symptoms of central nervous system depression.

Inhalation:-

SECTION VI - HEALTH HAZARD DATA (Continued)

Dizziness, coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII).

SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

SECTION VIII - CONTROL MEASURES (Continued)

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS: NI

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

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This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2181
 PART NUMBER: INC 2181
 PRODUCT NAME: INC 2181 Emulsion Breaker Intermediate
 CAS NUMBER: 30846-35-6
 CHEMICAL NAME: Phenolic Derivative

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.	HMIS RATINGS: HEALTH: 1 FIRE: 2 REACTIVITY: 0 PERSONAL PROTECTION:
ADDRESS: 3803 Mankins Odessa, TX 79763	
EMERGENCY TELEPHONE NUMBER: (915)550-7027	
INFORMATION TELEPHONE NUMBER: (915)550-7027	
DATE PREPARED: 11/01/93	

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB-			SARA	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/Z	313			
64742-95-6	Petroleum Solvent	?	?	?	N	100 ppm.	100 ppm.	10-17 %
91-20-3	Naphthalene	?	?	?	Y	10 ppm.	10 ppm.	2 %
75-21-8	Ethylene oxide	?	Y	?	N	1 ppm.	5 ppm.	Traces

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	NI	SPECIFIC GRAVITY (H2O = 1)	1.01000
VAPOR PRESSURE (mm Hg.)	4.4	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	N/App.

SOLUBILITY IN WATER: Dispersible at 77 ° F.

APPEARANCE AND ODOR: Dark Amber Viscous Liquid, Bland Odor

OTHER INFORMATION:

Viscosity Units > 100 pH = (5%) 9 - 11
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.35

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- Phenolic Derivative

UN/NA Number:- NA 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- Flammable Liquid, n.o.s.
 (Contains Petroleum Solvent)

DOT Hazard Class:- 3

DOT Packing Group:- III

DOT/CERCLA RQ:- 100 Lbs. (Naphthalene)

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 158 ° F. (PMCC)	FLAMMABLE LIMITS: LEL: N/App. UEL: N/App.
------------------------------	--

EXTINGUISHING MEDIA:

Dry Chemical
 CO2

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

Water Spray
Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Strong Acids.

Strong Alkalies.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and carbon dioxide from burning.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

No appropriate human or animal health effects data are known to exist.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Severe Ingestion Hazard.

Vapors, if inhaled, will irritate the nasal mucosae.

No data on Skin Absorption Found.

Large amounts, if retained, lead to symptoms of central nervous system depression.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure (dermatitis).

Eye Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

SECTION VI - HEALTH HAZARD DATA (Continued)

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop, along with nausea, vomiting.

Inhalation:-

Irritation of the eyes, nose and throat, along with coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

This material or its emissions may affect the central nervous system and/or aggravate pre-existing disorders. Prolonged observation may be indicated.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately. Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch" load (load into containers which previously contained gasoline or other low flash material) because of possible accumulation of a static charge resulting in a source of ignition. Use good personal hygiene practices.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS: NI

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

INC-1801 SURFACTANT INTERMEDIATE

ID: 6-002774

1 - GENERAL INFORMATION

**InterChem, Inc.
3803 Mankins 79763
P.O. Box 13166 79768
Odessa, TX
(915) 550-7027
24hr. Emergency**

TRADE NAME
OFC 1601 SURFACTANT INTERMEDIATE
GENERIC NAME

DATE REVISED: 12/31/87

DOT PROPER SHIPPING NAME
ISOPROPANOL SOLUTION

UN/NA NUMBER
UN 1219

DOT HAZARD CLASS
FLAMMABLE LIQUID

NFPA CLASSIFICATION: HEALTH (2) FLAMMABILITY (3) REACTIVITY (1)
SPECIFIC HAZARD (NONE)

DOT/CERCLA RQ: N/AP

2 - SUMMARY OF HAZARDS

DANGER
PHYSICAL HAZARDS: HIGHLY FLAMMABLE LIQUID

ACUTE HEALTH EFFECTS: SEVERE EYE IRRITANT
(SHORT-TERM) MODERATE SKIN IRRITANT
MUCOUS MEMBRANE IRRITANT
SLIGHT SKIN ABSORPTION HAZARD
SLIGHT INGESTION HAZARD

CHRONIC HEALTH EFFECTS: SEE SUPPLEMENT
(LONG-TERM)

3 - COMPONENTS

COMPONENT NAME	CAS NUMBER
TRADE SECRET 2774-01#	
ISOPROPYL ALCOHOL	67-63-0
WATER	7732-18-5

THIS PRODUCT CONTAINS NO SARA SECTION 313 LISTED CHEMIC

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT	PH
AP 180F	AP 10.0 TO 13.0
FREEZING POINT	DRY POINT
N/AP	N/AP
SPECIFIC GRAVITY (H2O=1 AT 39.2F)	VOLATILE CHARACTERISTICS
AP 1.04	APPRECIABLE
VISCOSITY UNITS, TEMP.	SOLUBILITY IN WATER
N/AP	COMPLETE

INC-1801 SURFACTANT INTERMEDIATE

MSDS ID: 6-002774

4 - PHYSICAL AND CHEMICAL DATA (continued)

VAPOR PRESSURE
 AP 18.9 MM HG AT 70F
 VAPOR SP GR (AIR=1 AT 60 - 90F)
 AP .8

STABILITY
 STABLE
 HAZARDOUS POLYMERIZATION
 NOT EXPECTED TO OCCUR

APPEARANCE AND ODOR
 AMBER LIQUID; NO DISTINCT ODOR.
 CONDITIONS AND MATERIALS TO AVOID
 HEAT, SPARKS, OPEN FLAME, AND ELEVATED PRESSURES.
 STRONG ACIDS AND STRONG OXIDIZERS
 HAZARDOUS DECOMPOSITION PRODUCTS
 INCOMPLETE COMBUSTION MAY PRODUCE CARBON MONOXIDE AND OTHER TOXIC GASES.

5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
ISOPROPYL ALCOHOL	OSHA	1978	PEL	400 PPM	8 HRS
	ACGIH	1984	TWA	400 PPM	8 HRS
	NIOSH	1978	STEL	800 PPM	15 MIN

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(D-56)
 AP 86F

AUTOIGNITION TEMP. METHOD=
 AP 750F

FLAMMABLE LIMITS (% VOLUME IN AIR)
 AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
 LOWER: AP 2.0 UPPER: AP 12.0

FIRE AND EXPLOSION HAZARDS
 RELEASES VAPORS AT NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. FLAMMABLE VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. DILUTING WITH WATER MAY NOT SUFFICE TO RAISE FLASH POINT ABOVE AMBIENT TEMPERATURES.

EXTINGUISHING MEDIA

- DRY CHEMICAL
- CO2
- WATER SPRAY
- FOAM FOR ALCOHOLS

SPECIAL FIREFIGHTING PROCEDURES

DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING LIQUID MAY FLOAT ON WATER. ALTHOUGH SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION

OVEREXPOSURE MAY CAUSE IRRITATION TO THE RESPIRATORY TRACT AND TO OTHER MUCOUS MEMBRANES.

EYE CONTACT -- PRIMARY ROUTE

MAY CAUSE SEVERE EYE IRRITATION.

SKIN ABSORPTION

EXTENSIVE/PROLONGED OR REPEATED EXPOSURE TO THIS MATERIAL CAN RESULT IN SIGNIFICANT ABSORPTION.

ONLY →

INC-1801 SURFACTANT INTERMEDIATE

S ID: 6-002774

7 - HEALTH HAZARDS (continued)

SKIN IRRITATION

MAY CAUSE DELAYED SKIN IRRITATION AND BLISTERING.

INGESTION

THIS MATERIAL MAY BE A SLIGHT HEALTH HAZARD IF INGESTED IN LARGE QUANTITIES.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY AFFECT MUCOUS TISSUE AND/OR AGGRAVATE MUCOUS MEMBRANE DYSFUNCTION.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE AS SPECIFIED IN THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

LOCAL EXHAUST VENTILATION MAY BE REQUIRED IN ADDITION TO GENERAL ROOM VENTILATION.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH W/LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MEDICAL ATTENTION IF ILL EFFECT OR IRRITATION DEVELOPS.

INGESTION

IF LARGE QUANTITY SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

CONTINUE TO RINSE EYE WITH CLEAN WATER FOR 20-30 MINUTES, RETRACTING EYELIDS OFTEN. CONTACT OPHTHALMOLOGIST IMMEDIATELY.

TREAT BURNS OR ALLERGIC REACTIONS CONVENTIONALLY AFTER DECONTAMINATION.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

EXTREMELY FLAMMABLE LIQUID. RELEASE CAUSES IMMEDIATE FIRE/EXPLOSION HAZARD. EXTINGUISH ALL IGNITION SOURCES. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, MAY BIODEGRADE. CONTAIN/MINIMIZE

INC-1801 SURFACTANT INTERMEDIATE

MSDS ID: 6-002774

13 - SUPPLEMENT (continued)

N/AP = NOT APPLICABLE
N/DA = NO DATA AVAILABLE

N/P = NO APPLICABLE INFORMATION FOUND

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS 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.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 1875
 PART NUMBER: INC 1875
 PRODUCT NAME: INC 1875 Surfactant / Corrosion Inhibitor Intermediate
 CAS NUMBER: 61789-71-7
 CHEMICAL NAME: Quartz dust

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

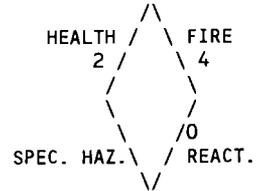
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMIS RATINGS:

HEALTH: 2
 FIRE: 4
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB-		SARA		OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/Z	313			
61789-71-7	Quaternary Ammonium Chloride	?	?	?	?	NI	NI	24-28 %
67-63-0	Isopropanol or Isopropyl alcohol	?	?	?	?	400 ppm.	400 ppm.	24-28 %

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	185 ° F.	SPECIFIC GRAVITY (H2O = 1)	0.90600
VAPOR PRESSURE (mm Hg.)	40	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	1.1	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Complete

APPEARANCE AND ODOR: Amber Liquid with Alcohol Odor

OTHER INFORMATION:

Viscosity Units > 100 pH = 7.5 - 8.0
 Freezing Point = App. -25 °F. Dry Point = App. -25 °F.

Density (Lb./Gal.) = 7.545

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- Quaternary Ammonium Chloride

UN/NA Number:- UN 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- Flammable Liquid, n.o.s.
 (Contains Isopropanol)

DOT Hazard Class:- 3

DOT Packing Group:- III

DOT/CERCLA RQ:- N/App.

This product does not contain any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 58 ° F. FLAMMABLE LIMITS: LEL: NI UEL: NI

EXTINGUISHING MEDIA:

Dry Chemical
 CO2
 Water Spray

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Strong Acids.

Strong Alkalies.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be absorbed through the skin.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Corrosive to Eyes.

Corrosive to Skin.

Moderate Ingestion Hazard.

Moderate Inhalation Hazard.

No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

Eye Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

SECTION VI - HEALTH HAZARD DATA (Continued)

Inhalation:-

Coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended. Administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due

SECTION VIII - CONTROL MEASURES (Continued)

to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS: NI

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness.

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This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 725
 PART NUMBER: INC 725
 PRODUCT NAME: INC 725 Surfactant/Cleaner
 CAS NUMBER: - -0
 CHEMICAL NAME: Cleaning Compound

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

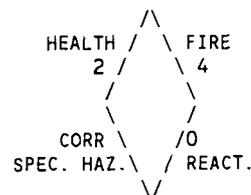
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 04/01/94

HMIS RATINGS:

HEALTH: 2
 FIRE: 4
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA				OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/Z	313			
64-17-5	Denatured Ethanol	?	Y	?	N	1000 ppm	1000 ppm	8-10 %Wt.
67-56-1	Methanol	?	?	?	?	200 ppm.	200 ppm.	1-3 %Wt.
108-10-1	Methyl isobutyl ketone	?	?	?	?	50 ppm	50 ppm	Traces
111-76-2	Ethanol, 2-Butoxy	?	?	?	Y	25 ppm.	25 ppm.	3-5 %Wt
111-42-2	Diethanolamine	?	?	?	Y	3 ppm.	3 ppm.	Traces

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	175 F.	SPECIFIC GRAVITY (H2O = 1)	0.98200
VAPOR PRESSURE (mm Hg.)	45	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	2.0	EVAPORATION RATE (Butyl Acetate = 1)	3

SOLUBILITY IN WATER: Complete at 60 F.

APPEARANCE AND ODOR: Light Amber Liquid, Citrus odor

OTHER INFORMATION:

Viscosity Units = NI pH = 10.5 to 12.0
 Freezing Point = App. 25 °F. Dry Point = NI

Density (Lb./Gal.) = 8.18

DANGER

Physical Hazards:-
 Flammable Liquid
 Corrosive to Metals

Generic Name:- Cleaning Compound

UN/NA Number:- UN 2924

DOT Response Number:- 29

DOT Proper Shipping Name:- Flammable liquid, corrosive, n.o.s.
 (Contains Ethanol, Ethanolamine)

DOT Hazard Class:- 3

DOT Packing Group:- II

DOT/CERCLA RQ:- 5,000 Lbs. (Methanol)

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 65 ° F.

FLAMMABLE LIMITS: LEL: 0.7

UEL: 19.0

EXTINGUISHING MEDIA:

Dry Chemical
CO2
Water Spray
Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

May become combustible upon loss of aqueous carrier.

Use water spray / fog for cooling.

Use water spray to disperse vapors; re-ignition is possible.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

While not normally combustible, if water content is lost (as in a fire), material may release flammable vapors if exposed to high temperature. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air, may travel long distances along ground before igniting / flashing back to vapor source.

Vapors may settle and concentrate in low areas.

This material may produce a floating fire hazard in extreme conditions.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Strong Acids.
Acidic clays, peroxides, halogens, vinyl chloride, and iodine pentafluoride.
Strong Alkalies.
Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur under normal conditions. However, avoid exposure to polymerization catalysts, such as Aluminum Chloride, and acidic clays.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause severe eye irritation, with potential destruction of eye tissues.

Skin absorption:-

Prolonged or widespread skin contact may result in the absorption of potentially harmful amounts of material.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a severe skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a severe ingestion hazard.

SECTION VI - HEALTH HAZARD DATA (Continued)

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Corrosive to Eyes.

Corrosive to Skin.

Severe Ingestion Hazard.

Repeated inhalation will result in irritation of the mucous membranes

Prolonged or widespread skin contact may result in the absorption of potentially harmful amounts of material.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure, along with tissue destruction, fissures, ulceration, and possibly bleeding into the injured area.

Eye Contact:-

Severe eye irritation may develop on exposure, experienced as discomfort or pain, excess blinking and tear production, marked excess redness and swelling of the conjunctivae, and chemical burns of the eyes.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury. Causes pain or discomfort in the mouth, throat, chest, and abdomen, with nausea, vomiting, diarrhea, dizziness, drowsiness, thirst, faintness, weakness, circulatory collapse, and coma.

Inhalation:-

Coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Prolonged or repeated contact with this material may aggravate existing dermatitis.

Inhalation may aggravate asthma and inflammatory or fibrotic pulmonary disease.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank.

Neutralize liquid with sodium carbonate (will foam).

Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE (Continued)

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.
Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.
Store drums with bungs in up position.
Store drums away from oxidizers, strong acids.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.
Do not get it eyes, on skin, or clothing.
Do not breathe dust, vapor, mist, or gas.
Keep Container closed when not in use.
Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS: NI

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

BASELINK(R) BFL-9454 DRILLING FOAM CONCENTRATE

MSDS ID: 6-010415

1 - GENERAL INFORMATION

CHEMLINK PETROLEUM
9100 W. 21ST STREET
SAND SPRINGS, OK 74063

800/424-9300 ChemTrec
800/232-1616 Emergency
800/722-5660 In Oklahoma
918/493-4347 Out Cont. US

GENERIC NAME: MIXED SULFATE/SULFONATES
DATE CREATED: 05-13-88
DOT PROPER SHIPPING NAME: COMBUSTIBLE LIQUID, N.O.S.
UN/NA NUMBER: NA 1993
DOT HAZARD CLASS: COMBUSTIBLE LIQUID

NFPA CLASSIFICATION: HEALTH:(2) FLAMMABILITY:(2) REACTIVITY:(0)
SPECIFIC HAZARD:(N/AP)
DOT/CERCLA RQ: NONE

2 - SUMMARY OF HAZARDS

CAUTION

PHYSICAL HAZARDS: MODERATELY COMBUSTIBLE

ACUTE HEALTH EFFECTS: (SHORT-TERM)
NO DATA FOUND; SUSPECT INHALATION HAZARD
NO DATA FOUND; SUSPECT EYE CONTACT HAZARD
NO DATA FOUND; SUSPECT SKIN ABSORPTION HAZARD
NO DATA FOUND; SUSPECT SKIN IRRITATION HAZARD
NO DATA FOUND; SUSPECT INGESTION HAZARD

CHRONIC HEALTH EFFECTS: (LONG-TERM)
NO DATA FOUND

3 - COMPONENTS

COMPONENT NAME	CAS NUMBER	% COMPOSITION BY (WT.)
TRADE SECRET 10415-01#		
1-T-BUTOXY-2-PROPANOL	57018-52-7	
TRADE SECRET 10415-02#		
TRADE SECRET 10415-03#		
WATER	7732-18-5	

THIS PRODUCT CONTAINS NO SARA SECTION 313 LISTED CHEMICAL(S)

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT	PH
AP 212F	AP 8
FREEZING POINT	DRY POINT
N/DA	N/DA
SPECIFIC GRAVITY (H2O=1 AT 39.2F)	VOLATILE CHARACTERISTICS
AP 1.01	MODERATE
VISCOSITY UNITS, TEMP.	SOLUBILITY IN WATER
N/DA	APPRECIABLE

BASELINK(R) BFL-9454 DRILLING FOAMER CONCENTRATE
MSDS ID: 6-010415

4 - PHYSICAL AND CHEMICAL DATA (continued)

VAPOR PRESSURE	STABILITY
AP 6.8 MM HG AT 70F	STABLE
VAPOR SP GR (AIR=1 AT 60 - 90F)	HAZARDOUS POLYMERIZATION
AP 0.7	NOT EXPECTED TO OCCUR
APPEARANCE AND ODOR	
AMBER LIQUID/HEAVY SWEET ODOR	
CONDITIONS AND MATERIALS TO AVOID	
HEAT, SPARKS, AND OPEN FLAMES	
STRONG OXIDIZING AGENTS; STRONG ALKALIES	
HAZARDOUS DECOMPOSITION PRODUCTS	
BURNING TO DECOMPOSITION MAY PRODUCE CARBON MONOXIDE AND TRACE OXIDES AND/OR COMPOUNDS OF SULFUR AND NITROGEN.	

5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
NO ESTABLISHED STANDARDS					

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(D-56)	AUTOIGNITION TEMP. METHOD=
AP 111F	AP 470F
FLAMMABLE LIMITS (% VOLUME IN AIR)	
AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE	
LOWER: AP 1.1	UPPER: AP 10.6

FIRE AND EXPLOSION HAZARDS

WHEN HEATED ABOVE FLASH POINT, RELEASES VAPORS. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. FINE SPRAYS/MIST MAY BE COMBUSTIBLE AT TEMPERATURES BELOW NORMAL FLASH POINT.

EXTINGUISHING MEDIA

DRY CHEMICAL
CO2
WATER SPRAY
FOAM

SPECIAL FIREFIGHTING PROCEDURES

DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING LIQUID MAY FLOAT ON WATER. ALTHOUGH SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

EYE CONTACT -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.

SKIN ABSORPTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A HEALTH HAZARD BY SKIN ABSORPTION.

SKIN IRRITATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.

BASELINK(R) BFL-9454 DRILLING FOAM CONCENTRATE
MSDS ID: 6-010415

7 - HEALTH HAZARDS (continued)

INGESTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
NO ADDITIONAL MEDICAL INFORMATION FOUND.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE AS SPECIFIED IN THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID, AIRBORNE PARTICLES, OR VAPOR. CONTACT LENSES SHOULD NOT BE WORN.

SKIN PROTECTION

WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

LOCAL EXHAUST VENTILATION MAY BE REQUIRED TO MEET EXPOSURE STANDARD(S) IN ADDITION TO GENERAL ROOM VENTILATION.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH W/LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MEDICAL ATTENTION IF ILL EFFECT OR IRRITATION DEVELOPS.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

IF EXPOSED, TREAT SKIN AND EYE BURNS OR IRRITANTS CONVENTIONALLY AFTER DECONTAMINATION.

IF SWALLOWED, DO NOT INDUCE VOMITING. GASTRIC LAVAGE AND CATHARTIC INDICATED.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

COMBUSTIBLE LIQUID. EXTINGUISH ALL IGNITION SOURCES. BLANKET WITH FIREFIGHTING FOAM. SOAK UP SMALL SPILL. ON WATER, CONTAIN/MINIMIZE DISPERSION, COLLECT. REPORT PER REGULATORY REQUIREMENTS.

BASELINK(R) BFL-9454 DRILLING FOAM CONCENTRATE
MSDS ID: 6-010415

10 - EFFLUENT AND DISPOSAL (continued)

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). WASTE MAY BE DESIGNATED D001 UNDER RCRA LISTING DUE TO PRESENCE OF ISOPROPYL ALCOHOL. LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS. STORE AWAY FROM HEAT, SPARKS, OPEN FLAME AND STRONG OXIDIZING AGENTS.

DECONTAMINATION PROCEDURES

ISOLATE, VENT, DRAIN, WASH, AND PURGE EQUIPMENT BEFORE MAINTENANCE. REMOVE ALL IGNITION SOURCES. CHECK ATMOSPHERE FOR EXPLOSIVENESS AND OXYGEN DEFICIENCIES. IF ANY RESIDUAL PRODUCT MAY BE PRESENT, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN. SEE PROTECTIVE EQUIPMENT SECTION 8 FOR PROPER RESPIRATORY PROTECTION.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

CAUTION

PHYSICAL HAZARDS

COMBUSTIBLE

HEALTH HAZARDS

SKIN IRRITANT

INGESTION AND INHALATION HAZARD

SEVERE EYE IRRITANT

HIGH SKIN CONTACT HAZARD

PRECAUTIONARY MEASURES

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.

AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.

AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.

USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.

PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.

WASH THOROUGHLY AFTER HANDLING.

DO NOT TASTE/SWALLOW.

KEEP CONTAINER CLOSED.

13 - SUPPLEMENT

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ = EQUAL

AP = APPROXIMATELY

LT = LESS THAN

GT = GREATER THAN

TR = TRACE

UK = UNKNOWN

N/AP = NOT APPLICABLE

N/P = NO APPLICABLE INFORMATION FOUND

N/DA = NO DATA AVAILABLE

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM

BASELINK® BFL-9454 DRILLING FOAM CONCENTRATE
MSDS ID: 6-010415

14 - DISCLAIMERS (continued)

SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS 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.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 1850
 PART NUMBER: INC 1850
 PRODUCT NAME: INC 1850 Surfactant Intermediate
 CAS NUMBER: 68649-55-8
 CHEMICAL NAME: Ammonium Salt of Sulfated Nonylphenoxy(branched)Ethyleneoxy Ethanol

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

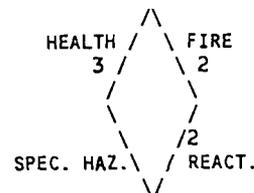
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 07/01/94

HMIS RATINGS:

HEALTH: 3
 FIRE: 2
 REACTIVITY: 2
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB-		SARA	OSHA PEL	ACGIH TLV	OTHER LIMITS	
		NTP	IARC				PART/Z	313
64-17-5	Ethanol	?	?	?	?	1000 ppm.	1000 ppm.	Propriet.
123-91-1	Dioxane	?	?	?	Y	1 ppm.	1 ppm.	Traces
-	-O Ammonium salt of sulfated nonylphenoxy(branched) Ethyleneoxy Ethanol	?	?	?	Y	NI	NI	Propriet.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	185 °F.	SPECIFIC GRAVITY (H2O = 1)	.1.01000
VAPOR PRESSURE (mm Hg.)	-25.00	MELTING POINT	< 30 F.
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Soluble at 25 F.

APPEARANCE AND ODOR: Light amber liquid, alcohol odor.

OTHER INFORMATION:

Viscosity Units = NI pH = App. 2.0
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.64

DANGER

Physical Hazards:-
 Flammable Liquid
 Corrosive to Metals

Generic Name:- Ammonium salt of sulfated, alkoxyated, branched, nonylphenol

UN/NA Number:- UN 2920

DOT Response Number:- 29

DOT Proper Shipping Name:- Corrosive Liquid, flammable, n.o.s. (Contains Isopropanol)

DOT Hazard Class:- 8

DOT Packing Group:- II

DOT/CERCLA RQ:- N/App.

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 110 °F.

FLAMMABLE LIMITS: LEL: 3.3 % UEL: 19.0 %

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

EXTINGUISHING MEDIA:

Dry Chemical
CO2
Water Spray
Water Fog
Sand/Earth

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Strong Alkalies.
Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide, carbon dioxide, and oxides and/or compounds of sulfur and nitrogen.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-
Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route
This material is expected to cause severe eye irritation, with possible destruction of eye tissues.

Skin absorption:-
No appropriate human or animal health effects data are known to exist.

Skin irritation:-
This material is expected to be a severe skin irritant, may cause burns of skin tissues.

Ingestion:-
This material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)
Corrosive to Eyes.
Corrosive to Skin.
Severe Ingestion Hazard.
Severe inhalation Hazard.
No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-
Irritation or redness of the skin may develop after exposure, with possible severe burns.

Eye Contact:-
Severe eye irritation may develop on exposure. Destruction of eye tissues is possible.

Ingestion:-

SECTION VI - HEALTH HAZARD DATA (Continued)

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

Inhalation:-

Coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Any preexisting dermatitis, conjunctivitis, rhinitis may be aggravated by exposure.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, have victim rinse mouth, then drink large quantities of water, if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended. Intubation may be necessary.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank.

Carefully neutralize with Sodium Carbonate (will foam).

Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

SECTION VIII - CONTROL MEASURES (Continued)

PERSONAL PROTECTIVE EQUIPMENT:

Treat as a Strong Acid.

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

Treat as a Strong Acid.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 1895
 PART NUMBER: INC 1895
 PRODUCT NAME: INC 1895 Surfactant Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: OxyAlkylated Phenol

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

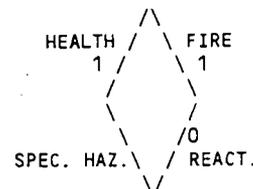
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 12/05/93

HMSIS RATINGS:

HEALTH: 1
 FIRE: 1
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- NTP	SARA IARC PART/2	OSHA PEL 313	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
-----	-----	-----	-----	-----	-----	-----

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	>200 ° F.	SPECIFIC GRAVITY (H2O = 1)	1.02000
VAPOR PRESSURE (mm Hg.)	0.1	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Complete

APPEARANCE AND ODOR: Colorless Liquid - No Distinct Odor

OTHER INFORMATION:

Viscosity Units = NI pH = 6.0 to 8.0
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.47

DANGER

Physical Hazards:-
 Slightly Combustible Liquid

Generic Name:- OxyAlkylated Phenol

UN/NA Number:- N/App.

DOT Response Number:- N/App.

DOT Proper Shipping Name:- DOT Not Regulated

DOT Hazard Class:- N/App.

DOT Packing Group:- N/App.

DOT/CERCLA RQ:- NONE

This product does not contain any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: > 200 ° F.	FLAMMABLE LIMITS: LEL: NI	UEL: NI
EXTINGUISHING MEDIA: Dry Chemical CO2 Water Spray Water Fog		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

May become combustible upon loss of aqueous carrier.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

While not normally combustible, if water content is lost (as in a fire), material may release flammable vapors if exposed to high temperature. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air, may travel long distances along ground before igniting / flashing back to vapor source. Fine sprays / mists may be combustible at temperatures below normal flash point.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Strong Alkalies.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be an inhalation hazard.

Eye contact:- Primary Route

May cause eye irritation.

Skin absorption:-

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be a health hazard by skin absorption.

Skin irritation:- Primary Route

May cause delayed skin irritation and blistering.

Ingestion:-

This material may be a slight health hazard if ingested in large quantities.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Mild eye irritant.

Mild skin irritant.

Mild Ingestion Hazard.

No data on Inhalation Found.

No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE: NI

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

No additional medical information found.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency

SECTION VI - HEALTH HAZARD DATA (Continued)

medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.
Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Slippery - spread granular cover. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers. On water may biodegrade.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Contaminated product/soil/water may be RCRA/OSHA hazardous waste due to potential for eye irritation/water pollution (see 40 CFR 261 and 29 CFR 1910). Landfill solids at permitted sites. Use registered transporters. Burn concentrated liquids in systems compatible with water soluble wastes. Avoid flameouts. Assure emissions comply with applicable regulations. Dilute aqueous waste may biodegrade. Avoid overloading/poisoning plant biomass. Assure effluent complies with applicable regulations.

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.
Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch" load (load into containers which previously contained gasoline or other low flash material) because of possible accumulation of a static charge resulting in a source of ignition. Use good personal hygiene practices.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.
Do not get it eyes, on skin, or clothing.
Do not breathe dust, vapor, mist, or gas.
Keep Container closed when not in use.
Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due

SECTION VIII - CONTROL MEASURES (Continued)

to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

For industrial use only. Keep out of reach of children. Failure to use caution may cause serious injury or illness. Never siphon by mouth.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness.

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This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

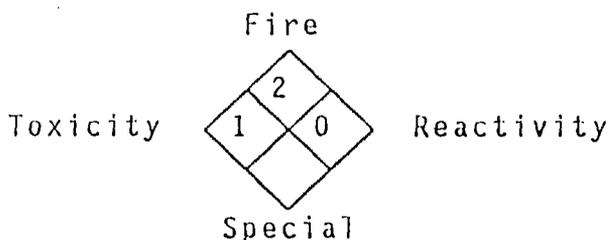
INC-2512

PAGE 1

Product Code:

CAS NO:26836-07-7

NFPA HAZARD RATING
4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant



HMIS HAZARD INDEX
Hazardous 4 - Severe
Materials 3 - Serious
Identification 2 - Moderate
System 1 - Slight
0 - Minimal

HMIS RATINGS
Health.....1
Flammability.....2
Reactivity.....0
Personal protection.....G*
*See last page for Code Table.

DIVISION AND LOCATION---SECTION I

Division: INTERCHEM, INC.
Location: P.O. BOX 13166 Odessa, TX 79768
3803 Mankins Odessa, TX 79763
Emergency Telephone Number: (915) 550-7027 24hour
Transportation Emergency: same

wt 410

CHEMICAL AND PHYSICAL PROPERTIES---SECTION II

Chemical Name:

surfactant blends

Formula: no data available

Hazardous Decomposition Products:

carbon monoxide and carbon dioxide from burning.
oxides of sulfur
oxides of nitrogen

Incompatibility (Keep away from):

strong bases, oxidizing agents

Toxic and Hazardous Ingredients:

2-ethylhexanol
petroleum solvent

CAS #
104-76-7
64742-95-6

Form: liquid

Odor: aromatic

Appearance: clear liquid

Color: dark amber

Specific Gravity (water=1): 1.014

Boiling Point: no data available

Melting Point: no data available

Solubility in Water (by weight %): emulsion at 25°C

Volatile (by weight %): 15%

Evaporation Rate: no data available

Vapor Pressure (mm Hg at 20°C): no data available

Vapor Density (air=1): no data available

pH(5%): 7 to 8

Stability: Product is stable under normal conditions

Viscosity SUS at 100°F: no data available

PARAFFIN

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

INC-2512

PAGE 2

Product Code:

=====

FIRE AND EXPLOSION DATA---SECTION III

=====

Special Fire Fighting Procedures:

Firefighters must be equipped to prevent breathing of vapors or products of combustion. Wear an approved self-contained breathing apparatus and protective clothing.

Unusual Fire and Explosion Hazards:

none

Flashpoint: (Method Used) Pensky-Martens closed-cup

154°F

Flammable limits %: not applicable

Extinguishing agents:

Drychemical or Waterspray or Waterfog or CO₂ or Foam or Sand/Earth

=====

HEALTH HAZARD DATA---SECTION IV

=====

Permissible concentrations (air):

aromatic petroleum solvent (supplier's recommendation): 100 ppm (563 mg/m³) for an 8 hour workday.

Chronic effects of overexposure:

no data available

Acute toxicological properties:

eye and skin irritant

for stoddard solvent and heavy aromatic naphtha: inhalation-irritation of eyes, nose and throat, dizziness; skin contact-dermatitis; eyes-irritation; ingestion-nausea, vomiting. Large amounts, if retained, lead to symptoms of central nervous system depression.

2-ethylhexyl alcohol: acute oral LD₅₀ = 2.0-3.7 g/kg (rat), acute dermal LD₅₀ = 2.0 g/kg (rabbit), acute inhalation LC₅₀ = no death in rats @ 235 ppm/6H

Emergency First Aid Procedures:

Eyes: Immediately flush with large quantities of water for at least 15 minutes and call a physician.

Skin Contact: Flush with large amounts of water for 15 minutes.

Inhalation: Remove to fresh air. If breathing is difficult, give oxygen and call a physician

If Swallowed: Call a physician.

=====

SPECIAL PROTECTION INFORMATION---SECTION V

=====

Ventilation Type Required (Local, mechanical, special):

mechanical

Respiratory Protection (Specify type):

Use NIOSH/MSHA certified respirator with organic vapor cartridge if vapor concentration exceeds permissible exposure limit

Protective Gloves:

rubber or plastic, solvent resistant

Eye Protection:

chemical safety goggles

(Continued on next page)

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

INC-2512

PAGE 3

Product Code:

(Section V continued)

Other Protective Equipment:

neoprene protective type apron.

=====

HANDLING OF SPILLS OR LEAKS---SECTION VI

=====

Procedures for Clean-Up:

Absorb with an inert material such as sand, soil or vermiculite; sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal:

Dispose of in accordance with all applicable federal, state and local regulations.

=====

SPECIAL PRECAUTIONS---SECTION VII

=====

Precautions to be taken in handling and storage:

Store between 40½ F and 120½ F.

=====

TRANSPORTATION DATA---SECTION VIII

=====

D.O.T.: Regulated

U.S. D.O.T. Proper Shipping Name: Combustible liquid, n.o.s. (Petroleum solvent, 2-Ethylhexanol)

U.S. D.O.T. Hazard Class: Combustible liquid

I.D. Number: NA 1993 PG III

Label(s) Required: none

Reportable Quantity: not applicable

Freight Classification: Oil Well Treating Compound

Special Transportation Notes:

Unregulated by DOT when shipped in containers of less than 118.9 gallons.

=====

ENVIRONMENTAL/SAFETY REGULATIONS---SECTION IX

=====

Section 313 (Title III Superfund Amendment and Reauthorization Act):

This product does not contain any chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

=====

COMMENTS

=====

Avoid contact and/or mixing with strong bases. Contact with strong base will liberate free amine.

PENNSYLVANIA WORKER AND COMMUNITY RIGHT TO KNOW ACT: This product contains the following ingredient(s) listed in Appendix A Hazardous Substance List:

(Continued on next page)

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

PAGE 4

INC-2512

Product Code:

(COMMENTS continued)

2-ethylhexanol 104-76-7

This product contains the following ingredients at 3% concentration or greater:

light aromatic solvent naphtha 64742-95-6

benzenesulfonic acid, dodecyl-, compd. with 2-aminoethanol (1:1) 26836-07-7

BAKER PERFORMANCE CHEMICALS INCORPORATED
MSDS for ARFLOW 168

Date Printed: 06-23-1992 Page 1

CAUTION CODE 2-1-0

1 - SECTION I - IDENTITY

BAKER PERFORMANCE CHEMICALS, INC.
A Baker Hughes company
3920 ESSEX LANE, P.O. BOX 27714
HOUSTON, TX 77227-7714

EMERGENCY TELEPHONE NUMBER:
CHEMTREC: 1-800-424-9300
800-231-3606
TELEPHONE NUMBER FOR INFORMATION:
713-599-7400

ARFLOW 168
CHEMICAL NAME: Complex Mixture

CHEMICAL FAMILY: Sulfate

2 - SECTION II - REGULATORY CLASSIFICATION

ENVIRONMENTAL

RQ= None

TPQ= None

SARA S313: No

OCCUPATIONAL

OSHA Non-Hazardous: Yes

OSHA Hazardous: NA

Acute
Chronic
Fire
Pressure
Reactive

TRANSPORTATION

Not Regulated: Yes

Regulated: NA

ID#:
DOT Response #:

3 - SECTION III - HAZARDOUS INGREDIENTS

HAZARDOUS
COMPONENT

CAS
#

PEL

OSHA*
CEIL A/L

TLV*
TWA STEL

MFG
REC

This product is not hazardous by 29CFR, 1910.1200 regulations.

*ppm unless otherwise indicated

4 - SECTION IV - PHYSICAL & CHEMICAL PROPERTIES

Specific Gravity @60F:
(H2O=1)
1.02

Vapor Pressure Estimated:
(mm.Hg @68F) <1

Vapor Density
(Air=1)
>1

pH:
5% of Product: 10.4

Date Printed: 06-23-1992 Page 3

BAKER PERFORMANCE CHEMICALS INCORPORATED
MSDS for ARFLOW 168

CAUTION CODE 2-1-0

7 - SECTION VII - PROTECTIVE EQUIPMENT RECOMMENDATIONS

VENTILATION: The use of mechanical ventilation is recommended whenever this product is used in a confined space, is heated above ambient temperatures, or is agitated. Where engineering controls are not feasible, assure use is in an area where there is natural air movement.

RESPIRATORY**CHEMICAL RESISTANT
APPAREL****EYE/FACE**

- | | | |
|--------------------------|----------|------------------|
| X As Needed | X Gloves | X Goggles |
| Air Supplied (SCBA) | Clothing | Full Face Shield |
| Air Purifying | Boots | |
| Full Face Piece | | |
| Half Face Piece | | |
| X Cartridge or Cannister | | |
| Acid Gas | | |
| X Organic Vapor | | |
| Ammonia | | |

Under normal operating conditions, no excursions above the regulated (recommended) exposure levels should occur. However, if used at elevated temperatures, lower atmospheric pressure (high altitudes) or any other physical conditions that may increase the inhalation exposure, respiratory protective equipment as described above, should be worn. Also, due to individual susceptibility and sensitivity, before respirators are used, a full medical evaluation should be performed per 29 CFR 1910.134(b)(10).

A thorough review of the job task (job safety analysis) by a competent safety professional should be conducted to determine the appropriate level of protection. See 29 CFR 1910, Subpart I and 29 CFR 1910.133 for further information.

SECTION VIII - SPILL & LEAK PROCEDURES

Don appropriate protective clothing and respiratory protection prior to entering a spill/leak area. Eliminate ignition sources. Approach area upwind if possible. Shut off leak if it can be done safely. Dike and pump large spills into salvage containers. Soak up residue and small spills with absorbent clay, sand, or dirt and place in salvage containers. If RQ (reportable quantity) is exceeded, report to National Spill Response Office -800-424-8802. Also, in some jurisdictions, spills or leaks of any hazardous materials are reportable--consult local lead agencies for further information. Continue to observe precautions.

BAKER PERFORMANCE CHEMICALS INCORPORATED
MSDS for ARFLOW 168

Date Printed: 06-23-1992 Page 4

CAUTION CODE 2-1-0

8 - SECTION VIII - SPILL & LEAK PROCEDURES (continued)

WASTE DISPOSAL METHOD(S): Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures and processes may change the classification to non-hazardous, or hazardous for reasons other than, or in addition to product characteristics. Dispose of all waste and/or containers in accordance with federal, state and local regulations.

REQUIREMENTS FOR TRANSPORTATION, HANDLING AND STORAGE: Transport, handle and store in accordance with OSHA Regulation 1910.106 and applicable DOT regulations.

Avoid inhalation of vapors or mists. Do not get in eyes, on skin or on clothing. Keep container closed when not in use. Wear suitable protection for eyes and skin when handling. Use with adequate ventilation. Avoid contact with oxidizers. Store in well-ventilated area. Store in cool, dry area.

NOTE: The information on this MSDS is based on data which is considered to be accurate. Baker Performance Chemicals, Inc., however, makes no guarantees on warranty, either expressed or implied of the accuracy or completeness of this information. Baker does expressly disclaim any loss incurred with the handling, storage, transportation, use or disposal of the product.

By: Karla M. Schweinberg
Regulatory Information Specialist

Date: 3/9/88 Supercedes: New

OFC_(R) 1535 PARAFFIN INHIBITOR INTERMEDIATE

MSDS ID: 6-005649

1 - GENERAL INFORMATION

BAKER PERFORMANCE CHEMICALS, INC.
A Baker Hughes company
3920 ESSEX LANE, P.O. BOX 27714
HOUSTON, TEXAS 77227-7714

800-424-9300 ChemTrec
800-231-3606 Emergency
713-599-7400 Information

DATE REVISED: 03/15/93

DOT SHIPPING NAME
NOT REGULATED

NFPA RATING: HEALTH - 2; FLAMMABILITY - 1; REACTIVITY - 0

2 - SUMMARY OF HAZARDS

CAUTION

PHYSICAL HAZARDS: NONE KNOWN

ACUTE HEALTH EFFECTS: SUSPECT INHALATION HAZARD
(SHORT TERM) SUSPECT EYE CONTACT HAZARD
SUSPECT SKIN IRRITATION HAZARD
SUSPECT INGESTION HAZARD
NO DATA ON SKIN ABSORPTION FOUND

CHRONIC HEALTH EFFECTS: NO INFORMATION IS AVAILABLE ON CHRONIC HEALTH
(LONG TERM) HAZARDS. HOWEVER, REPEATED SKIN CONTACT SHOULD
BE AVOIDED AS THIS PRODUCT MAY CONTAIN POLYNUC-
LEAR AROMATIC HYDROCARBONS WHICH HAVE BEEN REPOR-
TED TO INDUCE TUMORS IN LAB ANIMALS.
SEE SUPPLEMENT.

3 - COMPONENTS

COMPONENT NAME	CAS NUMBER
HEAVY AROMATIC NAPHTHA	64742-94-5

TSCA INVENTORY --
ALL INGREDIENTS ARE LISTED.

SARA SECTION 313 --
NO INGREDIENTS ARE REPORTABLE.

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT	PH
AP 350F	NO DATA AVAILABLE
FREEZING POINT	DENSITY
AP 90 TO 110F	7.25 LBS/GAL
SPECIFIC GRAVITY (H ₂ O=1 AT 39.2F)	VOLATILE CHARACTERISTICS
AP .85 TO .87	SLIGHT
VISCOSITY UNITS, TEMP. (BROOK)	SOLUBILITY IN WATER
AP 100 TO 800 CPS AT 150F	NEGLECTIBLE
VAPOR PRESSURE	STABILITY
NO DATA AVAILABLE	STABLE
VAPOR SP GR (AIR=1 AT 60 - 90F)	HAZARDOUS POLYMERIZATION
NO DATA AVAILABLE	NOT EXPECTED TO OCCUR

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4 - PHYSICAL AND CHEMICAL DATA (continued)

APPEARANCE AND ODOR
BROWN SOLID;PETROLEUM DISTILLATE ODOR
CONDITIONS AND MATERIALS TO AVOID
HEAT, SPARKS, OPEN FLAME, STRONG OXIDIZING CONDITIONS
STRONG ACIDS, STRONG ALKALIES, STRONG OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS
INCOMPLETE COMBUSTION WILL GENERATE HIGHLY POISONOUS CARBON MONOXIDE AND
PERHAPS OTHER TOXIC VAPORS.

5 - OCCUPATIONAL EXPOSURE LIMITS

NONE ESTABLISHED FOR COMPONENTS OR PRODUCT

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=
> 200F (TCC)
FLAMMABLE LIMITS (% VOLUME IN AIR)
LOWER: NO DATA AVAILABLE
FIRE AND EXPLOSION HAZARDS
WHEN HEATED ABOVE FLASH POINT, RELEASES VAPORS. WHEN MIXED WITH AIR AND
EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED.
VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND
BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. FINE SPRAYS/MIST MAY BE
COMBUSTIBLE AT TEMPERATURES BELOW NORMAL FLASH POINT.
EXTINGUISHING MEDIA
DRY CHEMICAL
CO2
WATER SPRAY
FOAM
WATER FOG
SPECIAL FIREFIGHTING PROCEDURES -
DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPO-
SITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION.
HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREAS-
ING RISK OF BURNS/INJURIES. DO NOT USE SOLID WATER STREAM/MAY SPREAD FIRE.
USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING
LIQUID WILL FLOAT ON WATER. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/
PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE
INHALATION -- PRIMARY ROUTE
ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO
EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.
EYE CONTACT -- PRIMARY ROUTE
ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO
EXIST, THIS MATERIAL IS EXPECTED TO CAUSE SEVERE EYE IRRITATION.
SKIN ABSORPTION
NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST.
SKIN IRRITATION -- PRIMARY ROUTE
ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO
EXIST, THIS MATERIAL IS EXPECTED TO BE A SEVERE SKIN IRRITANT.
INGESTION
ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO
EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
NO ADDITIONAL MEDICAL INFORMATION FOUND.

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8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

NO OCCUPATIONAL EXPOSURE STANDARDS HAVE BEEN DEVELOPED FOR THIS MATERIAL. WHERE EXPOSURE THROUGH INHALATION MAY OCCUR FROM USE, NIOSH/MSHA APPROVED RESPIRATORY PROTECTION EQUIPMENT IS RECOMMENDED.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

IMPERVIOUS PROTECTIVE SUIT WITH GLOVES, BOOTS, AND FULL HEAD AND FACE PROTECTION MUST BE WORN. THE EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

PROVIDE LOCAL EXHAUST OR GENERAL ROOM VENTILATION TO MINIMIZE EXPOSURE TO VAPORS. ELECTRICAL SYSTEMS SHOULD CONFORM TO NATIONAL ELECTRIC CODE.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION.

INGESTION

INGESTION UNLIKELY. HOWEVER, IF INGESTED, OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

IF EXPOSED, TREAT SKIN AND EYE BURNS OR IRRITANTS CONVENTIONALLY AFTER DECONTAMINATION.

AFTER ADEQUATE FIRST AID, NO FURTHER TREATMENT IS REQUIRED, UNLESS SYMPTOMS REAPPEAR.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

RELEASE CAN CAUSE FIRE/EXPLOSION. EXTINGUISH ALL IGNITION SOURCES. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, MATERIAL INSOLUBLE. CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

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11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

WHEN NORMAL HANDLING REQUIRES HEATING, DO NOT HEAT HIGHER THAN 50 F BELOW FLASH POINT. IF HIGHER TEMPERATURE IS REQUIRED FOR HANDLING, INERTING OR GAS BLANKETING SHOULD BE CONSIDERED. KEEP CONTAINERS WELL MIXED TO PREVENT SLUDGE FROM ACCUMULATING ON BOTTOM. ALL MATERIAL SAMPLING SHOULD AVOID SKIN CONTACT. SPECIAL CARE MUST BE TAKEN WHEN TRANSPORTING AND HANDLING SAMPLES.

DECONTAMINATION PROCEDURES

ISOLATE, VENT, DRAIN, WASH, AND PURGE EQUIPMENT BEFORE MAINTENANCE. REMOVE ALL IGNITION SOURCES. CHECK ATMOSPHERE FOR EXPLOSIVENESS AND OXYGEN DEFICIENCIES. IF ANY RESIDUAL PRODUCT MAY BE PRESENT, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN. SEE PROTECTIVE EQUIPMENT SECTION 8 FOR PROPER RESPIRATORY PROTECTION.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY

KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

CAUTION

PHYSICAL HAZARDS

NONE KNOWN

HEALTH HAZARDS

SEVERE SKIN AND EYE IRRITANT

INGESTION HAZARD

MUCOUS MEMBRANE IRRITANT

SIMILAR MATERIAL INDUCES TUMORS IN LAB ANIMALS

PRECAUTIONARY MEASURES

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.

AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.

AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.

USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.

PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.

WASH THOROUGHLY AFTER HANDLING.

DO NOT TASTE/SWALLOW.

DO NOT TAKE INTERNALLY.

KEEP CONTAINER CLOSED.

13 - SUPPLEMENT

HEALTH HAZARDS - SECTIONS 2 AND 7

CHRONIC HAZARDS

REGARDING POTENTIAL CHRONIC HEALTH HAZARDS WHICH MAY RESULT FROM LONG-TERM, REPEATED CONTACT, THIS MATERIAL MAY CONTAIN POLYNUCLEAR AROMATIC HYDROCARBONS (PNA'S). STUDIES HAVE SHOWN THAT THE REPEATED PAINTING OF PNA'S ON THE SKIN OF EXPERIMENTAL ANIMALS OVER A SUSTAINED PERIOD OF TIME RESULTS IN THE INDUCTION OF TUMORS. INDIVIDUALS SHOULD AVOID SKIN CONTACT AND SHOULD WASH AFFECTED AREAS IMMEDIATELY IF CONTACT OCCURS.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ = EQUAL

AP = APPROXIMATELY

LT = LESS THAN

GT = GREATER THAN

TR = TRACE

UK = UNKNOWN

N/AP = NOT APPLICABLE

N/P = NO APPLICABLE INFORMATION FOUND

N/DA = NO DATA AVAILABLE

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM

OFC_(R) 1535 PARAFFIN INHIBITOR INTERMEDIATE

MSDS ID: 6-005649

14 - DISCLAIMERS (continued)

SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS 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.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

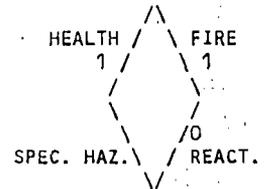
MSDS NUMBER: 2590
 PART NUMBER: INC 2590
 PRODUCT NAME: INC 2590 Paraffin Control Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: Alkylamine Sulfonate

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.
 ADDRESS: 3803 Mankins
 Odessa, TX 79763
 EMERGENCY TELEPHONE NUMBER: (915)550-7027
 INFORMATION TELEPHONE NUMBER: (915)550-7027
 DATE PREPARED: 03/15/95

HMS RATINGS:

HEALTH: 1
 FIRE: 1
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA				OTHER LIMITS		
		NTP	IARC	PART/Z	313		OSHA PEL	ACGIH TLV
0								

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	NI	SPECIFIC GRAVITY (H2O = 1)	1.02000
VAPOR PRESSURE (mm Hg.)	< 1	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Soluble at 60° F.

APPEARANCE AND ODOR: Light Amber Liquid, Mild Odor.

OTHER INFORMATION:

Viscosity Units > 100 pH = 4.5 - 5.5
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.497

DANGER

Physical Hazards:-
 Mildly corrosive to Metals

Generic Name:- Cleaning Compound

UN/NA Number:- DOT NOT REGULATED

DOT Response Number:- N/App.

DOT Proper Shipping Name:- DOT NOT REGULATED

DOT Hazard Class:- N/App.

DOT Packing Group:- N/App.

DOT/CERCLA RQ:- N/App.

This product does not contain any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: > 200 °F.	FLAMMABLE LIMITS: LEL: NI	UEL: NI
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EXTINGUISHING MEDIA:

Dry Chemical
 CO2
 Water Spray
 Water Fog
 Foam
 Sand/Earth

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

~~Fight fire from safe distance / protected location.~~

~~Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.~~

~~Use water spray / fog for cooling.~~

~~Notify authorities if liquid enters sewer / public waters.~~

UNUSUAL FIRE FIGHTING PROCEDURES:

None.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Strong Alkalies.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide, carbon dioxide, and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

No appropriate human or animal health effects data are known to exist.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

No appropriate human or animal health effects data are known to exist.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause skin irritation.

Ingestion:-

No appropriate human or animal health effects data are known to exist.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

No data on Ingestion Found.

No data on Inhalation Found.

No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE: NI

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as

PRODUCT NAME: INC 2590 Paraffin Control Intermediate

SECTION VI - HEALTH HAZARD DATA (Continued)

risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS: NI

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

All hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS: NI

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually sufficient.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS: NI

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

INTERCHEM, INC.
P.O. BOX 13166
ODESSA, TX 79768
(915) 550-7027

MATERIAL SAFETY DATA SHEET

PRODUCT TRADE NAME: **INC-2525**

CAS NO: Confidential.
SYNONYMS: None.
GENERIC/CHEMICAL NAME: Alkyl phenol
PRODUCT TYPE: Refinery Process Products.

PREPARATION/REVISION DATE:

TRANSPORTATION EMERGENCY PH NO

NFPA CODE: Health: 2 Fire: 3 Reactivity: 0

HMIS CODE: Health: 2 * Fire: 3 Reactivity: 0

PRINCIPAL HAZARDS: DANGER

- FLAMMABLE LIQUID. MAY CREATE A FLASH FIRE HAZARD.
- HARMFUL IF INHALED.
- CAUSES EYE IRRITATION.
- CAUSES RESPIRATORY TRACT IRRITATION.
- MAY BE HARMFUL IF ABSORBED THROUGH SKIN.
- MAY CAUSE SKIN IRRITATION.
- MAY CAUSE CHRONIC HEALTH EFFECTS. BASED ON DATA WITH LABORATORY ANIMALS.

SECTION 1 - HAZARDOUS INGREDIENTS

- From 40 to 50 percent Alkyl phenol;
- 41.5 percent Xylene, CAS no: 1330-20-7; DSHA PEL: 435.00 mg/ cu M., 100.00 ppm; OSHA STEL: 655.00 mg/ cu M., 150.00 ppm ACGIH TLV: 435.00 mg/ cu M., 100.00 ppm; ACGIH TLV STEL: 655.00 mg/ cu M., 150.00 ppm;
- 12.0 percent Ethylbenzene, CAS no: 100-41-4; OSHA PEL: 100.00 ppm; OSHA STEL: 125.00 ppm ACGIH TLV: 435.00 mg/ cu M., 100.00 ppm; ACGIH TLV STEL: 545.00 mg/ cu M., 125.00 ppm;

SECTION 2 - FIRE AND EXPLOSION HAZARDS

FLASH POINT (Typical): 35 Deg C 95 Deg F (PMCC)
UPPER FLAMMABLE LIMIT: Not Determined.
LOWER FLAMMABLE LIMIT: Not Determined.
EXTINGUISHING MEDIA: CO2, dry chemical, alcohol foam. Water can be used to cool and protect exposed material.
SPECIAL FIREFIGHTING PROCEDURES: Recommend wearing self-contained breathing apparatus. Water may cause splattering. Material will float on water.
UNUSUAL FIRE & EXPLOSION HAZARDS: Toxic fumes, gases or vapors may evolve on burning. Vapors may be heavier than air and may travel along the ground to a distant ignition source and flash back. Container may rupture on heating.

SECTION 3 - HEALTH HAZARD DATA

-- ACUTE EXPOSURE --

ORAL TOXICITY: The LD50 in rats is > 5000 mg/Kg. Based on actual data. Ingestion of this material may cause headache, dizziness, uncoordination, and general weakness.

EYE IRRITATION: Eye irritant. Based on actual data.

SKIN IRRITATION: May cause skin irritation. Based on actual data.

DERMAL TOXICITY: The LD50 in rabbits is > 2000 mg/Kg. Based on similar materials. Components of this material may be absorbed through the skin.

INHALATION TOXICITY: High concentrations may cause headaches, dizziness, fatigue, nausea, vomiting, drowsiness, stupor, other central nervous system effects leading to visual impairment, respiratory failure, unconsciousness and death.

RESPIRATORY IRRITATION: Nose, throat and lung irritant. Based on data from components or similar materials.

DERMAL SENSITIZATION: No data available to indicate product or components may be a skin sensitizer.

INHALATION SENSITIZATION: No data available to indicate product or components may be respiratory sensitizers.

-- CHRONIC EXPOSURE --

CHRONIC TOXICITY: Xylene has been found to cause cardiac, liver and kidney effects, anemia and eye damage in laboratory animals. Prolonged and repeated inhalation of hydrocarbon solvents such as xylene can cause chronic neurological disturbances.

CARCINOGENICITY: No data available to indicate any components present at greater than 0.1% may present a carcinogenic hazard.

MUTAGENICITY: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

REPRODUCTIVE TOXICITY: No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity.

TERATOGENICITY: No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.

-- ADDITIONAL INFORMATION --

OTHER: No other health hazards known.

EXPOSURE LIMITS: See Hazardous Ingredients Section for any applicable exposure limits for components.

SECTION 3A - EMERGENCY FIRST AID PROCEDURES

SKIN: Wash with soap and water. Immediately remove contaminated clothing. Get medical attention if irritation develops. Launder contaminated clothing before reuse.

EYE: Flush immediately with water for at least 15 minutes. Get immediate medical attention.

INHALATION: Remove exposed person to fresh air if adverse effects are observed. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If irritation persists or if toxic symptoms are observed, get medical attention.

ORAL: DO NOT INDUCE VOMITING. If conscious, give 2 glasses of water. Get immediate medical attention.

ADDITIONAL: Note to physician: Treat symptomatically.

SECTION 4 - SPECIAL PROTECTION INFORMATION

VENTILATION PROCEDURE: Use local exhaust ventilation to control mists or vapors. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits. Use explosion proof equipment.

GLOVES PROTECTION: Viton. Teflon. Polyvinyl alcohol. Note: polyvinyl alcohol gloves are water soluble and should not be used when there is potential for water contact.

EYE PROTECTION: Chemical goggles or faceshield.

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved full face respirator with a combination organic vapor and high efficiency filter cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.

CLOTHING RECOMMENDATION: Long sleeve shirt is recommended. Wear a chemically protective apron when contact with material may occur. Use neoprene or nitrile rubber boots when necessary to avoid contaminating shoes. Launder contaminated clothing before reuse.

SECTION 5 - PHYSICAL DATA

VAPOR PRESSURE: Not Determined.

PH: Not Determined.

SPECIFIC GRAVITY: 0.89 at 15.6 Deg C

WATER SOLUBILITY: Insoluble.

PERCENT VOLATILE: Unknown.

VAPOR DENSITY: Not Determined.

EVAPORATION RATE: Not Determined.

ODOR: Mild

APPEARANCE: Dark liquid

VISCOSITY: 28 Centistokes at 40 Deg C
9 Centistokes at 100 Deg C

ODOR THRESHOLD: Unknown.

SECTION 6 - STABILITY

STABILITY: Material is normally stable at moderately elevated temperatures and pressures.
INCOMPATIBILITY: Oxidizing agents.
POLYMERIZATION: Will not occur.
THERMAL DECOMPOSITION: Smoke, carbon monoxide, aldehydes and other products of incomplete combustion.

SECTION 7 - SPILL OR LEAK PROCEDURES

SPILL PROCEDURES: May form explosive mixtures with air. Immediately evacuate all personnel from danger area. Personal Protective Equipment must be worn, see Special Protection Information Section for PPE recommendations. Eliminate all sources of heat, sparks pilot lights, static electricity and open flames. Ventilate spill area. Prevent entry into sewers and waterways. Pick up free liquid for recycle and/or disposal if can be accomplished safely with explosion proof equipment. Residual liquid can be absorbed on inert material. Check under Transportation and Labeling (DOT/CERCLA) and Other Regulatory Information Section (SARA) for hazardous substances to determine regulatory reporting requirements for spills.

WASTE DISPOSAL: Material, if discarded, is expected to be hazardous waste under RCRA due to ignitability and toxicity. Consider U.S. EPA RCRA Hazardous Waste Number D001 and its associated treatment standard. If discarding this material, consider the possible relevance of the presence of the following chemicals and the treatment standards for the associated U.S. EPA RCRA Hazardous Waste Numbers:
42% Xylene, Cas no: 1330-20-7, F003.
12% Ethyl benzene, Cas no: 100-41-4, F003.
0.005% Benzene, Cas no: 71-43-2, D018.

SECTION 8 - SPECIAL PRECAUTIONS

HANDLING PROCEDURES: Keep material away from heat, sparks, pilot lights, static electricity and open flame. Open container in a well ventilated area. Avoid breathing vapors. Keep containers closed when not in use. Wash thoroughly after handling. Launder contaminated clothing before reuse. Empty containers retain material residue. Do not cut, weld, braze, solder, drill, grind or expose containers to heat, flame, spark or other sources of ignition.

STORAGE PROCEDURES: Do not store near potential sources of ignition. Isolated outside storage is preferred. Inside storage area should be in a flammable liquids cabinet or storage area.

SECTION 9 - TRANSPORTATION AND LABELING

U.S.DOT BULK SHIPPING DESCRIPTION: Flammable Liquids, NOS (Contains Ethylbenzene, Xylene), Class 3, UN1993, PG III ,RQ
U.S.DOT NON-BULK SHIPPING DESCRIPTION: Flammable Liquids, NOS (Contains Ethylbenzene, Xylene), Class 3, UN1993, PG III
IMDG SHIPPING DESCRIPTION: Flammable Liquids, NOS (Contains Ethylbenzene, Xylene), Class 3.3, UN1993, PG III
ICAO SHIPPING DESCRIPTION: Flammable Liquids, NOS (Contains Ethylbenzene, Xylene), Class 3, UN1993, PG III

ADR/RID HAZARD CLASS: 3 ITEM NUMBER: 31(c)

CERCLA HAZARDOUS SUBSTANCES: FOR SOURCES IN TRANSIT:
Product RQ 323 gal. due to Xylene
Product RQ 1118 gal. due to Ethylbenzene
FOR STATIONARY SOURCES:

Product RQ 323 gal. due to Xylene
Product RQ 1118 gal. due to Ethylbenzene
Product RQ 26826 gal. due to Benzene
Product RQ 33533 gal. due to Toluene

PRECAUTIONARY LABELS:

DANGER
- FLAMMABLE LIQUID. MAY CREATE A FLASH FIRE HAZARD.
- HARMFUL IF INHALED.
- CAUSES EYE IRRITATION.
- CAUSES RESPIRATORY TRACT IRRITATION.
- MAY BE HARMFUL IF ABSORBED THROUGH SKIN.
- MAY CAUSE SKIN IRRITATION.
- MAY CAUSE CHRONIC HEALTH EFFECTS. BASED ON DATA WITH LABORATORY ANIMALS.

SECTION 10 - OTHER REGULATORY INFORMATION

U.S. TSCA INVENTORY: All components of this material are on the US TSCA Inventory.

OTHER TSCA REG.: Section 8d, 8a (Ethylbenzene).
Section 8d, 8a (Toluene).
Section 8a (Xylene).

EEC EINECS: All components are in compliance with the EC Seventh amendment Directive 92 /32/EEC.

JAPAN MITI: All components have MITI and MOL numbers in Japan.

AUSTRALIA: All components are in compliance with chemical notification requirements in Australia.

CANADA: All components are in compliance with the Canadian Environmental Protection Act.

AUSTRIA: All components are in compliance with the Austrian Chemical Laws.

SWITZERLAND: All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

SARA EXT. HAZ. SUBST.: This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list.

SARA SECTION 313: 12.0% Ethylbenzene, CAS no.: 100-41-4
41.5% Xylene, CAS no.: 1330-20-7

CAL. PROP. 65: This product may contain the following chemical(s) known to the state of California to cause cancer and/or birth defects based on maximum impurity levels of components:
50 ppm Benzene, CAS no.: 71-43-2
0.4% Toluene, CAS no.: 108-88-3

The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of InterChem, Inc.'s knowledge; however, InterChem, Inc. makes no warranty whatsoever, expressed or implied, of MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE, regarding the accuracy of such data or the results to be obtained from the use thereof. InterChem, Inc. assumes no responsibility for the injury to recipient or to third persons or for any damage to any property and recipient assumes all such risks.

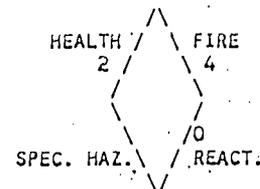
MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2571
 PART NUMBER: INC-2571
 PRODUCT NAME: INC 2571 Paraffin Solvent / Dispersant
 CAS NUMBER: - -0
 CHEMICAL NAME: Mixture of Surfactants

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.
 ADDRESS: 3803 Mankins
 Odessa, TX 79763
 EMERGENCY TELEPHONE NUMBER: (915)550-7027
 INFORMATION TELEPHONE NUMBER: (915)550-7027
 DATE PREPARED: 03/01/94

HMS R RATINGS:
 HEALTH: 2
 FIRE: 4
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB-		SARA		OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/2	313			
138-86-3	Terpenes	?	?	?	?	NI	NI	15-20%
8030-30-6	Naphtha, solvent	?	?	?	?	100	NI	30-35%

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	180 °F.	SPECIFIC GRAVITY (H2O = 1)	0.92300
VAPOR PRESSURE (mm Hg.)	12.4	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	2.1	EVAPORATION RATE (Butyl Acetate = 1)	Appreci

SOLUBILITY IN WATER: Dispersible at 60° F.

APPEARANCE AND ODOR: Amber liquid, Aromatic Odor

OTHER INFORMATION:

Viscosity Units = N/A pH = N/A
 Freezing Point < 10° F. Dry Point = Unknown

Density (Lb./Gal.) = 7.691

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- Mixture of Surfactants, Isopropanol, Terpenes

UN/NA Number:- UN 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- FLAMMABLE LIQUID, n.o.s.

DOT Hazard Class:- 3

DOT Packing Group:- II

DOT/CERCLA RQ:- N/App.

This product contains no SARA Section 313 Listed Chemicals

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 72 ° F. FLAMMABLE LIMITS: LEL: 2 % UEL: 12 %

EXTINGUISHING MEDIA:

Dry Chemical
 CO2
 Water Spray
 Water Fog

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Strong Alkalies.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause severe eye irritation.

Skin absorption:-

Exposure to a small quantity of this material can result in rapid absorption through the skin, causing a significant health hazard.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a severe skin irritant.

Ingestion:-

No data available. Ingestion of this material may result in aspiration into the lungs causing chemical pneumonia.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Irritant to nasal passages.

Severe Ingestion Hazard.

Will rapidly absorb through the skin causing significant health hazard.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

Eye Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

Inhalation:-

Coughing and shortness of breath may result. More severe symptoms are also possible.

SECTION VI - HEALTH HAZARD DATA (Continued)

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric Lavage recommended.

Vigorous anti-inflammatory/steroid treatment may be required at first evidence of pulmonary/upper airway edema.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- EXTREMELY FLAMMABLE LIQUID. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. On water, may biodegrade. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Contaminated product/soil/water may be RCRA/OSHA hazardous waste due to potentially low flash point (see 40 CFR 261 and 29 CFR 1910). Waste may be designated D001 under RCRA listing due to presence of Isopropyl Alcohol. Landfill solids at permitted sites. Use registered transporters. Burn concentrated liquids, Avoid flameouts. Assure emissions comply with applicable regulations. Dilute Aqueous waste may biodegrade. Avoid overloading/poisoning plant biomass. Assure effluent complies with applicable regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

- Wash Thoroughly after handling.
- Do not get it eyes, on skin, or clothing.
- Do not breathe dust, vapor, mist, or gas.
- Keep Container closed when not in use.
- Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due

SECTION VIII - CONTROL MEASURES (Continued)

~~to spraying liquid or airborne particles.~~ Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

- EXTREMELY FLAMMABLE.
- High Skin Contact Hazard.
- May cause long-term adverse health effects.
- Skin contact penetrant.
- Mucous membrane irritant.
- High ingestion hazard - Chemical pneumonia.
- Severe eye irritant.

Isopropanol has been reported in one animal study to be fetotoxic at levels of 2.5% in drinking water. No teratogenic effects were, or have been, reported. There are no reports of adverse reproductive effects in humans exposed to this chemical.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).I

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 1478
 PART NUMBER: INC 1478
 PRODUCT NAME: INC 1478 Corrosion Inhibitor Intermediate
 CAS NUMBER: 61790-69-0
 CHEMICAL NAME: Alkyl Imidazoline

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

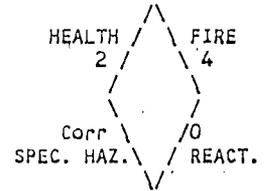
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 08/01/94

HMSIS RATINGS:

HEALTH: 2
 FIRE: 4
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA			OSHA PEL		ACGIH TLV	OTHER LIMITS
		NTP	IARC	PART/Z	313	NI	NI	RECOMMENDED PERCENT
61790-69-0	Alkyl Imidazoline	?	?	?	N	NI	NI	Propriet.
110-80-5	Cellosolve	?	?	?	N	NI	NI	Propriet.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	App 200 F.	SPECIFIC GRAVITY (H2O = 1)	0.91160
VAPOR PRESSURE (mm Hg.)	App. 1	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	3.2-3.7	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Slight

APPEARANCE AND ODOR: Light Amber Liquid, Aromatic odor.

OTHER INFORMATION:

Viscosity Units = NI pH = 9.0 - 10.0
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 7.594

DANGER

Physical Hazards:-
 Flammable Liquid
 Corrosive to Metals

Generic Name:- Alkyl Imidazoline

UN/NA Number:- UN 2733

DOT Response Number:- 29

DOT Proper Shipping Name:- Alkylamines, n.o.s. flammable, corrosive
 (Contains Butyl Cellosolve)

DOT Hazard Class:- 3

DOT Packing Group:- III

DOT/CERCLA RQ:- N/App

This product does not contain any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 150 °F.

FLAMMABLE LIMITS: LEL: App 1

UEL: App 7

EXTINGUISHING MEDIA:

Dry Chemical

Corrosion + Scale
Inhibitors

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

Water Spray
Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Strong Alkalies.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

Although no appropriate human or animal health effects data are known to exist, this product is expected to absorb through the skin.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Corrosive to Eyes.
Corrosive to Skin.
Moderate Ingestion Hazard.
Moderate Inhalation Hazard.
Moderate Skin Absorption Hazard.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

Eye Contact:-

Moderate eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

Inhalation:-

SECTION VI - HEALTH HAZARD DATA (Continued)

Coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

This material or its emissions may affect the central nervous system and/or aggravate pre-existing disorders. Prolonged observation may be indicated.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due

SECTION VIII - CONTROL MEASURES (Continued)

to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

- For industrial use only.
 - Keep out of reach of children.
 - Failure to use caution may cause serious injury or illness.
 - Never siphon by mouth.
-

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

INTERCHEM, INC.
 P.O. Box 13166
 3803 Mankins
 Odessa, Tx
 79768 79763

TRANSPORTATION - CHEMTRAC HAZARDOUS MATERIALS PHONE NO.	(915)550-7027	NFPA 704 HAZARD RATING 4 - Extreme 3 - High 2 - Moderate 1 - Slight 0 - Minimal * - Chronic Health Hazard (SEE SECTION 8)	HEALTH 2	ISSUED 7-26-93	REVISIONS REVISOR	
	24hour		FIRE 2			REACTIVITY 0

PRODUCT IDENTITY	PRODUCT NAME (LABEL) INC-1480	CHEMICAL FAMILY Imidazoline mixture
	CHEMICAL NAME SYNONYMS Imidazoline mixture	
	CAS NO. Mixture	TSCA INV. NO. All Listed
	FORMULA Mixture	
	CARCINOGEN REFERENCE APPLIED	

HAZARDOUS INGREDIENTS	CAS NO.	COMPONENTS	Subject to SARA Section 313 Reporting	%	ACGIH TLV	OSHA PEL
					PPM or *mg/M ³	
	61790-69-0	Alkyl Imidazoline	NO	85-90	NA	NA
	64242-94-5	Heavy Aromatic Solvent	NO	10-15	NA	NA

SHIPPING DATA	DOT SHIPPING NAME Alkylamines, nos, (imidazoline), UN2735, PG III	DOT HAZARD CLASSIFICATION
	response # 27	

PHYSICAL PROPERTIES	INITIAL BOILING POINT °C ND °F @ mmHg	MELTING/FREEZING POINT °C ND °F	POUR POINT °C ND °F	MOLECULAR WEIGHT MIXTURE	SPECIFIC GRAVITY (H ₂ O = 1) 0.92 @ 77 °F	
	VAPOR PRESSURE (mmHg) @ ND °C	VAPOR DENSITY (AIR = 1) ND	SOLUBILITY IN WATER (N BY WEIGHT) Nil	% VOLATILES BY WEIGHT Nil	EVAPORATION RATE - BUTYLACETATE = 1 N.D.	
	APPEARANCE & ODOR Amber liquid with aromatic odor					

FIRE AND EXPLOSION DATA	FLASH POINT °C 142 °F TCC	TEST METHOD	FLAMMABLE LIMITS IN AIR ND % By vol.	AUTO IGNITION TEMPERATURE °C ND °F	DOT EMERGENCY GUIDE NO. 60
	EXTINGUISHING MEDIA <input type="checkbox"/> Not Combustible <input type="checkbox"/> Water-log or spray <input checked="" type="checkbox"/> CO ₂ <input checked="" type="checkbox"/> Dry Chemical <input type="checkbox"/> Alcohol Foam <input checked="" type="checkbox"/> Foam <input type="checkbox"/> Earth or mud				
	SPECIAL FIRE FIGHTING PROCEDURES Wear usual fire protective clothing and self contained breathing apparatus in emergencies.				
UNUSUAL FIRE AND EXPLOSION HAZARDS Combustible Liquid					

REACTIVITY DATA	STABILITY <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable	CONDITIONS CONTRIBUTING TO INSTABILITY <input type="checkbox"/> Thermal decomposition <input type="checkbox"/> Photo degradation <input type="checkbox"/> Polymerization <input type="checkbox"/> Contamination			
	HAZARDOUS POLYMERIZATION <input checked="" type="checkbox"/> Will Not Occur <input type="checkbox"/> May Occur	INCOMPATIBILITY - AVOID CONTACT WITH <input type="checkbox"/> Strong acids <input type="checkbox"/> Strong alkalis <input checked="" type="checkbox"/> Strong oxidizers			
	HAZARDOUS DECOMPOSITION PRODUCTS - THERMAL AND OTHER (LIST) elemental oxides				
CONDITIONS TO AVOID <input checked="" type="checkbox"/> Ignition sources <input checked="" type="checkbox"/> Temperatures above °C 150 °F					

SPILL OR LEAK	STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED <input checked="" type="checkbox"/> Keep upwind <input checked="" type="checkbox"/> Avoid skin contact <input type="checkbox"/> Flush with water <input checked="" type="checkbox"/> Absorb with sand or inert material <input type="checkbox"/> Neutralize <input checked="" type="checkbox"/> Sweep or scoop out and remove <input checked="" type="checkbox"/> Prevent spread of spill				
	WASTE DISPOSAL - Consult federal, state, and local authorities for proper disposal procedures. Under RCRA, it is the responsibility of the user to determine, at the time of disposal, whether product meets RCRA criteria for hazardous waste.				

UNDER CERCLA (SUPERFUND)	REPORTABLE QUANTITY RQ =	NA Pounds
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CONTINUED ON REVERSE SIDE

Before using product, read and follow directions and precautions on product label and bulletins.

TOXICITY	B	DERMAL (SKIN) LD50 not determined for mixture. HAS > 5.0 ml/kg (rabbit)
	ACUTE	EYE NOT DETERMINED
		INHALATION LC50 not determined for mixture. HAS > 580ppm/4 hr. (rat)
	ORAL LD50 not determined for mixture. HAS 13.3 ml/kg (rat)	
OTHER Toxicity data not available for blend. Avoid contact with heavy aromatic solvent (HAS) may create cancer risk.		

HEALTH HAZARD INFORMATION	9	DERMAL May cause irritation, dermatitis, defatting.
	EYE May cause severe irritation possible corneal damage.	
	INHALATION Can produce nose, throat, & respiratory irritation & CNS depression.	
	INGESTION May cause vomiting, aspiration of vomitus into lungs. Must be avoided as even small amounts may result in aspiration and pneumonitis.	
Emergency First Aid	10	DERMAL Wash with soap and water. Seek medical attention if indicated.
	EYE CONTACT <input checked="" type="checkbox"/> Immediately flush with water for at least 15 minutes! Contact lenses should be removed if the initial flush doesn't wash them out. <input checked="" type="checkbox"/> Get medical attention	
	INHALATION <input checked="" type="checkbox"/> Remove to fresh air <input checked="" type="checkbox"/> If not breathing, give artificial respiration <input checked="" type="checkbox"/> Give oxygen if needed <input checked="" type="checkbox"/> Get medical attention, if indicated	
	INGESTION NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON! <input type="checkbox"/> Do not induce vomiting <input type="checkbox"/> Induce vomiting <input type="checkbox"/> Give plenty of water <input checked="" type="checkbox"/> Get medical attention If vomiting occurs spontaneously keep head below hips to prevent aspiration. IMMEDIATELY	

SPECIAL PROTECTION INFORMATION	11	HANDS (GLOVE MATERIALS TO MINIMIZE CHEMICAL CONTACT) <input checked="" type="checkbox"/> Neoprene <input type="checkbox"/> Natural rubber <input type="checkbox"/> Poly-ethylene <input type="checkbox"/> Butyl rubber <input type="checkbox"/> Polyvinyl alcohol <input type="checkbox"/> Polyvinyl chloride
	EYE Chemical splash goggles or face shield	
	VENTILATION REQUIREMENTS - Always maintain exposure below permissible exposure limits Area mechanical	
	RESPIRATOR TYPE - For reducing contaminant concentration in inhaled air <input type="checkbox"/> Filter - dust, fume, mist <input checked="" type="checkbox"/> Can or cartridge gas or vapor	
OTHER <input checked="" type="checkbox"/> Safety shower and/or eye wash should be available		

SPECIAL PRECAUTIONS	12	<input checked="" type="checkbox"/> Do not store near combustibles <input checked="" type="checkbox"/> Wash thoroughly after handling <input checked="" type="checkbox"/> Do not get in eyes, on skin or clothing <input checked="" type="checkbox"/> Do not breathe dust, vapor, mist, gas <input checked="" type="checkbox"/> Keep container closed <input type="checkbox"/> Keep from freezing <input checked="" type="checkbox"/> Empty container may contain hazardous residues <input checked="" type="checkbox"/> Keep away from heat, sparks, and open flames
	<input checked="" type="checkbox"/> Use explosion proof equipment	

OTHER	13	

PREPARED BY	SIGNATURE	TITLE	DATE
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PLEASE NOTE



This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of the data on this sheet relates only to the specific material designated herein, assumes no legal responsibility for use or reliance upon this data.

MATERIAL SAFETY DATA SHEET

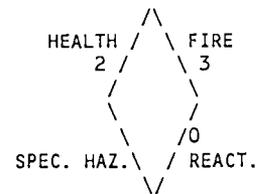
MSDS NUMBER: 2416
 PART NUMBER: INC 2416
 PRODUCT NAME: INC 2416 Corrosion Inhibitor Intermediate
 CAS NUMBER: 68909-18-2
 CHEMICAL NAME: Quaternary Ammonium Chloride mixture

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.
 ADDRESS: 3803 Mankins
 Odessa, TX 79763
 EMERGENCY TELEPHONE NUMBER: (915)550-7027
 INFORMATION TELEPHONE NUMBER: (915)550-7027
 DATE PREPARED: 10/04/93

HMSIS RATINGS:

HEALTH: 2
 FIRE: 3
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA					OTHER LIMITS	
		NTP	IARC	PART/Z	313	OSHA PEL	ACGIH TLV	RECOMMENDED PERCENT
68909-18-2	Benzyl Alkyl Pyridinyl. Quaternary Ammonium Chlorid	?	?	?	N	NI	NI	78-85 %
67-56-1	Methanol	?	?	?	Y	200 ppm.	200 ppm.	15-22 %

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	170 °F.	SPECIFIC GRAVITY (H2O = 1)	1.04000
VAPOR PRESSURE (mm Hg.)	NI	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Partially soluble at 75° F.

APPEARANCE AND ODOR: Dark Liquid with Pungent Odor

OTHER INFORMATION:

Viscosity Units > 100 pH = NI
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 8.66

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- Quaternary Ammonium Chloride

UN/NA Number:- UN 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- Quaternary Ammonium Chloride

DOT Hazard Class:- 3

DOT Packing Group:- II

DOT/CERCLA RQ:- 25,000 Lbs. (Methanol)

—This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 70 ° F.	FLAMMABLE LIMITS: LEL: NI	UEL: NI
EXTINGUISHING MEDIA: Dry Chemical CO2 Foam		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Material may release flammable vapors if exposed to high temperature. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined.

Vapors may be heavier than air, may travel long distances along ground before igniting / flashing back to vapor source.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Strong Acids.

Strong Alkalies.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide, carbon dioxide, and oxides and/or compounds of nitrogen.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to absorb through the skin.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Severe Ingestion Hazard.

Vapors will irritate the nasal mucosae.

Material is expected to absorb readily through the skin.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure. Contains Methanol which is a cumulative toxin, readily absorbed.

Eye Contact:-

Severe eye irritation may develop on exposure. May cause corneal damage.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

Toxic by ingestion. Contains Methanol, which is a cumulative toxin that can cause blindness, narcosis, nausea and death.

Inhalation:-

SECTION VI - HEALTH HAZARD DATA (Continued)

Coughing and shortness of breath may result. More severe symptoms are also possible. Methanol is a cumulative toxin. Avoid continuous exposure. Can cause dizziness, unconsciousness, cardiac depression, optic complications and death.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

This material or its emissions may affect the central nervous system and/or aggravate pre-existing disorders. Prolonged observation may be indicated.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention IMMEDIATELY. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. The use of an endotracheal tube should be considered. Administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch" load (load into containers which previously contained gasoline or other low flash material) because of possible accumulation of a static charge resulting in a source of ignition. Use good personal hygiene practices.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

- For industrial use only.
 - Keep out of reach of children.
 - Failure to use caution may cause serious injury or illness.
 - Never siphon by mouth.
-

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

Printed 07-06-1993

MSDS ID: 3-001427

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InDimer 1427 CORROSION INHIBITOR INTERMEDIATE

1. - GENERAL INFORMATION

INTERCHEM
3803 MANKINS
ODESSA, TX 79763

915 - 550-7027 INFORMATION

GENERIC NAME

DATE CREATED: 07- 5-1993

DOT PROPER SHIPPING NAME
NOT REGULATED

UN/NA NUMBER

NA-9259

REVISION DATE:
07-06-1993

2. - SUMMARY OF HAZARDS

CAUTION

PHYSICAL HAZARDS:

SLIGHTLY CONBUSTIBLE

ACUTE HEALTH EFFECTS:

NO DATA ON INHALATION FOUND
NO DATA ON EYE IRRITATION FOUND
NO DATA ON SKIN ABSORPTION FOUND
NO DATA ON SKIN IRRITATION FOUND
NO DATA ON INGESTION FOUND

CHRONIC HEALTH EFFECTS:
(LONG-TERM)

NO APPRPRIATE CHRONIC HUMAN OR ANIMAL HEALTH
EFFECTS DATA ARE KNOWN TO EXIST

3. - COMPONENTS

COMPONENT NAME

CAS NUMBER

% COMPOSITION BY WT

NOT HAZARDOUS BY OSHA 29 CRF 1910.1200 STANDARDS.

THIS PRODUCT CONTAINS NO SARA SECTION 313 LISTED CHEMICALS.

MATERIAL SAFETY DATA SHEET

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InDimer 1427 CORROSION INHIBITOR INTERMEDIATE

4. - PHYSICAL AND CHEMICAL DATA

BOILING POINT	pH
AP 600F	AP 3.0 TO 4.0
FREEZING POINT	DRY POINT
UK	UK
SPECIFIC GRAVITY (H ₂ O = 1 AT 39.2 F)	VOLATILE CHARACTERISTICS
AP 0.98	NEGLIGIBLE
VISCOSITY UNITS, TEMP. (BROOK)	SOLUBILITY IN WATER
UK	NEGLIGIBLE
VAPOR PRESSURE	STABILITY
LT 0.1 MM HG AT 70F	STABLE
VAPOR SP. GR. (AIR = 1 AT 60 - 90 F)	HAZARDOUS POLYMERIZATION
AP 1.0	NOT EXPECTED TO OCCUR
APPEARANCE AND ODOR	
DARK AMBER LIQUID; BURNT GREASE ODOR.	
CONDITIONS AND MATERIALS TO AVOID	
HEAT AND OPEN FLAME.	
STRONG OXIDIZING AGENTS; STRONG ALKALIES.	
HAZARDOUS DECOMPOSITION PRODUCTS	
WHEN HEATED TO DECOMPOSITION, MAY GENERATE CARBON MONOXIDE.	

5. - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE DATE	TYPE	VALUE	TIME
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InDimer 1427 CORROSION INHIBITOR INTERMEDIATE

6. - FIRE AND EXPLOSION

FLASH POINT METHOD =

GT ~~500~~ 200 °C

AUTOIGNITION TEMP. METHOD =

N/DA

FLAMMABLE LIMITS (1% VOLUME IN AIR)

AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE

LOWER: N/DA

UPPER: N/DA

FIRE AND EXPLOSION HAZARDS

HEAT FROM FIRE CAN GENERATE FLAMMABLE VAPOR. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR, MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. FINE SPRAYS/MISTS MAY BE COMBUSTIBLE AT TEMPERATURES BELOW NORMAL FLASH POINT

EXTINGUISHING MEDIA

DRY CHEMICAL

CO2

WATER SPRAY

FOAM

SPECIAL FIREFIGHTING PROCEDURES

DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION.

SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/ PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. DO NOT USE SOLID WATER STREAM - MAY SPREAD FIRE. USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/ STEAM EXPLOSION. BURNING LIQUID WILL FLOAT ON WATER. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER / PUBLIC WATERS.

7. - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION -- PRIMARY ROUTE

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST

EYE CONTACT -- PRIMARY ROUTE

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST

SKIN ABSORPTION

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST

SKIN IRRITATION -- PRIMARY ROUTE

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST

INGESTION

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY INDUCE AN ALLERGIC OR SENSITIZATION REACTION, AND THEREBY AGGRAVATE SYSTEMIC DISEASE.

InDimer 1427 CORROSION INHIBITOR INTERMEDIATE

8. - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

NO OCCUPATIONAL EXPOSURE STANDARDS HAVE BEEN DEVELOPED FOR THIS MATERIAL. WHERE EXPOSURE THROUGH INHALATION MAY OCCUR FROM USE, NIOSH/MSHA APPROVED RESPIRATORY PROTECTION EQUIPMENT IS RECOMMENDED.

EYE PROTECTION

EVEN THOUGH NO SPECIFIC EYE IRRITATION DATA IS AVAILABLE, WEAR EYE PROTECTION APPROPRIATE TO CONDITIONS OF USE WHEN HANDLING THIS MATERIAL.

SKIN PROTECTION

WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

AT ELEVATED TEMPERATURES, SPECIAL VENTILATION MAY BE REQUIRED EVEN IF THE FLASH POINT HAS NOT BEEN EXCEEDED. FLAMMABLE MISTS OF AEROSOLS CAN BE GENERATED BELOW THE FLASH POINT OF HIGH BOILING LIQUID.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING / WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9. - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20 TO 30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

REMOVE CONTAMINATED CLOTHING AS NEEDED. WASH SKIN THOROUGHLY WITH MILD SOAP / WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST.

INGESTION

SEE SUPPLEMENT

EMERGENCY MEDICAL TREATMENT PROCEDURES

CONTINUE TO RINSE EYE WITH CLEAN WATER FOR 20 TO 30 MINUTES, RETRACTING EYELIDS OFTEN. CONTACT OPHTHALMOLOGIST IMMEDIATELY. TREAT BURNS OR ALLERGIC REACTIONS CONVENTIONALLY AFTER DECONTAMINATION.

MATERIAL SAFETY DATA SHEET

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InDimer 1427 CORROSION INHIBITOR INTERMEDIATE

10. - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

RELEASE CAN CAUSE FIRE / EXPLOSION. EXTINGUISH ALL IGNITION SOURCES. IMPOUND/ RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, MATERIAL INSOLUBLE. CONTAIN / MINIMIZE DISPERSION / COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS DILUTING WITH CLEAN, LOW VISCOSITY FUEL. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING / POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS. CONTAMINATED PRODUCT, SOIL OR WATER SHOULD NOT BE DESIGNATED RCRA HAZARDOUS WASTE.

11. - ADDITIONAL PRECAUTIONS.

HANDLING AND STORAGE PROCEDURES

SLIGHTLY COMBUSTIBLE. KEEP CONTAINERS CLOSED WHEN NOT IN USE. STORE AWAY FROM HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. STORAGE TEMPERATURE - MAX. 140 F; MIN. 32 F. IF FROZEN, THAW AND MIX THOROUGHLY BEFORE USE.

DECONTAMINATION PROCEDURES

EQUIPMENT CONTAINING THIS MATERIAL SHOULD BE ISOLATED AND THOROUGHLY DRAINED, WASHED, AND PURGED PRIOR TO MAINTENANCE / REPAIR OPERATIONS. WEAR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

12. - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

CAUTION

PHYSICAL HAZARDS

COMBUSTIBLE

HEALTH HAZARDS

SKIN AND EYE IRRITANT

PRECAUTIONARY MEASURES

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.
WASH THOROUGHLY AFTER HANDLING.

InDimer 1427 CORROSION INHIBITOR INTERMEDIATE

13. - SUPPLEMENT

HEALTH HAZARDS -- SECTIONS II, IV, AND VII

VERY LITTLE DATA ARE AVAILABLE ON THE TOXICITY OF THIS PRODUCT. IT MAY BE A MILD ALLERGEN (SAX. DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS). ANOTHER UNPUBLISHED REPORT STATES THAT THIS MATERIAL MAY BE TREATED AS A NON-TOXIC VEGETABLE OIL WITH NO KNOWN EFFECTS FROM OVER-EXPOSURE. IT ALSO STATES THAT SENSITIVE OR SENSITIZED INDIVIDUALS MAY DEVELOP SYMPTOMS UPON REPEATED DERMAL CONTACT. THE PH OF THIS PRODUCT IS EXPECTED TO BE IN THE RANGE OF 3.0 TO 4.0 WHICH MAY INDUCE EYE OR SKIN IRRITATION.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ	= EQUAL	AP	= APPROXIMATELY
LT	= LESS THAN	GT	= GREATER THAN
TR	= TRACE	UK	= UNKNOWN
N/AP	= NOT APPLICABLE	N/P	= NO APPLICABLE INFORMATION
N/DA	= NO DATA AVAILABLE		FOUND

14. - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS 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.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 2213
 PART NUMBER: INC 2213
 PRODUCT NAME: INC 2213 Scale Inhibitor Intermediate
 CAS NUMBER: 6419-19-8
 CHEMICAL NAME: Phosphonic Acid Derivative

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

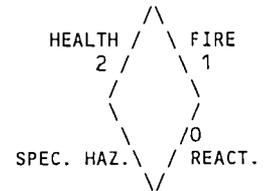
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 07/09/93

HMIS RATINGS:

HEALTH: 2
 FIRE: 1
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA			OTHER LIMITS			
		NTP	IARC	PART/Z 313	OSHA PEL	ACGIH TLV	RECOMMENDED PERCENT	
6419-19-8	Phosphonic Acid, [Nitrilo Tris (Methylene)], Tris	?	?	?	N	NI	NI	48-52 %

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	> 212 ° F.	SPECIFIC GRAVITY (H2O = 1)	1.30000
VAPOR PRESSURE (mm Hg.)	NI	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Complete

APPEARANCE AND ODOR: Amber, Clear Liquid with Strong Aldehyde Odor

OTHER INFORMATION:

Viscosity Units = App. 11 pH = App. 2.0
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 10.83

DANGER

Physical Hazards:-
 Corrosive to Metals

Generic Name:- Phosphonate Scale Inhibitor

UN/NA Number:- UN 1760

DOT Response Number:- 60

DOT Proper Shipping Name:- Corrosive Liquid, n.o.s.

DOT Hazard Class:- 8

DOT Packing Group:- II

DOT/CERCLA RQ:- N/App.

This product does not contain any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: > 200 ° F.	FLAMMABLE LIMITS: LEL: N/App. UEL: N/App.
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EXTINGUISHING MEDIA:

Dry Chemical
 CO2
 Water Spray

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

Water Spray
Water Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

None.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and carbon dioxide.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be absorbed through the skin.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Moderate Ingestion Hazard.

Moderate Inhalation Irritant.

No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure. (Dermatitis)

Eye Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop. Large amounts, if retained, may lead to symptoms of central nervous system depression.

Inhalation:-

PRODUCT NAME: INC 2213 Scale Inhibitor Intermediate

SECTION VI - HEALTH HAZARD DATA (Continued)

Coughing and shortness of breath may result.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Any preexisting dermatitis or other skin disorders.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank.

Neutralize collected liquid waste with dilute caustic soda, sodium carbonate (will fizz), or sodium bicarbonate (will fizz). Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch" load (load into containers which previously contained gasoline or other low flash material) because of possible accumulation of a static charge resulting in a source of ignition. Use good personal hygiene practices.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Store drums with bungs in up position.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

PRODUCT NAME: INC 2213 Scale Inhibitor Intermediate

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

For industrial use only. Keep out of reach of children. Failure to use caution may cause serious injury or illness. Never siphon by mouth.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

MATERIAL SAFETY DATA SHEET

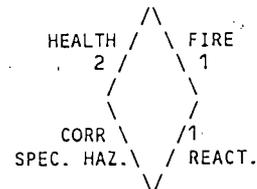
MSDS NUMBER: 2216
 PART NUMBER: 2216
 PRODUCT NAME: INC 2216 Scale Inhibitor Intermediate
 CAS NUMBER: 69009-91-2
 CHEMICAL NAME: Phosphonic Acid Salt

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.
 ADDRESS: 3803 Mankins
 Odessa, TX 79763
 EMERGENCY TELEPHONE NUMBER: (915)550-7027
 INFORMATION TELEPHONE NUMBER: (915)550-7027
 DATE PREPARED: 10/07/93

HMIS RATINGS:

HEALTH:
 FIRE:
 REACTIVITY:
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA			OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/Z 313			
12125-02-9	Ammonium chloride	?	?	?	N NI	NI	5-10
69009-91-2	Trade Secret # 2216-01	?	?	?	N NI	NI	45-50

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	212 F.	SPECIFIC GRAVITY (H2O = 1)	1.24000
VAPOR PRESSURE (mm Hg.)	NI	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Complete

APPEARANCE AND ODOR: Amber Liquid / Pungent Odor

OTHER INFORMATION:

Viscosity Units = AP 28 pH = AP 1.0
 Freezing Point = NI Dry Point = NI

DANGER

Physical Hazards:-
 Combustible Liquid
 Corrosive to Metals

Generic Name:- Phosphonic Acid Salt

UN/NA Number:- UN 1760

DOT Proper Shipping Name:- Corrosive Liquid, N.O.S. (Phosphonic Acid Salt)

DOT Hazard Class:- Corrosive Liquid

DOT/CERCLA RQ:- NE

This product contains no SARA Section 313 Listed Chemicals

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: > 200 F. FLAMMABLE LIMITS: LEL: NI UEL: NI

EXTINGUISHING MEDIA: NI

Dry Chemical
 CO2
 Water Spray
 Water Fog

SPECIAL FIRE FIGHTING PROCEDURES: Do not enter fire area without proper protection. see section V - decomposition products possible.

Fight fire from safe distance / protected location.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

May become combustible following evaporation of non-combustible carrier.

Use water spray / fog for cooling. Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES: May become combustible upon loss of water carrier.

SECTION V - REACTIVITY DATA

STABILITY:

Stable

INCOMPATIBILITY (MATERIALS TO AVOID):

Heat, open flame.
Evaporation of all water content.
Strong Oxidizing Agents.
Strong Bases (Alkalies)

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

When heated to decomposition, may emit Carbon Monoxide, as well as trace oxides and/or compounds of Nitrogen and Phosphorous.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Inhalation is unlikely except at elevated temperatures and/or pressure. However, if exposed to vapor / aerosol for even a short time, coughing and shortness of breath may result. More severe symptoms are also possible.

Eye Contact:- Primary Route

May cause destruction of eye tissue.

Skin Absorption:-

No appropriate human or animal health effects data are known to exist.

Skin Irritation:- Primary Route

May produce skin irritation, blistering, ulcers, and deep scarring.

Ingestion:-

Ingestion of this material may cause corrosion or irritation of the linings of the mouth, throat, and gastrointestinal tract.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Corrosive to Eyes.
Corrosive to Skin.
Severe Ingestion Hazard.
No data on Inhalation Found.
No data on Skin Absorption Found.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

Eye Contact:-

Severe eye irritation may develop immediately on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

If ingested, may cause corrosion of the Gastrointestinal tract. If may also cause corrosion of skin and eye on contact. Prompt treatment is essential to minimize damage.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt actions is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often. Obtain emergency medical

SECTION VI - HEALTH HAZARD DATA (Continued)

attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see Section VIII). Impound / recover large land spill. Soak up small spill with inert solids. Shovel into suitable disposal containers. Flush / dilute residue with water.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, fiberglass, lined steel, or stainless steel.

OTHER PRECAUTIONS:

Decontamination Procedures:-

Equipment containing this material should be isolated and thoroughly drained, washed, and pruged prior to maintenance / repair operations. Wear recommended personal protective equipment.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

This product contains no SARA Section 313 listed chemicals.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness.

SECTION IX - ADDITIONAL INFORMATION (Continued)

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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

P.O. Box 13166
 3803 Mankins
 INTERCHEM, INC. Odessa, Tx
 79768 79763

IF THIS IS A HAZARDOUS CHEMICAL	TRANSPORTATION - CHEMICAL	NFPA 704 HAZARD RATING	HEALTH	
	800-424 9300	4 = Extreme 3 = High 2 = Moderate 1 = Slight 0 = Minimal M = Chronic	2	
	(915)550-7027	HEALTH HAZARD (SEE SECT 9)	1	
	24hour	REACTIVITY	ISSUED	REVISED
		1	01-30-90	

PRODUCT IDENTITY	PRODUCT NAME LABEL	CHEMICAL FAMILY
	INC-2215	Phosphonic Acid
	CHEMICAL NAME SYNONYMS	Amino Methylene Phosphonic Acid
CAS NO	FORMULA	CARCINOGEN REFERENCE APPLIES
69009-91-2	$C_8H_{25}N_3O_7P_4$	

HAZARDOUS INGREDIENTS	CAS NO	COMPONENTS	SUBJECT TO SAHA Section 313 Reporting	%	ACGIH TLV	OSHA PEL
	69009-91-2	Diethylene Triamine Tetra Methylene Phosphonic Acid	No	48-52	N.E.	N.E.

SHIPPING DATA	DOT SHIPPING NAME	DOT HAZARD CLASSIFICATION
	Corrosive Liquid NOS - UN1760 (Phosphonic Acid)	Corrosive

PHYSICAL PROPERTIES	INITIAL BOILING POINT	MELTING/CRYSTALLIZATION POINT	MOLECULAR WEIGHT	SPECIFIC GRAVITY (20/20)
	°C 210 °F 400	°C ND °F	48-52	1.25 @ 60 °F
	VAPOR PRESSURE	VAPOR DENSITY	SOLUBILITY IN WATER IN G/100 ML	EVAPORATION RATE - BUTYL ACETATE = 1
	ND °C	ND	Complete	ND
APPEARANCE & ODOR				
Amber Liquid with pungent odor				

FIRE AND EXPLOSION DATA	FLASH POINT	TEST METHOD	FLAMMABLE LIMITS IN AIR	AUTOIGNITION TEMPERATURE	DOT EMERGENCY GUIDE NO
	°C 200 °F		ND % By vol	°C ND °F	60
	EXTINGUISHING MEDIA				
<input type="checkbox"/> Not Combustible <input type="checkbox"/> Water fog of spray <input checked="" type="checkbox"/> CO2 <input checked="" type="checkbox"/> Dry Chemical <input type="checkbox"/> Alcohol Foam <input type="checkbox"/> Foam <input type="checkbox"/> Earth or mud					
SPECIAL FIRE FIGHTING PROCEDURES					
Wear usual fire protective clothing and self contained breathing apparatus in emergencies.					
UNUSUAL FIRE AND EXPLOSION HAZARDS					
None					

REACTIVITY DATA	STABILITY	CONDITIONS CONTRIBUTING TO INSTABILITY
	<input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable	<input type="checkbox"/> Thermal decomposition <input type="checkbox"/> Photo degradation <input type="checkbox"/> Polymerization <input type="checkbox"/> Contamination
	HAZARDOUS POLYMERIZATION	INCOMPATIBILITY - AVOID CONTACT WITH
<input checked="" type="checkbox"/> Will Not Occur <input type="checkbox"/> May Occur	<input type="checkbox"/> Strong Acids <input checked="" type="checkbox"/> Strong Alkalis <input checked="" type="checkbox"/> Strong Oxidizers	
HAZARDOUS DECOMPOSITION PRODUCTS - THERMAL AND OTHER (LIST)		
Elemental Oxides		
CONDITIONS TO AVOID		
<input type="checkbox"/> Ignition sources <input type="checkbox"/> Temperatures above °C °F		

LEAK/SPILL	STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	UNDER CERCLA (SUPERFUND)	REPORTABLE QUANTITY
	<input checked="" type="checkbox"/> Keep upwind <input checked="" type="checkbox"/> Avoid skin contact <input checked="" type="checkbox"/> Flush with water <input checked="" type="checkbox"/> Absorb with sand or inert material <input type="checkbox"/> Neutralize <input checked="" type="checkbox"/> Sweep or scoop out and remove <input checked="" type="checkbox"/> Prevent spread of spill	RQ =	N.E. Pounds
	WASTE DISPOSAL - Consult federal, state, and local authorities for proper disposal procedures.	CONTINUED ON REVERSE SIDE	
Under RCRA, it is the responsibility of the user to determine, at the time of disposal, whether product meets RCRA criteria for hazardous waste.			

NA-NOT APPLICABLE ND-NOT DETERMINED <-LESS THAN >-GREATER THAN ~-APPROXIMATELY R-REVISION ON THIS LINE

TOXICITY	8	DERMAL (SKIN) No specific data available - skin irritant
	ACUTE	EYE No specific data available - eye irritant
		INHALATION No specific data available - avoid prolonged exposure
		ORAL No specific data available - Avoid contact
		OTHER The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

HEALTH HAZARD INFORMATION Effects of Over Exposure	9	DERMAL May cause irritation
	EYE May cause severe irritation	
	INHALATION May irritate mucous membranes	
	INGESTION Highly acidic material	
	10	DERMAL Wash with soap and water. Seek medical attention if indicated.
FIRST AID	EYE CONTACT <input checked="" type="checkbox"/> Immediately flush with water for at least 15 minutes. Contact lenses should be removed if the initial flush doesn't wash them out. <input type="checkbox"/> Get medical attention	
	INHALATION <input checked="" type="checkbox"/> Remove to fresh air <input type="checkbox"/> If not breathing, give artificial respiration <input type="checkbox"/> Give oxygen if needed <input type="checkbox"/> Get medical attention, if indicated	
	INGESTION (NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON) <input checked="" type="checkbox"/> Do not induce vomiting <input type="checkbox"/> Induce vomiting <input checked="" type="checkbox"/> Give plenty of water <input type="checkbox"/> Get medical attention	

SPECIAL PROTECTION INFORMATION	11	HANDS (GLOVE MATERIALS TO MINIMIZE CHEMICAL CONTACT) <input checked="" type="checkbox"/> Neoprene <input type="checkbox"/> Natural rubber <input type="checkbox"/> Polyethylene <input type="checkbox"/> Butyl rubber <input type="checkbox"/> Polyvinyl alcohol <input type="checkbox"/> Polyvinyl chloride
	EYES Chemical splash goggles or face shield	
	VENTILATION REQUIREMENTS - Always maintain exposure below permissible exposure limits Area, mechanical	
	RESPIRATOR TYPE - For reducing contaminant concentration in inhaled air <input type="checkbox"/> Filter - dust fume mist <input checked="" type="checkbox"/> Can or cartridge gas or vapor	
	OTHER <input checked="" type="checkbox"/> Safety shower and/or eye wash should be available	

SPECIAL PRECAUTIONS	12	<input type="checkbox"/> Do not store near combustibles <input checked="" type="checkbox"/> Wash thoroughly after handling <input checked="" type="checkbox"/> Do not get in eyes, on skin or clothing <input checked="" type="checkbox"/> Do not breathe dust, vapor, mist, gas <input checked="" type="checkbox"/> Keep container closed <input checked="" type="checkbox"/> Keep from freezing <input checked="" type="checkbox"/> Empty container may contain hazardous residues <input type="checkbox"/> Keep away from heat, sparks, and open flames
	<input type="checkbox"/> Use explosion proof equipment	

OTHER	13	
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DATE	SIGNATURE	TITLE	DATE
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PLEASE NOTE → This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of the data on this sheet relates only to the specific material designated herein, assumes no legal responsibility for use or reliance upon this data.

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: 224/
 PART NUMBER: INC 224/
 PRODUCT NAME: INC 224/ Scale Inhibitor Intermediate
 CAS NUMBER: - -0
 CHEMICAL NAME: PolyAcrylate Solution

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

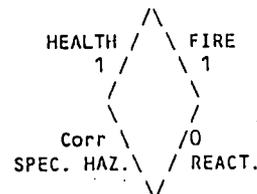
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 11/03/93

HMIS RATINGS:

HEALTH: 1
 FIRE: 1
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB-	SARA	NTP	IARC	PART/2	313	OSHA	PEL	ACGIH	TLV	OTHER LIMITS	RECOMMENDED PERCENT

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	App. 212°F	SPECIFIC GRAVITY (H ₂ O = 1)	1.30000
VAPOR PRESSURE (mm Hg.)	App. 17	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	0.6	EVAPORATION RATE (Butyl Acetate = 1)	Moderat

SOLUBILITY IN WATER: Appreciable

APPEARANCE AND ODOR: Bright Pale Yellow Liquid, Mild Odor.

OTHER INFORMATION:

Viscosity Units = 400 pH = 3 to 5
 Freezing Point = NI Dry Point = NI

Density (Lb./Gal.) = 10.8

DANGER

Physical Hazards:-
 Corrosive to some Metals

Generic Name:- PolyAcrylate Solution

UN/NA Number:- N/App.

DOT Response Number:- N/App.

DOT Proper Shipping Name:- DOT Not Regulated

DOT Hazard Class:- N/App.

DOT Packing Group:- N/App.

DOT/CFR/CLP RQ:- NONE

This product does not contain any chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: > 200 ° F.	FLAMMABLE LIMITS: LEL: NI	UEL: NI
EXTINGUISHING MEDIA:		
Dry Chemical		
CO ₂		
Water Spray		
Water Fog		

PRODUCT NAME: INC 224 Scale Inhibitor Intermediate

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

May become combustible upon loss of aqueous carrier.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

While not normally combustible, if water content is lost (as in a fire), material may release flammable vapors if exposed to high temperature. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air, may travel long distances along ground before igniting / flashing back to vapor source.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Strong Alkalies.

Mild Steel, copper, brass.

Heat, sparks, open flames, and elevated temperatures.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and carbon dioxide, and perhaps other toxic vapors.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of inhalation exposure.

Eye contact:- Primary Route

May cause minor eye irritation.

Skin absorption:-

No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin absorption exposure.

Skin irritation:- Primary Route

May cause slight skin irritation.

Ingestion:-

No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of ingestion.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Mildly irritant to Eyes.

Mildly irritant to Skin.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Mild irritation or redness of the skin may develop after exposure.

Eye Contact:-

Mild eye irritation may develop on exposure.

Ingestion:-

Not expected to present a significant ingestion hazard under conditions of normal use.

Inhalation:-

Not expected to present a significant inhalation hazard under conditions of normal use.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

No additional medical information found.

SECTION VI - HEALTH HAZARD DATA (Continued)

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

Not expected to present a significant inhalation hazard under conditions of normal use.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract both eyelids often. Obtain emergency medical attention if pain, blinking, tears or redness persist.

Skin Contact:-

Not expected to present a significant skin hazard under anticipated conditions of normal use.

Ingestion:-

Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

Emergency Medical Treatment Procedures:-

Treat symptomatically.

After adequate first aid, no further treatment is required unless symptoms reappear.

OTHER HEALTH WARNINGS: NI

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank.

Slippery - Spread granular cover. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Report per regulatory requirements.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Liquid material is slippery - remove small leaks / spills from walking surface with solid absorbents. Use caution to avoid falls causing serious injury. Store away from heat, sparks, open flames and strong oxidizing agents. Use only non-sparking tools. Protect from freezing. If frozen, thaw and mix thoroughly before use. Avoid overheating which may adversely affect quality or overpressure containers.

Decontamination Procedures:-

Empty containers should be thoroughly washed with copious amounts of clean water. The rinse water can then be used for makeup water for any necessary dilution of the concentrated product before use, or it can be properly discarded.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

SECTION VIII - CONTROL MEASURES (Continued)

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

For industrial use only. Keep out of reach of children. Failure to use caution may cause serious injury or illness. Never siphon by mouth.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its 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.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).



PRO-KEM, INC.
 BOX 1506 396-7433
 LOVINGTON, NM 88260

Western Commerce Bank
 Lovington, NM Tel (505) 396-2831



May 25, 1995

95-108/1122
6

PAY ONE THOUSAND FOUR HUNDRED THIRTY AND NO/100----- DOLLARS \$ 1,430.00

TO
THE
ORDER
OF

NMED WATER QUALITY MANAGEMENT

Derald Phillip
Barbara Ward



PRO-KEM, INC.
LOVINGTON, NM 88260

DETACH AND RETAIN THIS STATEMENT
 THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW
 IF NOT CORRECT, PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED

DATE	DESCRIPTION	AMOUNT	DISTRIBUTIONS	
			ACCT. NO.	AMOUNT
5-25-95	Discharge Plan Fee and Filing Fee	1430.00		

PERIOD ENDING	TOTAL EARNINGS	DEDUCTIONS							TOTAL DEDUCTIONS	NET PAY
		F.I.C.A.	WITHHOLDING U.S. INC. TAX	STATE TAX	MEDICARE					

AS

GUARDIAN SAFETY

5/4/95 8 AM 8 52

STATE OF
NEW MEXICO
OIL
CONSERVATION
DIVISION



MEMORANDUM OF MEETING OR CONVERSATION

<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Personal	Time 9:11	Date 5/4/95
---	-----------------------------------	--------------	----------------

<u>Originating Party</u>	<u>Other Parties</u>
GERALD PHILLIPS - PRO KEM - LOU. NM	

Subject DISCHARGE PLAN

Discussion GERALD REQUESTED I REVIEW THEIR DISCHARGE PLAN BEFORE THEY SEND IN TO SANTA FE

Conclusions or Agreements

ADVISE GERALD PHILLIPS NOT TO MISS DP DEADLINE & ADVISED HIM TO CONTACT PAZ SANCHEZ - NMCCO

Distribution cc PAZ SANCHEZ

Signed



February 6, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-637

Mr. Gerald Phillips
PRO KEM INC
P.O. Box 1506
Lovington, NM 88260

**RE: Discharge Plan Requirement
Lovington Facility
Lea County, New Mexico**

Dear Mr. Phillips:

Under the provision of the Water Quality Control Commission (WQCC) Regulations, you are hereby notified that the filing of a discharge plan is required for the PRO KEM facility located at 2400 S. Main in Lovington, 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.

VILLAGRA BUILDING - 408 Gallego

Forestry and Resources Conservation Division
P.O. Box 1948 87504-1948
827-5830

Park and Recreation Division
P.O. Box 1147 87504-1147
827-7465

2040 South Pacheco

Office of the Secretary
827-5950

Administrative Services
827-5925

Energy Conservation & Management
827-5900

Mining and Minerals
827-5970

Oil Conservation
827-7131

Mr. Gerald Phillips
February 6, 1995
Page 2

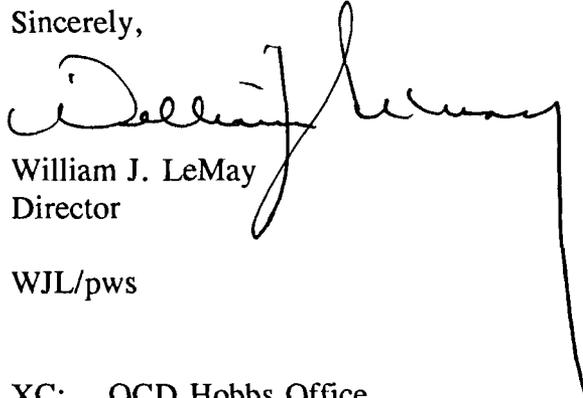
A copy of the regulations have been provided for your convenience. Also provided is an OCD guideline for the preparation of discharge plans at oil & gas service companies. The guideline addresses berming of tanks, curbing and paving of process areas susceptible to leaks or spills and the disposition 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
Director

WJL/pws

XC: OCD Hobbs Office

Z 765 962 637



**Receipt for
Certified Mail**

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to PRO KEM INC	
Street and No.	
P.O., State and ZIP Code	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

PS Form 3800, March 1993



BRUCE KING
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2850

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

RECEIVED

DEC 29 1992

OIL CONSERVATION DIV.
SANTA FE

MEMORANDUM :

TO: Roger Anderson, Oil Conservation Division Bureau Chief

THRU: Edward L. Horst, RCRA Program Manager
Coby G. Muckelroy, Inspection / Enforcement

FROM: Michael Le Scouarnec, Hazardous Waste Inspector

DATE: December 22, 1992

SUBJECT: Reference of inspection for soil remediation

On November 18, 1992 the Hazardous and Radioactive Materials Bureau conducted an inspection at Pro-Kem Inc. located in Lovington. The results of the inspection bring the HRMB to refer this soil remediation to the Oil Conservation Division. A copy the report is attached. I believe that you already have copies of the appendixes. If you desire clearer pictures, you can borrow the originals, or the negatives.



BRUCE KING
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT

Harold Runnels Bulding
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2850

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

**PRO-KEM
INSPECTION REPORT**

Date of Report: December 8, 1992
Date of Inspection: November 18, 1992
Facility: Pro-Kem
EPA ID Number: Non-Notifier
Ownership: Private
Location: 2400 South Main, Lovington N.M.
Mailing Address: P.O. Box 1506, Lovington N.M. 88260
Facility Contact: Gerald Phillips, Owner
Enforcement to: Gerald Phillips, Owner
Notification Status: Non-Notifier
Current Operating Status: Non-Handler
Type of Inspection: Complaint Investigation
Participants: Pro-Kem: Gerald Phillips, Mngr.
NMED: Coby Muckelroy
Michael Le Scouarnec
Weather: Cloudy, light rain, 60's
Time of Entry: 11:45 a.m.
Time of Exit: 2:30 p.m.

INTRODUCTION

This inspection was conducted as a Compliance Evaluation Inspection (CEI) in response to a complaint. The complainer is the owner of a property that Pro-Kem is actually leasing from. The nature of the complaint is related to a Pro-Kem's chemical leak and its remediation, that happened on the leased property. This inspection was conducted in addition to the FY 93 grant agreement. Mr. Muckelroy, accompanied by Mr. Le Scouarnec, lead the inspection. Based on a file review, this facility has never been inspected by the Hazardous Waste Program.

HISTORY AND NATURE OF BUSINESS

This facility retails oilfield chemical sales and service. The company exists since 1986. Pro-Kem used to be located at the adjacent estate, 2330 South Main, for a total of 6 years. The facility moved to 2400 South Main in July, '92; and is still leasing the property at 2330 South Main until December 31, 1992. Pro-Kem's manager, Mr. Phillips found out that an underground chemical leak occurred prior to July '92.

A 10,000 gallon tank containing naphtha leaked thru underground pipes connecting the tank to the building, (see map & pictures 1 to 7). The leak does not totalize the tank capacity. The leak remained unnoticed for a certain period of time. When Pro-Kem purchased the present location (2400 South Main) and moved everything in July '92, Mr. Phillips contracted Jerry Barnard of Bio Remediation to bioremediate small spills and spots.

According to Mr. Phillips: (see letter in appendix), none of the leaks amounted to more than 3 or 4 gallons and most were smaller than that. The reason for the bioremediation was the clean up of small spills and spots that occurred during a period of time of 6 years, including a place where the diesel fuel tank had leaked, and the place where the treating trucks had leaked corrosion inhibitor. The remediation started in August '92, the contractor removed 1 to 2 inches of the contaminated surfaces; then the material was stored in a drum for analysis. The yard included one 10,000 gallon tank of naphtha, one 2000 gallon tank of methanol, and one 800 gallon tank plus four 400 gallon tanks of chemical products. Additionally some drums containing products sat on pallets along the fence. Once all these tanks and containers were moved out; Mr. Phillips contracted Ray Hardy of Pinion Water Well Service to remove the underground pipes connecting the former tanks to the building.

As the latest contractor dug the trench, he noticed a strong odor coming out of the ditch, and informed Mr. Phillips of that. Two days later, Mr. Phillips went back to inspect the backfilled ditch and detected the odor of naphtha. A leak definitively occurred at about 60 feet from the building. The cause of the leak is attributed to thread damages. Jerry Barnard of Bioremediation came back to test the area; as well as Ray Hardy to reopen the ditch, and to dig out a plastic line that was deeper than the steel line. On August 20th, the ditch was opened from end to end, and the City of Lovington came on site to inspect the situation. Mr. Phillips and the city delegate removed a small sample of the most contaminated soil, and put a flame to it to see if it would burn. It would not burn.

On August 26, Lovington's City Manager, Mr. Bob Carter contacted Mr. Phillips that the city will have the ditch sample by Cardinal Laboratories for BTEX.

According to Mr. Barnard: Two samples were taken from the top of piles of soil beside the ditch, and a composite sample was also taken at various intervals in a span of 60 feet. Cardinal Laboratories conducted analysis method # 8020. During the split session, Mr. Barnard has been instructed by the Cardinal representative on how to take samples.

According to Mr. Phillips: Based on the quantity of contaminated soil removed, the naphtha leak did not exceed more than 30 gallons. On September 18, Jerry Barnard took a composite sample taken at 3 points along the backfilled ditch. The splits were sent immediately to Cardinal Laboratories. Meanwhile, Mr. Phillips scraped the dried material on surface of the yard; his concerns regarding the hazardous nature of the contaminated soil, made him call HRMB.

Following the yard inspection, we inspected the building. No violations were noted in the building. After our inspection at 2330 South Main, the inspectors went next door, at 2400 South Main, where Pro-Kem Inc. moved their installations. There are 8 employees working at Pro-Kem, one blender Mixer, two truck drivers, three salesmen, and two secretaries.

WASTE STREAMS GENERATED AND HAZARDOUS WASTE MANAGEMENT AREAS

The facility basically generates any hazardous waste. The only waste is the wash-part solvent. The 20 gallon naphtha unit is picked up every other month by Safety-Kleen. Expired chemicals are blended into batches. A contractor takes care of the empty drums that are no longer usable (pinhole leaks, and bent ones).

Solid waste generation consists of Safety-Kleen absorbent (3391) to clean spottage, trashed wood pallets, and office trash.

RESULTS OF INSPECTION

Coby Muckelroy and Michael Le Scouarnec conducted an inbrief with Mr. Gerald Phillips, Pro-Kem's manager. We conducted the physical inspection followed by a documentation review and the outbrief conference.

The physical started in the yard of Pro-Kem's former location, (2330 South Main). The ground exhibited signs of contamination along the trench in which the pipelines were contained, and signs of possible contamination in the area where the tanks were located, (see pict. 1 to 7, and maps in appendix). Mr. Phillips told us that the water table is about 120 feet below surface. Also, that bioremediation consisted of tilling the soil and applying bacteria and fertilizer for about 2 months. The building formerly used for blending did not show signs of contamination. The drain system is self contained, it does not discharge. Mr. Phillips accompanied by the inspectors went back to the facility's present location, (2400 South Main).

The facility mixes different chemicals products with naphtha with the help of 3 vats, (see pict. 8) to form emulsion breakers, paraffin dispersants, surfactants (hydroxy acetic acid), scale inhibitors (salt of phosphoric acid), corrosion inhibitors, and other chemical used in blends such as methanol (winterizing), alcohols, potassium hydroxide, and amine bases. Oxygen scavenger is bought and sold as it is. The expired chemicals are blended into batches, as well rinses from vat blendings. The 20 gallon Safety-Kleen wash-part unit is recycled every 2 months. In the yard, one can see the tanks of product in the bermed area, (see pict. 9,10,11). We then inspected the former washbay for trucks and mobile equipments. This area is presently used to store cleaned drums. No violations were noted during the physical inspection.

Sample analysis of the contaminated area were the only documents available for review during the inspection.

The outbrief conference was conducted by Mr. Muckelroy; Mr. Le Scouarnec and Mr. Phillips were also present. No violations were found at that time. Therefore, Mr. Muckelroy informed Mr. Phillips that a remediation report should be sent as per Mr. Horst's request delineating the locations where the samples were taken, and an estimate of the quantity spilled. The soil analysis results submitted by Cardinal Laboratories reveal no contamination by RCRA wastes.

However, an in-depth analysis for total petroleum hydrocarbon (TPH) contamination will be conducted by Oil Conservation Division (OCD).

Pro-Kem Inspection Report
December 8, 1992
Page 5

In appendix, the documentation submitted from Mr. Phillips consists of: a letter addressed to Mr. Horst explaining the situation, a map, a bioremediation's report letter, a naphtha MSDS, and final analysis report from Cardinal Laboratories. Also, in appendix, the documentation submitted from Ms. Kitchens, (owner of the leased property), consists of: a letter addressed to Mr. Horst explaining the situation, a map, a bioremediation's report letter, a surfactant warning label, and two attorney's letters.

RECOMMENDED ACTION

Since no violations were noted or determined at that time, Pro-Kem Inc. should be sent a letter informing them of such. The present file will be referred to OCD. No further action is required.

MKS

HRMB PHOTO SHEET

FACILITY: Pro-KEM

PHOTO #: 1

DATE: Nov, 18, 1992

LOCATION: Facing

South E

(2330 South main)

DESCRIPTION: _____

Remediation site

Naphtha leak in

buried lines

VIOLATION: NONE

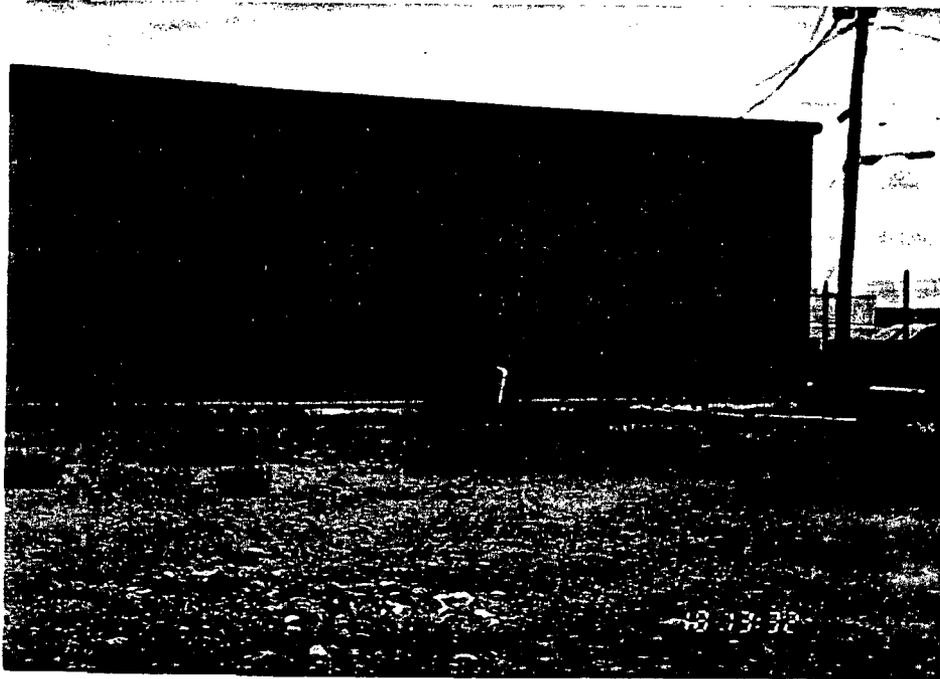


PHOTO #: 2

DATE: Nov 18, 1992

LOCATION: Facing

South E

(2330 South Main)

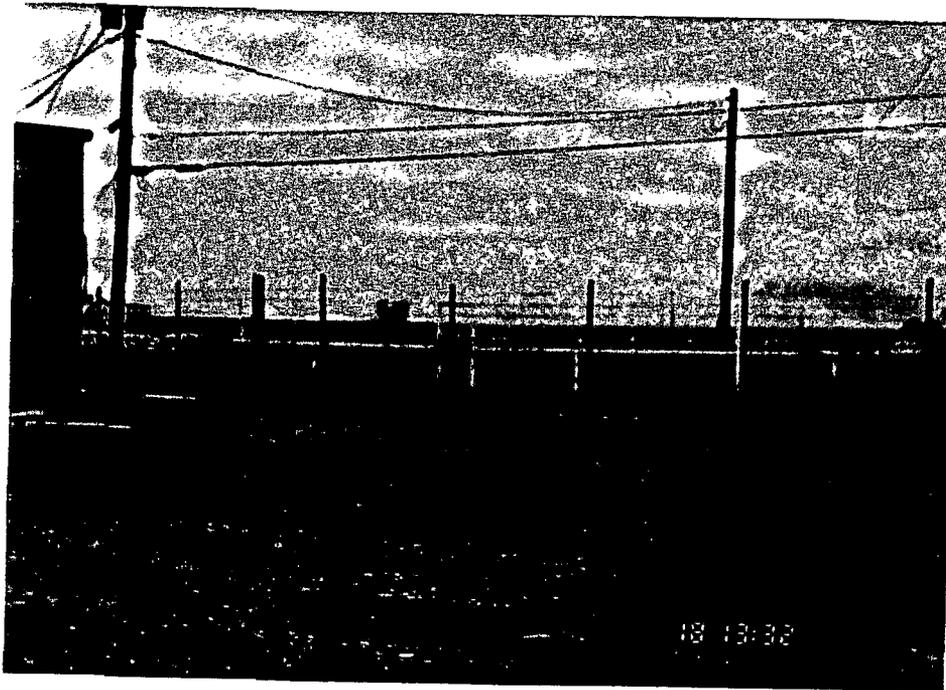
DESCRIPTION: _____

Remediation site

Naphtha leak in

buried lines

VIOLATION: NONE



HRMB PHOTO SHEET

FACILITY: Pro-KEM

PHOTO #: 3

DATE: NOV 18 1992

LOCATION: _____

Facing South

(2330 South Main)

DESCRIPTION: _____

Remediation site

Naphtha leak in

buried lines

VIOLATION: NONE



PHOTO #: 4

DATE: NOV 18, 1992

LOCATION: _____

Facing South

(2330 South Main)

DESCRIPTION: _____

Remediation site

Naphtha leak in

Buried lines

Location of Naphtha tank

VIOLATION: NONE



HRMB PHOTO SHEET



FACILITY: Prokem

PHOTO #: 5

DATE: NOV 18, 1992

LOCATION: Facing South W
(2330 South Main)

DESCRIPTION: Former
Location
of Tanks ^{Naptha &} _{Methanol}
& storage area
for DRUMS

VIOLATION: NONE



PHOTO #: 6

DATE: NOV 18, 1992

LOCATION: Facing West
(2330 South Main)

DESCRIPTION: Former Location
of Diesel fuel
Tank

VIOLATION: NONE

HRMB PHOTO SHEET

FACILITY: Pro-KEM

PHOTO #: 7

DATE: NOV 18 1992

LOCATION: Facing WEST
(2330 South Main)



DESCRIPTION: _____

Corner of yard

VIOLATION: NONE

PHOTO #: 8

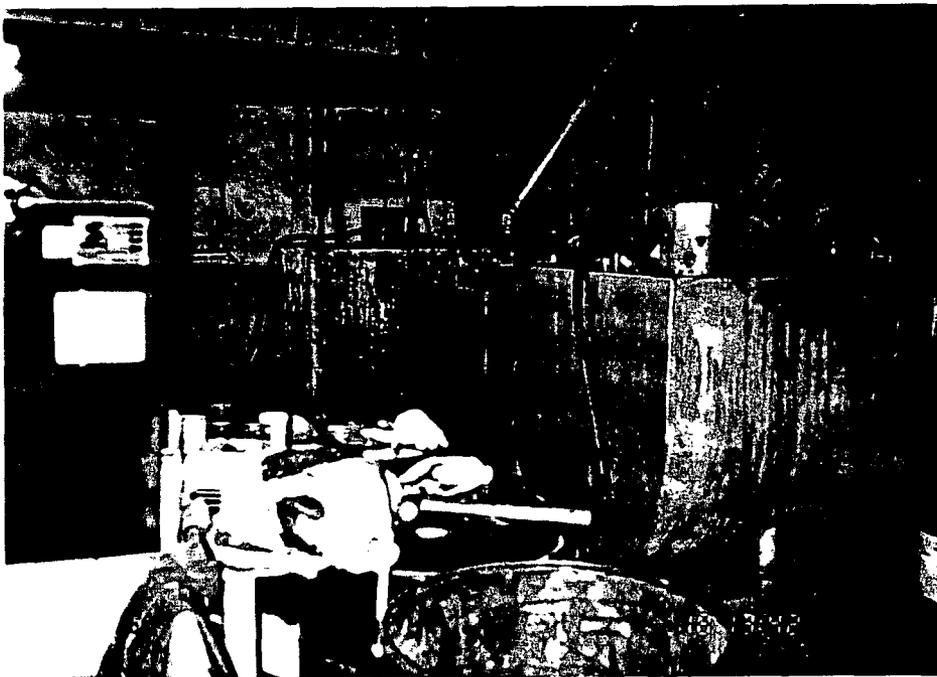
DATE: NOV 18

LOCATION: Building for
Blending
(2400 South Main)

DESCRIPTION: 3 Vats

for Blends

Safety & Clean Unit



VIOLATION: NONE

HRMB PHOTO SHEET

FACILITY: Pro-Kem

PHOTO #: 9

DATE: NOV 18, 1992

LOCATION: Facing South
(2400 South Main)

DESCRIPTION: Bermed
area & containers
(product)

VIOLATION: NONE



PHOTO #: 10

DATE: NOV 18, 1992

LOCATION: Facing South
(2400 South Main)

DESCRIPTION: Bermed
area & containers
(product)

VIOLATION: NONE



HRMB PHOTO SHEET



FACILITY: Pro-Kem

PHOTO #: 11

DATE: NOV 18, 1992

LOCATION: Facing South
(2400 South Main)

DESCRIPTION: Bermed
area & containers
(products)

VIOLATION: NONE

PHOTO #: _____

DATE: _____

LOCATION: _____

DESCRIPTION: _____

VIOLATION: _____

Cover Sheet

Date: 12-9-92

To: Hazardous & Radioactive
Materials Bureau

Att: Michael LeJeouarnec

From: Penney Kitchens

Pages Sent: 5

GERALD PHILLIPS



ARDINAL LABORATORIES

PHONE (505) 393-2385 • 101 E. MAPLAND • HOBBS, NEW MEXICO 88240

BTEX

PRELIMINARY REPORT

Company: BPS RIP REMEDIATION
Address: P.O. Box 1537
City, State: LOVINGTON, NM 88260

Date: 9/23/92
Lab #: H1033

Project Name: CITY OF LOVINGTON
Project Location: PROHEM YARD

Sampled by: JA Date: 09/18/92 Time: _____
Analyzed by: ME Date: 09/21/92 Time: 1100

Type of Samples: SOIL Sample Condition: GST Units: mg/kg

Samp #	Field Code	TRPHC	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE	MTBE
1	PROHEM YARD	—	0.169	0.031	<0.001	0.007	0.009	0.183	<0.001

QC RECOVERY		1.61	2.051	2.173	2.290	2.169	2.167	2.081	1.613
QC SPIKE			1.935	2.009	2.047	1.999	2.007	2.059	1.842
ACCURACY			106.0%	108.2%	111.9%	108.5%	108.0%	101.1%	87.6%

Methods - AUTOMATED HEADSPACE GC; INFRARED SPECTROSCOPY
- EPA SW-846; EPA METHODS 8020, 418.1, 3540 OR 3510

Rec: 11/9/92

C. GENE SAMBERSON
MICHAEL T. NEWELL

LEWIS C. COX, III

LAW OFFICES
HEIDEL, SAMBERSON & NEWELL

311 NORTH FIRST STREET
POST OFFICE DRAWER 1599
LOVINGTON, NEW MEXICO 88260
TELEPHONE (505) 396-5303
FAX (505) 396-5305

F.L. HEIDEL
(1913-1985)

November 6, 1992

Mr. C. Barry Crutchfield
TEMPLEMAN AND CRUTCHFIELD
Attorneys-At-Law
Second Floor, Reed-McCrory Building
Lovington, New Mexico 88260

Re: **Your Client: Pro-Kem, Inc.**
Our Clients: Paul and Penny Kitchens

Dear Barry:

I acknowledge receipt of your letter of October 14, 1992, responding to my letter of October 9th.

I will point out that some of the matters upon which you express your understanding as reflected in your October 14th letter are contrary to my understanding. First, Mr. and Mrs. Kitchens have not had direct contact with the property use by Pro-Kem, Inc. except for a brief period initially and thus they have had no direct contact with the property use by Pro-Kem for the past several years. Next, we have no information that indicates that the two (2) tests of samples taken in connection with the City's efforts indicates that no further remediation steps are required, nor that such testing results indicate that Pro-Kem's remediation efforts have been successful. It is my understanding that based on the testing of the two (2) samples done no one is in a position to certify that the remediation efforts have been successful and that no further remediation efforts are required. With respect to the building, I believe it is more accurate to say that while Mr. Kitchens has inspected the building and has indicated a willingness to agree upon the physical repairs made by Pro-Kem to the building he has never agreed that the building is free from contamination arising out of or by reason of Pro-Kem's operations. We frankly do not know at this point whether the building is or is not free of such contamination.

The purpose of my letter of October 6th to Pro-Kem, Inc. was our attempt to resolve concerns on behalf of the Kitchens as quickly and as cheaply as possible for all interested parties. Consequently, I requested the information set forth in my October 6th letter. Unfortunately, we have not been furnished any of the requested information. I was of the opinion that if we received the requested information I would be in a position to submit that to a qualified entity engaged in performing certified environmental surveys to determine what, if any, additional sampling, testing, etc. might be recommended. As you are well aware, unless

■-■-■

November 6, 1992

Mr. C. Barry Crutchfield

specific information is available in making such a request, those entities engaged in the environmental survey business are unable to set definite parameters upon which to base their recommendations and provide an estimate of costs for accomplishing their recommendations. My clients' principal concern, of course, is that the leased premises be returned to them in as good a state and condition as when Pro-Kem, Inc. originally commenced the Lease, except for reasonable use and wear thereof. They want to do whatever is reasonable to assure themselves and any prospective purchaser or future tenant that the premises are safe for human occupancy and use.

With respect to the obligations of Pro-Kem, Inc. under the existing Lease of the premises, it is my understanding that Pro-Kem is obligated to maintain the demised premises in good and proper manner for the duration of the Lease, excepting ordinary wear and tear and, that upon completion of the Lease, Pro-Kem is obligated to return the demised premises in as good a state and condition as received by Pro-Kem at the commencement of the Lease, excepting reasonable use and wear. Based on the limited information available to us, I know that some of the premises have had spills and leaks arising from Pro-Kem's operations, but we are not knowledgeable of the full nature, extent and location of same. Also, based upon the limited information I have regarding Pro-Kem's operations, I am inclined to believe that Pro-Kem, Inc. is obligated under Federal law and State law to keep accurate records of hazardous substances and to notify proper agencies of spills and leaks. In addition, I suspect that Pro-Kem is required to maintain Material Safety Data Sheets for at least some, if not all, of the chemicals stored or used on the premises during their operations for the past several years. Consequently, I have some difficulty understanding why the information requested is not readily available from Pro-Kem. Further, I believe Pro-Kem, Inc. has the obligation to not only disclose this information and furnish the other information that I requested in my October 6th letter, but also to furnish to us evidence satisfactory to show it will meet its obligations under the Lease that the property is being returned to the Kitchens at the end of the Lease term in as good a state and condition as when received by Pro-Kem at the commencement of the Lease, ordinary wear and tear excepted. You indicated in the last paragraph of your October 14th letter that it is Pro-Kem's position that all reasonable and necessary repairs to the property have been made and that you would forward to me the final clearance of the property. I am not sure what final clearance you have reference to, but if you have any written document or other information to support Pro-Kem's position, I request that you furnish it now. I do not believe the mere statement of what Pro-Kem's position is meets its obligations under the Lease.

If Pro-Kem fails to furnish satisfactory evidence sufficient to show it will meet its obligations under the Lease as outlined above, then the Kitchens will want to have access to the premises upon reasonable notice to you for purposes of pursuing the recommendations of a qualified environmental survey entity, including any recommended sampling and testing. If the Kitchens, in their efforts to reasonably assure themselves that the premises will be safe for human occupancy and use upon the expiration of the present Lease are required to obtain an environmental survey, the Kitchens will look to Pro-Kem for damages and particularly if such

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PONY EXPRESS M&M

PAGE 05

Page 3

November 6, 1992

Mr. C. Barry Crutchfield

survey shows that Pro-Kem, Inc. has not met its Lease obligations. We really have no desire to get into litigation over these matters. We are really seeking you and your client's cooperation in order to resolve all concerns as soon as possible.

Very truly yours,

HEIDEL, SAMBERSON & NEWELL

By *(Gene Samberson)*

CGS:lt

cc: Mr. and Mrs. Paul Kitchens

Street 4' alley line 275' from east city street
to adjacent property.
Detection Gate

Walkway

⑤ ① ① ⑤ S ⑤

① - 500 gallon FERTILIZER TANKS
IPA + Diuretic

② Mining or churning jets

③ 10,000 gallon tank - Naphtha

④ 2000 gallon tank - methanol

⑤ storage area for drums
of chemical & mixed products

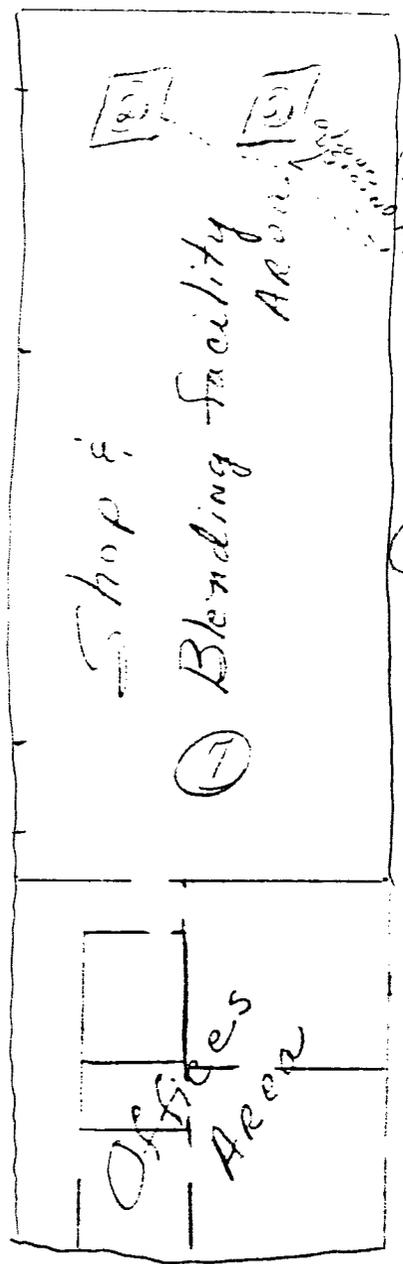
⑥ diesel fuel storage tank *

⑦ 30' x 75' Metal Building

rooms by 1000

⑤ E

East Yard



⑤

Underground lines

⑤

West Yard

⑤

⑥

N

②

Embankment Diked Area

①

W

* Not being on location daily
this tank could have been
located in other AREAS over the
six (6) year period.

⑤



PROTECTIVE EQUIPMENT

For Eyes: Both chemical splash goggles and face shield.

For Inhalation: Less than 100 times TLV/TWA (5 mg/m³), use full facepiece respirator with replaceable high efficiency mist filter. More than 100 times TLV/TWA, use positive pressure supplied air respirator.

For Skin: Impervious protective suit plus impervious gloves, boots, full head/face protection.

FIRST AID

Eye Contact: Prompt action is essential. For even minor contact, immediately flush eyes with clean/low pressure/lukewarm water for 15 minutes, while lifting eyelids. Obtain emergency medical treatment.

Inhalation: Prompt action is essential. Immediately move victim to fresh air. Keep victim quiet. Administer oxygen or artificial respiration as needed. Obtain emergency medical treatment.

Skin Contact: Immediately remove contaminated clothing. Wash skin thoroughly with mild soap/water. Flush 15 minutes with lukewarm water. If sticky, use waterless cleaner first. Obtain prompt emergency medical treatment.

Ingestion: Immediately administer lukewarm water or milk (pint) if victim is conscious/alert. Do not induce vomiting because of corrosive effects. Obtain immediate emergency medical treatment.

IN CASE OF SPILL

Prevent spill from reaching sewer or public waters. Notify appropriate regulatory authorities. Minimize water use in cleanup. Equip cleanup crew with proper protection. Soak up small land spill with inert solids/shovel into suitable disposal container(s). Confine large land spill for recovery/ recycle. On water, contain/recover to minimize dispersion. Disperse non-recoverable to minimize harm. Dispose in accordance with federal, state and local regulations.

**THIS CONTAINER CAN PRODUCE EXPLOSION OR FIRE HAZARD, EVEN WHEN EMPTY.
TO AVOID RISK, DO NOT CUT, PUNCTURE, OR WELD NEAR THIS CONTAINER.**

SSC
SURFACTANT

**FOR INDUSTRIAL USE ONLY
CAUTION
COMBUSTIBLE**



MAY CAUSE IRRITATION TO SKIN AND EYES.

Do not handle near heat, sparks, open flame

- Avoid contact with skin, eyes and clothing.
- Wash thoroughly after handling.
- Do not breathe vapors or mist.
- Use only with adequate ventilation/personal protection.
- Do not swallow.
- Protect from freezing. If frozen thaw and thoroughly mix before use.

MIX BEFORE USE

EMERGENCY 24 HOUR ANSWERING SERVICE

(505) 396-7433



24 Hr. Answering Service

PRODUCTION CHEMICALS
PRO-KEM, INC.
PO Box 1506 - 505/396-7433
Lovington, New Mexico 88260

GERALD PHILLIPS
MANAGER

Caprock Unit 4972
505/397-3291



November 24, 1992

Ed Horst
New Mexico Environmental Department
P.O. box 26110
Santa Fe, New Mexico 87502

Dear Mr. Horst,

The following report details the procedures and action taken by Pro-Kem, Inc. in cleaning and testing the yard at 2330 South Main Street, Lovington, New Mexico which was formerly occupied by Pro-Kem, Inc. The term of occupation was from August 1986 thru July 1992. Pro-Kem, Inc. is in business of retail oil-field chemical sales and service. From January 1987 through June 1992, Pro-Kem, Inc. blended nearly all of the chemicals it sold. These blends were made from intermediate base products and solvents.

The solvents used were water, naphtha (xylene bottoms), isopropyl alcohol (IPA), toluene and methanol. The intermediate bases consist mostly of petroleum distillates along with some phosphoric and phosphonic acids and soaps. We do not handle any material containing heavy metals, however at one time, we did handle a small amount of Zinc Chromate, $Zn_3(CrO_4)_2$ but this product line was discontinued years ago. What little we did handle was not stored in the yard.

Over a period of six years we had several small leaks from drums stored in the yard but as soon as they were noticed these drums were picked up and redrummed. To my knowledge none of the leaks amounted to more than 3 or 4 gallons and most were smaller than that.

When Pro-Kem, Inc. purchased the present location (2400 South Main Street) and moved everything in July 1992, I contacted Jerry Barnard of Bio Remediation, to bioremediate the aforementioned spills, a place where the diesel fuel tank had leaked and the place where the treating trucks had leaked some corrosion inhibitor while loading the tanks on the trucks. Bioremediation was started the first week in August 1992.

(1)



The spot where drums had leaked and where corrosion inhibitor had leaked had dried material (the heavier intermediate base) on top of the caliche and down into it about 1-2 inches. This material was dug out and stored in a drum for analysis. The results of the test on this material is attached (flash point and B-tex).

On the southwest part of the yard, Pro-Kem, Inc. had the following tanks inside a berm with caliche walls:

- One 10,000 gallon steel horizontal tank on legs.
- One 2,000 gallon steel vertical tank on concrete pad.
- One 800 gallon fiberglass tank on a 4 ft. stand.
- Four 400 gallon fiberglass tanks on a 4 ft. stand.
- Drums containing chemicals sat on wooden pallets along the fence.

The 10,000 gallon tank contained naptha which was piped into the buliding. The 2,000 gallon tank contained methanol which was also piped into the building.

Pro-Kem, Inc. contracted Ray Hardy of Pinion Water Well Service to dig up the steel lines with his backhoe. Mr. Hardy dug up the line Saturday August 15, 1992. Monday August 17, 1992 I talked to Mr. Hardy about the job and he informed me that there was a strong odor from the ditch while he was digging about 60 feet from the building. I went to inspect the backfilled ditch and definitely detected the odor of naptha. Mr. Hardy who has expertise in the make up of piplines, told me the collar leaked because it had been tightened too much and this caused some thread damage. I contacted Jerry Barnard of Bio Remediation to test the area. I contacted Ray Hardy to reopen the ditch from end to end and to dig out a plastic line that had been used for a short time which was deeper than the steel line. The ditch was reopened about August 20, 1992. Mr. Hardy dug through the caliche fill of about 3 ft. and into the black topsoil 1/2 to 1 foot.

The City of Lovington was contacted and they came to inspect. We removed a small sample of the most contaminated soil, took it next door and put a flame to it to see if it would burn. It would not burm. I informed the city of my plans to bioremediate and they agreed to that plan of action. Bioremediation was started an August 21, 1992.



On August 26, 1992 Bob Carter, Lovington City Manager, contacted me and said that they were going to have Cardinal Labs of Hobbs N.M. to take a sample from the ditch for B-tex analysis (EPA Method 8020). I agreed with Mr. Carter that those test were needed.

The results of these tests are attached. A Cardinal representative in the presence of Jerry Barnard took two samples from the top of piles of soil beside the ditch. One sample was a composite sample of soil taken at various intervals in a span of 60 ft. labeled "north 1/2" and was actually from the northwest half of the ditch. The other sample was taken in a similar manner and labeled "south 1/2". It was also over a span of 60 ft. This was actually the southeast half of the ditch (nearest the building). This procedure was witnessed by Jerry Barnard only.

While the Cardinal representative was there he instructed Jerry Barnard on how to take the next sample which was done on September 18, 1992. This procedure was witnessed by me (Gerald Phillips) and Paul Kitchens (property owner). The sample taken by Jerry Barnard was taken after the ditch was closed.

I would like to have it on record that there was a definite odor of naphtha in the caliche that was removed from the ditch, but there was no odor in the top soil removed from the very bottom of the ditch directly below where the leaking collar had been. For this reason it is my opinion that the total amount of naphtha leaked was less than 30 gallons. If I thought otherwise, I would certainly have kept digging, treating and testing until such time as I felt confident that the contamination had been removed.

The sample Mr. Barnard collected was a composite sample taken at three points along the backfilled ditch. This sample was put in a jar with a lid that sealed tightly and was carried to Cardinal Labs immediately. The three points where the sample were taken was near the northeast end, near the middle and near the southeast end.

During the time that we were scraping up the dried material from the old yard, I contacted Safety Kleen of Midland, Texas for advise on what to do with the material. One of their representatives named Brian Ashburn came to inspect the material.



He was not sure that it would be considered hazardous waste and suggested I contact the New Mexico Environmental Dept. I believe this was during the last week in August 1992. Mr. Ashburn showed me the business card of Tom Burt and I made a copy of it. The next day I called Mr. Burt and explained our situation to him. He told me to call 505-827-4300 which I did. At this number I reached Mr. Ron Mitchell and related to him in detail what we had done to clean up the old yard at this point. He told me that Mr. Horst was the person I really should talk to but that he was not in and that he would tell him about my call.

I did not try to contact the Environmental Dept. again until November 11, 1992. Again I spoke to Ron Mitchell who just happened to be in the office (November 11 was Veteran's Day). Mr. Mitchell said he had discussed my previous call with Mr. Horst and that he would be in the office the next day. November 12, 1992 I called 505-827-4308 and was told that Mr. Horst would be gone until Monday (November 16). I called November 16 but Mr. Horst was not in. November 17, I contacted Mr. Horst at his office and told him about our efforts to bioremediate the old yard at 2330 South Main. Mr. Horst said that he had two inspectors in the area and that they would be by to inspect that day or the next.

Two inspectors came the next day about 11:30 am. The Sr. inspector was Coby Muckleroy and the other inspector was Mike, but I cannot recall his last name.

Mr. Muckleroy told me after the inspection that I should have contacted them before beginning bioremediation but that at that point he did not see need for further action on our part but that his statement was an opinion at that time and not final.

Pro-Kem, Inc. regrets the procedural errors made in the process but if a similar situation should arise in the future (heaven forbid) we will know what to do first.

I hope I have satisfactorily related the events pertaining to this matter. If you have further questions, I will be glad to help.

After you read and assess this material and that submitted by Coby Muckleroy, I would appreciate a copy of your final assessment.

Sincerely,

Gerald Phillips
Gerald Phillips

OFF (505) 396-3431
RES (505) 396-8350
CELLULAR 369-5575
369-5392

B
P
S

BIO REMEDIATION

Post Office Box 1539
Lovington, NM 88260

Distributor for
KISEKI USA

October 12, 1992

Re: Pro Kem Inc. Lovington yard closure.

On or about August 1, 1992 BPS was contacted by Gerald Phillips with Pro Kem Inc. and asked to assess and treat the Lovington yard for any TPH(total petroleum hydrocarbons) or BTEX (Benzene, toluene, ethyl benzene, ortho zylene) possible contamination.

BPS personell found several surface only small spills and a larger area of contamination from a leaking diesel tank that only penetrated about 8 inches below the surface. Work was then started to clean up the stains according to accepted bioremediation processes. this consisted of plowing, treatment with bacteria and fertilizer, and watering.

On August 18, 1992 a buried naptha line was remembered and stripped out. There was some contamination in the soil so bioremediation was started on the removed dirt and ditch. At this time the city of Lovington was brought into the picture and the City Manager, Bob Carter, authorized BPS to collect soil samples from the ditch and piled up dirt. The samples were tested by Cardinal Labs of Hobbs and were well under limits for closure of the ditch. We treated for 3 more weeks, just to be sure and then soil tested again. The ditch was then closed and the job completed.S



J.W. Barnard
BPS Bioremediation



ARDINAL LABORATORIES

PHONE (505) 383-2326 • 101 E. MARLAND • HOBBS, NEW MEXICO 88240

PRELIMINARY REPORT

Company: BPS BIOREMEDIATION
Address: PO BOX 1539
City, State: LOVINGTON, NM 88260

Date: 082792
Lab #: H1014

Project Name: PROCHEM VARD
Project Location: LOVINGTON, NM
Sampled by: GP Date: 082692 Time: _____
Analyzed by: MF Date: 082692 Time: _____
Type of Samples: SOIL Sample Condition: _____ Units: PPM

Samp #	Field Code	TRPHC	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE	MTBE
1	NORTH 1/2	—	0.333	0.044	0.020	0.133	0.154	3.739	2.001
2	SOUTH 1/2	—	0.241	0.049	0.014	0.041	0.038	0.944	<.001

Methods - AUTOMATED HEADSPACE GC; INFRARED SPECTROSCOPY
- EPA SW-846; EPA METHODS 8020, 418.1, 3540 OR 3510

and operator must design, install and operate an enhanced soil venting system, or other appropriate soil treatment system approved by the division, within 45 days. This system must be capable of reducing soil contamination levels in a timely manner. Soil venting systems are generally appropriate only for use on releases of volatile contaminants.

C. An initial evaluation of the effectiveness of the soil treatment system must be done within 30 days after the system becomes operational and any necessary modifications completed within 15 days. Monthly monitoring must continue thereafter until soils meet the requirements of subsection D below.

D. Remediation of soil contamination will be considered complete when:

(1) soil contamination has been reduced to a level which will not contaminate ground water through percolation or as the water table rises and falls with seasonal fluctuations, and the soil is not a source of potentially explosive or potentially harmful vapors in utilities, basements or other surface or subsurface structures;

(2) no highly contaminated soils remain in the ground;
and

(3) an analysis of what appears to be the most contaminated soil reveals:

(a) the total aromatic hydrocarbon value to be less than 50 ppm and the benzene concentration to be less than 10 ppm when measured using an appropriate laboratory test, or the total aromatic hydrocarbon value to be less than 100 ppm when measured using an appropriate field instrument, in areas where the underlying ground water contains 10,000 milligrams per liter or less total dissolved solids and the contaminated soil is 50 feet or less above the seasonal high static ground water level; and

(b) if the soil was contaminated by diesel fuel, motor oil, heating oil, kerosene, jet aviation fuel or other heavy petroleum product, the total petroleum hydrocarbon value (TPH) is less than 100 ppm using an appropriate laboratory test in areas where the underlying ground water contains 10,000 milligrams per liter or less total dissolved solids and the contaminated soil is 50 feet or less above the seasonal high static ground water level.

E. A report describing the treatment of highly contaminated soil must be submitted to the division pursuant to §1210B(8) as part of the hydrogeologic investigation report. If a hydrogeologic report is not prepared, a separate report describing the soil treatment system design, its initial effectiveness and any



ARDINAL LABORATORIES

PHONE (505) 393-2328 • 101 E. MARLAND • HOBBS, NEW MEXICO 88240

FINAL ANALYSIS REPORT

Company: Pro-Kem
Address: P.O. Box 1506
City, State: Lovington, NM 88260

Date: 11/20/92
Lab#: H1084

Project Name:

Project Location: Old Pro-Kem yard

Sampled by: LB Date: 11/19/92 Time:

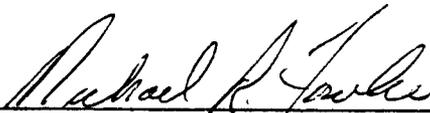
Analyzed by: MF Date: 11/20/92 Time:

Type of Samples: Soil Sample Condition: Corroboard tube Units: mg/kg, ng/l

Samp #	Field Code	TRPHC	BENZENE	TOLUENE	ETHYL BENZENE	PARA-KYLENE	META-KYLENE	ORTHO-KYLENE	MTBE
1	Old Pro-Kem No.	***	<0.001	<0.001	<0.001	<0.001	0.008	0.060	<0.001
	GC Recovery	***	1.589	1.460	1.460	1.370	1.368	1.395	1.152
	GC Spike	***	1.432	1.403	1.408	1.396	1.396	1.421	1.147
	Accuracy	***	110.9%	104.0%	103.7%	98.1%	97.9%	98.2%	100.4%
	Air Blank	***	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

FlashPoint (F) 154

Methods - AUTOMATED HEADSPACE GC; INFRARED SPECTROSCOPY
- EPA SW-846; EPA METHODS 8220, 418.1, 3540 OR 3510
- Flashpoint-Pensky Martens Closed Cup


Michael R. Fowler

Date 11/20/92



ARDINAL LABORATORIES

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NEW MEXICO 88240

FINAL ANALYSIS REPORT

Company: Prochem
Address: P.O. Box 1506
City, State: Livingston, NM 88240

Date: 11/20/92
Lab#: 11084

Project Name:
Project Location: Old Prochem Land
Sampled by: LB Date: 11/19/92 Time:
Analyses by: WF Date: 11/20/92 Time:
Type of Sample: Soil Sample Location: Standard tube Units: mg/kg, 1974

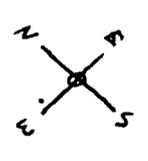
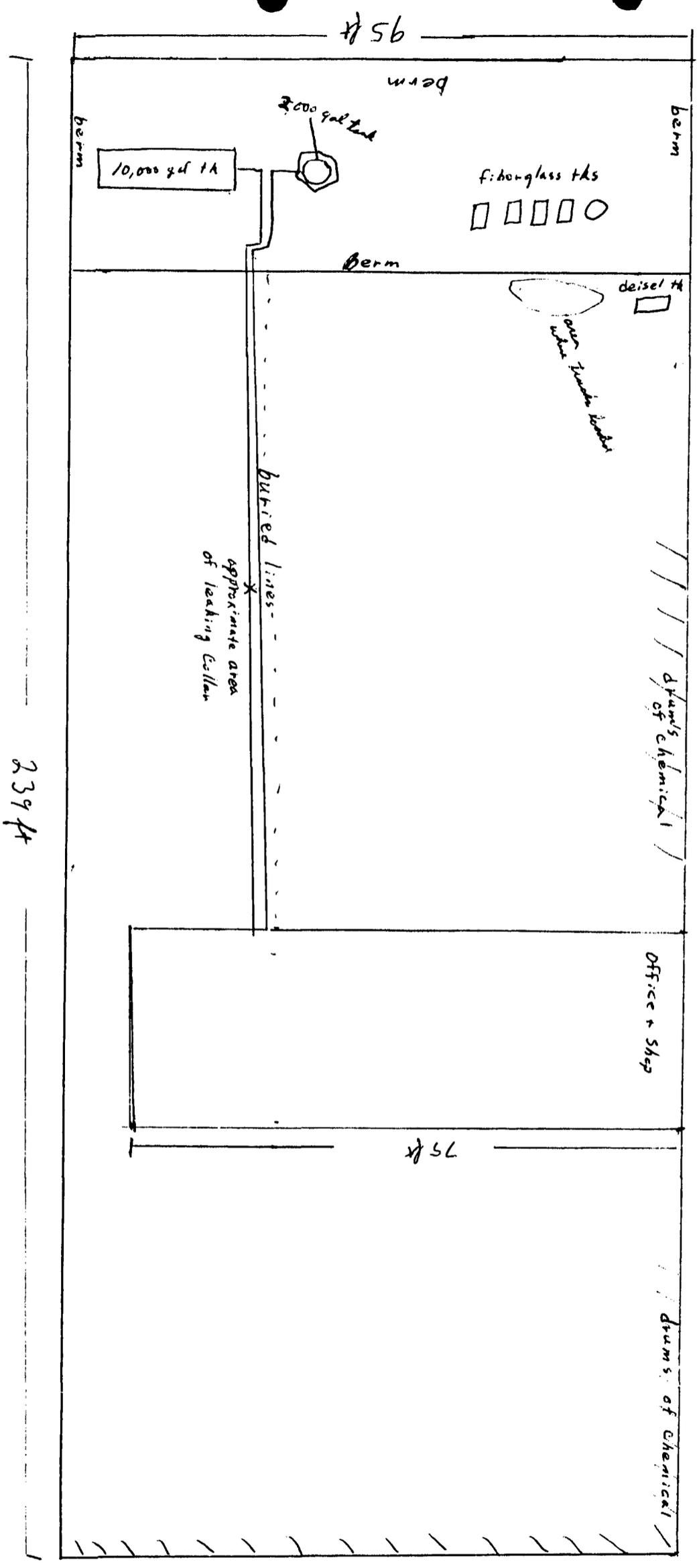
Samp #	Field Code	TRPHC	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	METP-XYLENE	ORTHO-XYLENE	MIBK
1	Old Prochem	0.001	0.001	0.001	0.001	0.005	0.000	0.001	0.001
	GC Recovery	***	1.359	1.460	1.460	1.370	1.368	1.395	1.152
	GC Spike	***	1.432	1.403	1.408	1.396	1.396	1.421	1.147
	Accuracy	***	110.9%	104.0%	103.7%	98.1%	97.9%	98.2%	100.4%
	Air Blank	***	0.001	0.001	0.001	0.001	0.001	0.001	0.001

FlashPoint (F) 134

Methods - AUTOMATED HEADSPACE GC; INFRARED SPECTROSCOPY
- EPA SW-846; EPA METHODS 8020, 418.1, 3540 OR 3510
- Flashpoint-Pensky Martens Closed Cup

Michael R. Fowler

Date 11/20/92



Cody

November 4, 1992

Edward L. Horst
Program Manager
Hazardous and Radioactive Materials Bureau
P. O. Box 26110
Santa Fe, New Mexico 87502

RE: Contamination of soil by Pro-Kem, Inc.
Location: 2330 South Main, Lovington, New Mexico

Dear Mr. Horst:

This letter is a written complaint against Pro-Kem, Inc. of Lovington, New Mexico. We have knowledge Pro-Kem has contaminated our property referenced above. We want your department to send an inspector to check the improper way Pro-Kem, Inc. has handled hazardous chemicals and waste, and their attempt at clean up of the underground leaks and spills to our property.

We have enclosed a copy of the letter our attorney has sent Pro-Kem's general manager-partner, Gerald Phillips. Mr. Phillips' attorney has informed us the information requested is not readily available, and the Environmental Improvement Division has been contacted by Pro-Kem with no further action or requirements of your agency having been received by Pro-Kem. Mr. Phillips has been unable to provide us with any documentation of this statement.

Mr. Phillips has admitted over the six (6) year period his business has leased our property there were spills and underground leaks on our property. We assumed Mr. Phillips cleaned our property according to EPA requirements and standards, but as of this date we have been unable to verify or receive documentation of any such cleanups or reports. Pro-Kem, Inc. has a lease on our property thru December 31, 1992, even though they have vacated our property and moved to a new location.

We have enclosed a sketch of our property showing where Pro-Kem had above ground storage tanks, underground lines and a fuel storage tank. There are no concrete pads on our property except the floor of the building, nor was there any drainage system in either yard.

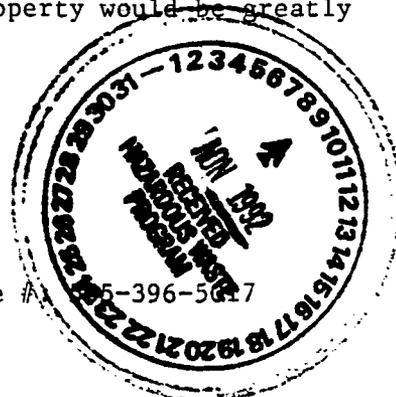
Your immediate attention of this matter and notification of any findings or rulings pertaining to our property would be greatly appreciated.

Sincerely,

Penelope L. Kitchens

Penelope (Penny) L. Kitchens
Route 2 Box 40 CE
Lovington, NM 88260

Phone # 505-396-5617





P
S

BIO REMEDIATION

Post Office Box 1539
Lovington, NM 88260



October 12, 1992

Re: Pro Kem Inc. Lovington yard closure.

On or about August 1, 1992 BPS was contacted by Gerald Phillips with Pro Kem Inc. and asked to assess and treat the Lovington yard for any TPH(total petroleum hydrocarbons) or BTEX (Benzene, toluene, ethyl benzene, ortho zylene) possible contamination.

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J.W. Barnard
BPS Bioremediation

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(2) no highly contaminated soils remain in the ground;
and

(3) an analysis of what appears to be the most contaminated soil reveals:

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LAW OFFICES

HEIDEL, SAMBERSON & NEWELL

311 NORTH FIRST STREET

POST OFFICE DRAWER 1E28

LOVINGTON, NEW MEXICO 88260

TELEPHONE (505) 396-5303

FAX (505) 396-5305

F.L. HEDEL
(1013-1985)

D. GENE SAMBERSON

MICHAEL T. NEWELL

LEWIS C. COX, III

October 6, 1992

Mr. Gerald Phillips, President
PRO-KEM, INC.
Post Office Box 1506
Lovington, New Mexico 88260

Dear Mr. Phillips:

I am writing you on behalf of Paul and Penny Kitchens in connection with their property located at 2330 South Main, Lovington, which Pro-Kem, Inc. is presently leasing from them through December 31, 1992.

We have copies of two (2) preliminary reports prepared on the letterhead of Cardinal Laboratories dated August 27, 1992, and September 23, 1992. We understand these reports are the result of the City of Lovington having caused the samples to be taken and the tests made on the property located at 2330 South Main, Lovington. I am not presently informed of any additional samples to be taken or any plans for further analysis of samples previously taken in connection with the two (2) preliminary reports. Would you advise me whether or not Pro-Kem, Inc. is having any additional samples and testing done or plans to do so. If you have other test results or are in the process of having additional sampling and testing done, please provide us with copies of all reports in connection with such sampling and testing. In addition, I request that you advise me at such time when Pro-Kem, Inc. has completed all remediation efforts in connection with the clean up, removal and disposal of contaminants from the Kitchens property. By reason of the foregoing request, I do not want you to think that the Kitchens are attempting to rush Pro-Kem, Inc. in its efforts to clean up the property; that is not the case. However, once Pro-Kem has completed its efforts in this respect, we do request reasonable access to the property to conduct an environmental survey, including appropriate sampling and testing upon the premises so the Kitchens can be certain that the property is safe for use and occupancy when placed on the market for lease or sale.

In connection with the desire of the Kitchens to have an environmental survey conducted after Pro-Kem, Inc. has completed its clean up, it would be very helpful to us in obtaining that environmental survey to have a list of all chemicals used or placed on the leased premises by Pro-Kem, Inc. during the period it leased the property in question, beginning August, 1986, to present, and also a general description of what Pro-Kem has done in connection with clean up and remediation on the leased premises. Therefore, would you please provide me with the list of all chemicals used or placed on the premises, including, but not limited to, chemicals stored

Page 2

October 6, 1992

Mr. Gerald Phillips, President

in tanks, chemicals stored in barrels, as well as chemicals used inside any structure located on the leased premises. In addition, would you please provide me a list of tanks Pro-Kem, Inc. located on the leased premises during its tenancy and provide me with a brief description of the tank, size, material of which it is constructed, and what Pro-Kem, Inc. stored in each tank, including, but not limited to, any tanks containing gasoline or diesel fuel. Also, would you inform me what, if any, tanks are or were underground upon the leased premises.

Your early response to the foregoing requests would be greatly appreciated by all concerned.

Very truly yours,

HEIDEL. SAMBERSON & NEWELL

By *C. Gene Samberson*

CGS:lt

~~cc:~~ Mr. and Mrs. Paul S. Kitchens

Safety & Environmental Solutions, Inc.

September 18, 1998

Mr. Jack Ford
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Dear Jack:

This letter is to update you on progress of the progress on the Pro-Kem pit closure project in Lovington, New Mexico. At the present time Pro-Kem is in the process of preparing the bottom of the existing excavation to receive a plastic liner as outlined in the work plan.

In response to your letter dated May 28, 1998, regarding secondary containment of chemicals onsite please be advised that the chemicals are stored on wooden pallets, which are placed on pavement in the yard. Continued efforts will be made to place chemicals inside concrete secondary containment as soon as possible.

If you have any questions, please call.

Sincerely,



Bob Allen REM, CET, CES
President

BA/baa

MEMORANDUM OF MEETING OR CONVERSATION

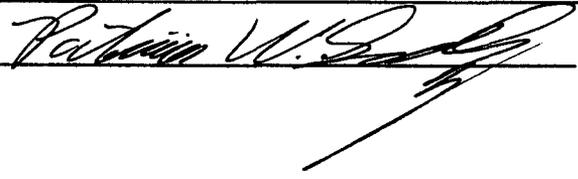
X TELEPHONE PERSONAL TIME 8:20 AM/PM DATE 8/23/95

ORIGINATING PARTY: Pat Sanchez - NMOCB
OTHER PARTIES: Gerald Phillips Pro Kem, Inc.
396-7433

SUBJECT: Approval for GW-202 / Tank bottom
Pit closure.

DISCUSSION: Told Gerald his discharge plan would be permitted - Also told him we would have to close the tank bottom pit in the South East corner of his property. I told him he would be required to submit a closure plan within sixty days of receiving his approved permit GW-202. Gerald asked if he would have to remove the junk pipes - I told him there is nothing in our guidelines addressing Junk.

CONCLUSIONS/AGREEMENTS: I will draft the Permit for GW-202 and Gerald will within 60 Days of receiving the Permit submit a closure plan to Santa Fe.

PATRICIO W. SANCHEZ: 

XC: FILE, WAYNE PRICE

Pat Sanchez

From: Pat Sanchez
To: Wayne Price
Cc: Jerry Sexton
Subject: prokem , inc. gw-202
Date: Monday, August 21, 1995 4:15PM
Priority: High

Wayne - Please provide any comments you have regarding the additional information for Prokem. I have received the additional information from Gerald Phillips.
Your response to the relevant information is appreciated!!!!!!

Pat Sanchez

From: POSTOFFICE
To: Pat Sanchez
Subject: Registered: Wayne Price
Date: Monday, August 21, 1995 4:31PM

[013] ***** CONFIRMATION OF REGISTERED MAIL *****
Your message:

TO: Wayne Price **DATE:** 08-21-95
SUBJECT: prokem , inc. gw-202 **TIME:** 16:18

Was accessed on 08-21-95 16:31

Pat Sanchez

From: Wayne Price
To: Pat Sanchez
Cc: Wayne Price
Subject: Pro-Kem GW-202
Date: Tuesday, August 22, 1995 7:03AM
Priority: High

I do not have any further comments on DP.

Thanks!

Pat Sanchez

From: Jerry Sexton
Date sent: Tuesday, August 22, 1995 7:07AM
To: Pat Sanchez
Subject: Registered: Jerry Sexton

Your message

To: Jerry Sexton
Subject: prokem , inc. gw-202
Date: Monday, August 21, 1995 4:15PM
was accessed on
Date: Tuesday, August 22, 1995 7:07AM



RECEIVED

AUG 21 1995

Environmental Bureau
Oil Conservation Division

August 16, 1995

Mr. Patricio W. Sanchez
Energy, Minerals and Natural Resources Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

RE: Discharge Plan GW-202
PRO-KEM, INC. Lovington Facility
Lea County, New Mexico

Dear Mr. Sanchez:

The following additional comments and information are pertaining to Pro-Kem's discharge plan:

- A. ITEM X All tanks, containments, valves, drums and both two inch delivery lines are inspected every day and results are recorded weekly.
- B. ITEM XI Pro-Kem, Inc. Contingency Plan: Stop the source of the spill, contain the spill and clean up the spill as per guidelines.
- C. ITEM XII Information enclosed.
- D. ITEM XIII Pro-Kem, Inc. agrees to comply completely with WQCC 1-203.

PRO-KEM, INC.

Gerald Phillips
President

GP/bw
encls.

xc: Mr. Wayne Price, Environmental Engineer



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

June 12, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-700

Mr. Gerald Phillips
President
PRO-KEM, INC.
P.O. Box 1506
Lovington, NM 88260

RE: Discharge Plan GW-202
PRO-KEM, Inc. Lovington facility
Lea County, New Mexico

Dear Mr. Phillips:

The NMOCD has received the proposed PRO-KEM Inc. discharge plan application for the facility located in SE/4 NW/4, Section 15, Township 16 South, Range 36 East, NMPM, Lea County, New Mexico. The application filing fee in the amount of \$50 and flat fee of \$1380 was received by the NMOCD along with the discharge plan application. The NMOCD has prepared and sent out the public notice for the PRO-KEM Inc. facility as stated in WQCC section 3-108 and has performed a preliminary review of the discharge plan as proposed by PRO-KEM Inc. as received by the OCD on June 7, 1995.

The following comments and request for additional information are based on the review of the PRO-KEM 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 page submitted by PRO-KEM Inc. as signed by Mr. Gerald Phillips on May 24, 1995.

- A. UNDER ITEM X. - Submit a procedure outlining routine inspection and maintenance plan to ensure permit compliance.

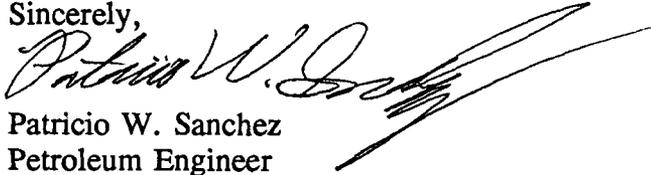
Mr. Gerald Phillips
June 12, 1995
Page 2

- B. UNDER ITEM XI. -Submit a contingency plan for reporting and dealing with clean-up of spills or releases. Include NMOCD Rule 116 and WQCC 1-203 spill reporting measures.
- C. UNDER ITEM XII. - Submit geological and Hydrological parameters- NOTE: NMOCD referenced State Engineer records in order to obtain TDS and depth to groundwater in order to publish the public notice for this facility:
TDS(total dissolved solids)=100 mg/l and depth to groundwater=26'
- D. UNDER ITEM XIII. - Submit a statement agreeing to comply with NMOCD Rule 116 and WQCC 1-203 spill reporting requirements.

Call Johnny Hernandez 622-6521 ask for drillers logs
Submittal of the requested information and commitments in a timely fashion will expedite the final review of the application and approval of the discharge plan.

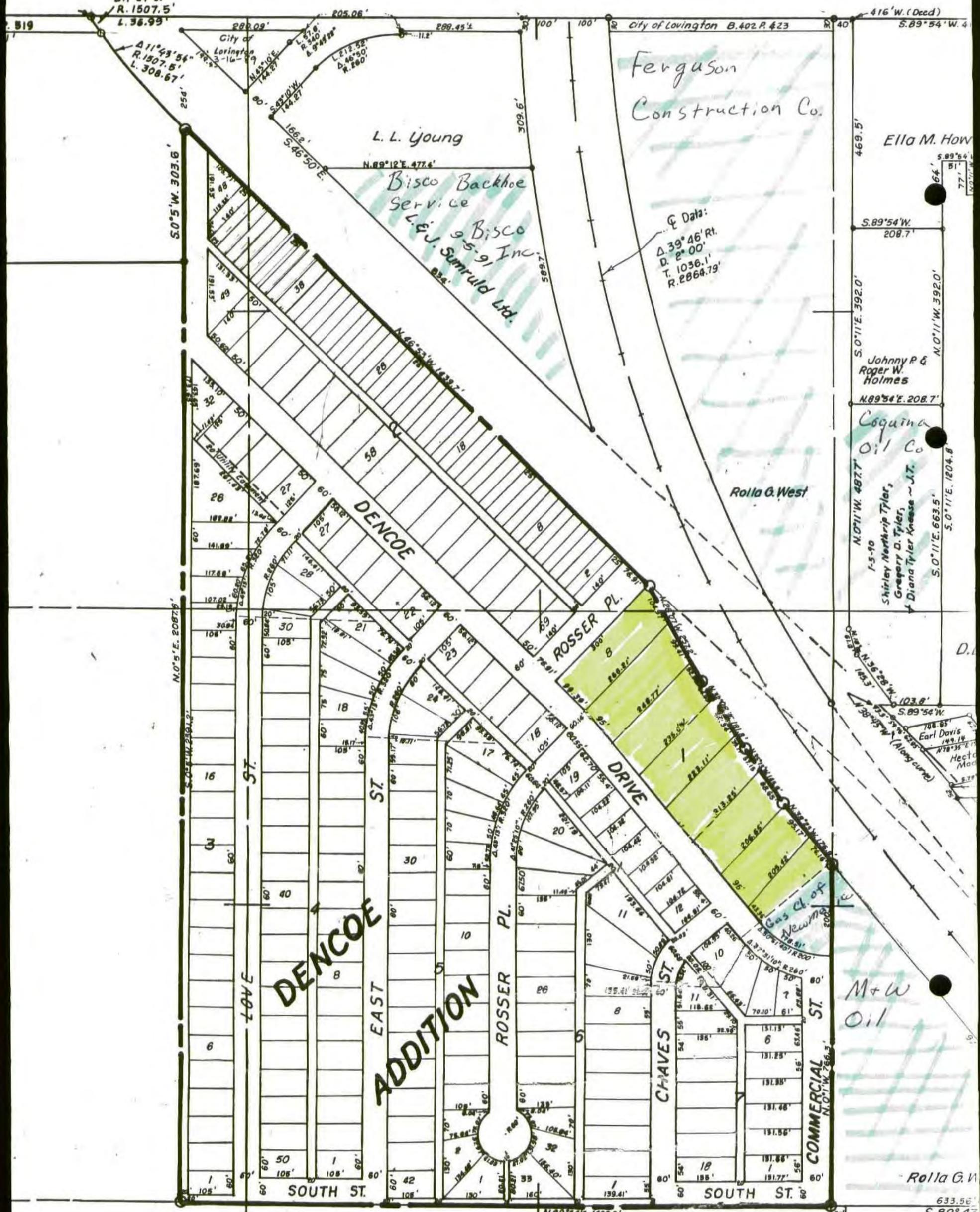
If you have any questions, please feel free to call me at (505)-827-7156.

Sincerely,


Patricio W. Sanchez
Petroleum Engineer

xc: Mr. Wayne Price-Environmental Engineer

with 1/4 mi - record of all water wells



Pro-Kem, Inc. Property

Other Petroleum Related Businesses in area

Ferguson Construction Co.

L. L. Young

Bisco Backhoe Service
L. E. J. Bisco
L. E. J. Sumruld Ltd.

Ella M. How

Johnny P & Roger W. Holmes

Coquina Oil Co.

Rolla G. West

Shirley Northrip Tyler,
Gregory D. Tyler,
& Diana Tyler Kneese ~ J.T.

M+W Oil

Rolla G. W.

Larry

Q Data:
Δ 39° 46' Rt.
D. 2° 00'
T. 1036.1'
R. 2864.79'

Δ 1° 24' 21"
R. 1507.5'
L. 36.99'

Δ 11° 43' 54"
R. 1307.6'
L. 308.67'

416' W. (Deed)
S. 89° 54' W. 4'

City of Lovington B. 402 P. 423

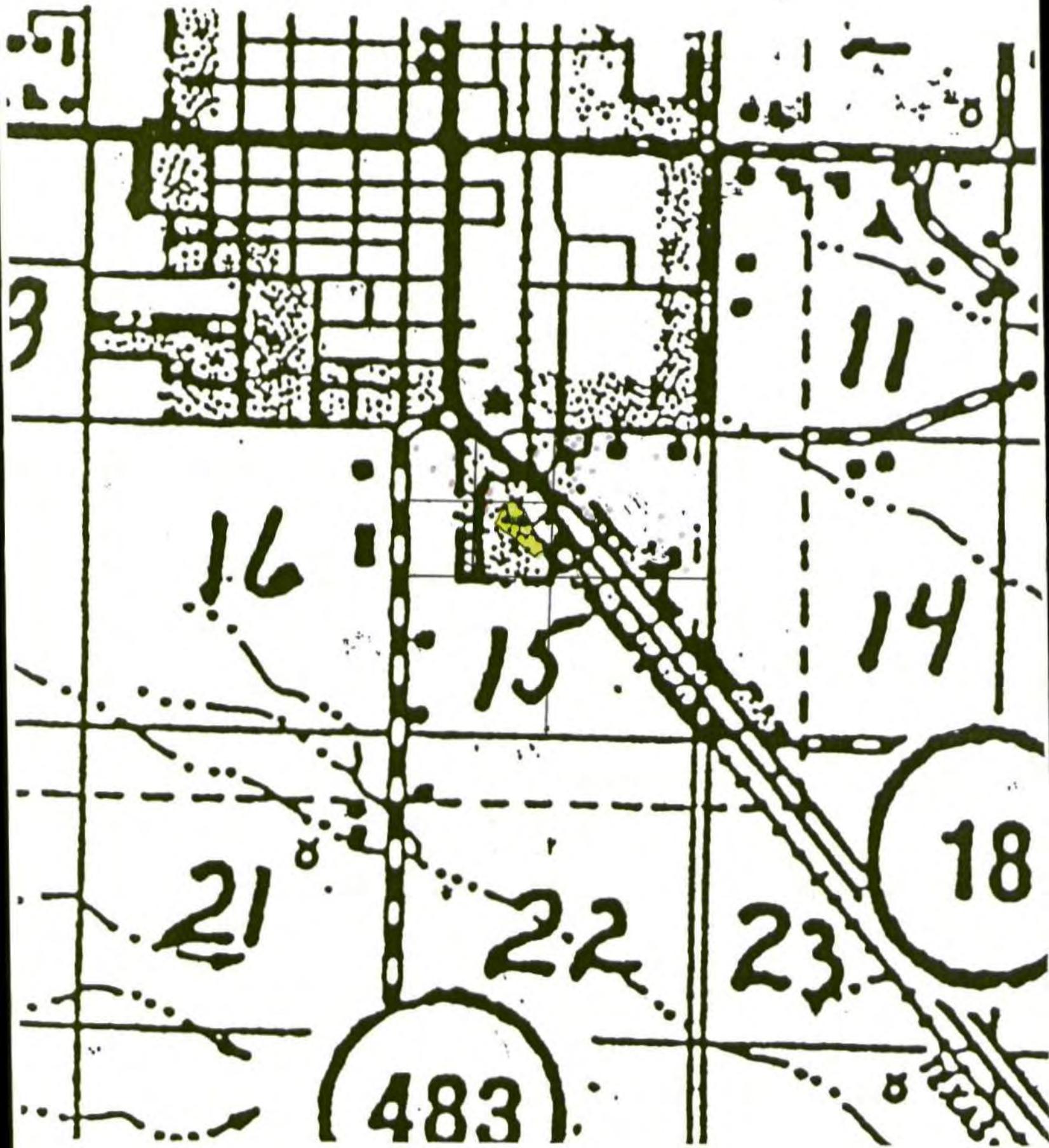
N. 0° 5' E. 2087.6'

Earl Davis
Hector
N. 78° 35' E. 149.14'

Rolla G. W. (Horseshoe)

Rolla G. W.

Pro-Kem, Inc.
water wells, logs enclosed





LEGEND

SPECIAL FLOOD HAZARD
AREA WITH
DATE OF IDENTIFICATION
ie., 12/2/73



ZONE A
DATE

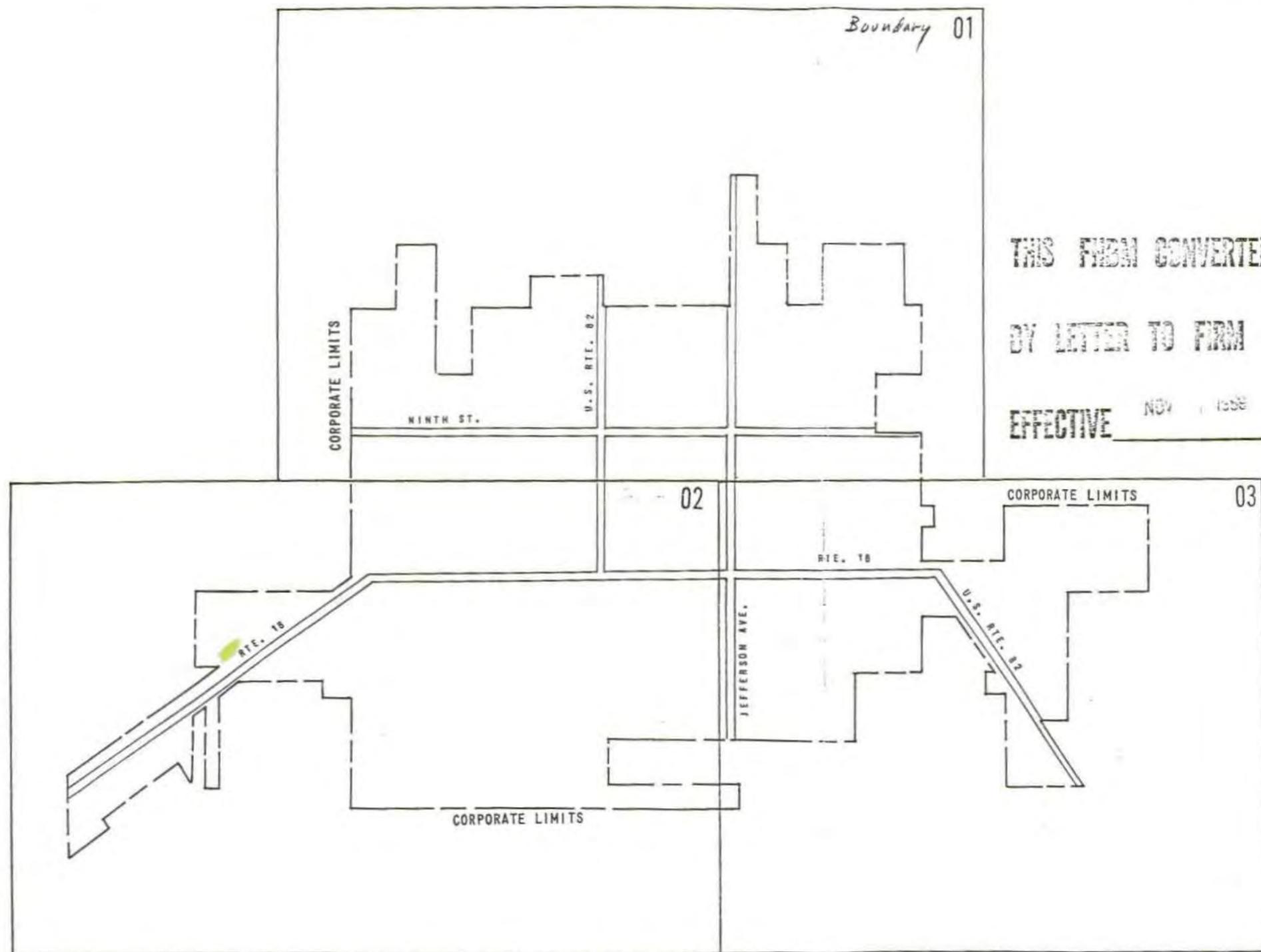
Note: These maps may not include all Special Flood Hazard Areas in the community. After a more detailed study, the Special Flood Hazard Areas shown on these maps may be modified, and other areas added.

CONSULT NFIA SERVICING COMPANY OR LOCAL INSURANCE AGENT OR BROKER TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE FOR FLOOD INSURANCE.

INITIAL IDENTIFICATION DATE:
JUNE 21, 74

REVISION DATES:
; SHOW CURVILINEAR BOUNDARY, ADD SFHA,
REDUCE SFHA.

11/28/75



THIS FIRM CONVERTED

BY LETTER TO FIRM

EFFECTIVE NOV 1988

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

FLOOD HAZARD BOUNDARY MAP H - 01 - 03

MAP INDEX
CITY OF LOVINGTON, NM
(LEA CO.)

COMMUNITY NO. 350031A

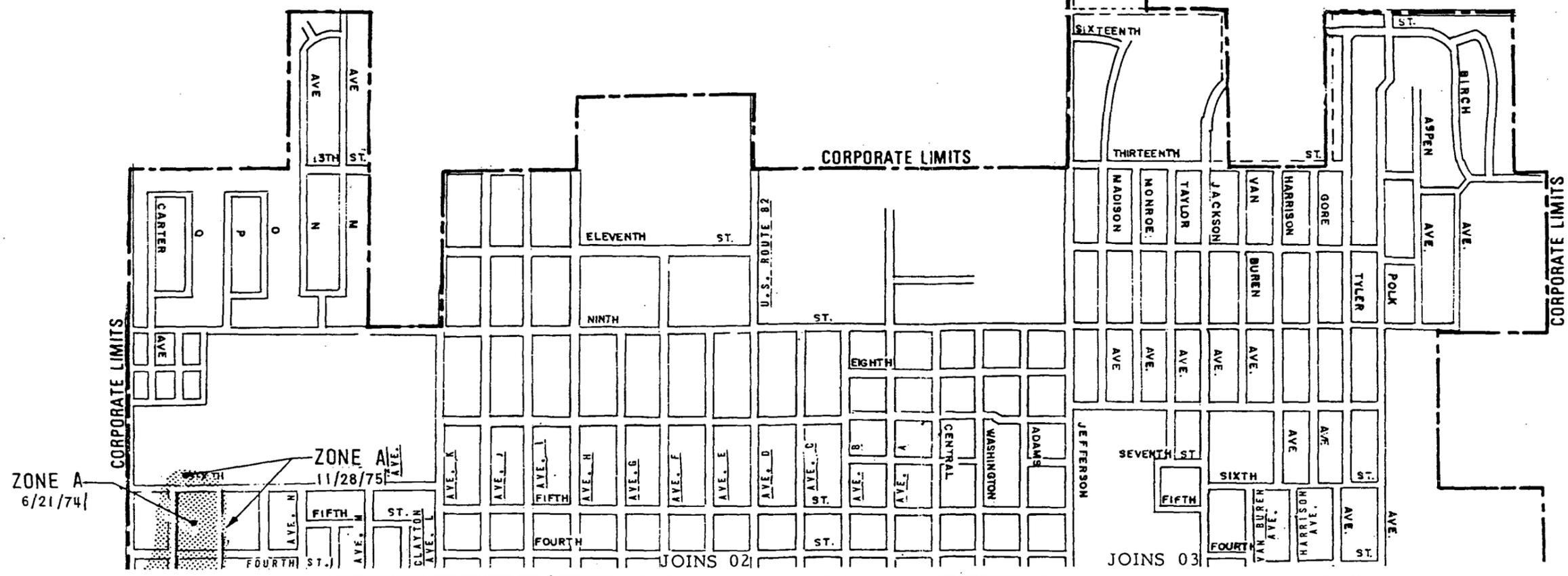


THIS FIRM CONVERTED
 BY LETTER TO FIRM
 EFFECTIVE NOV 1989

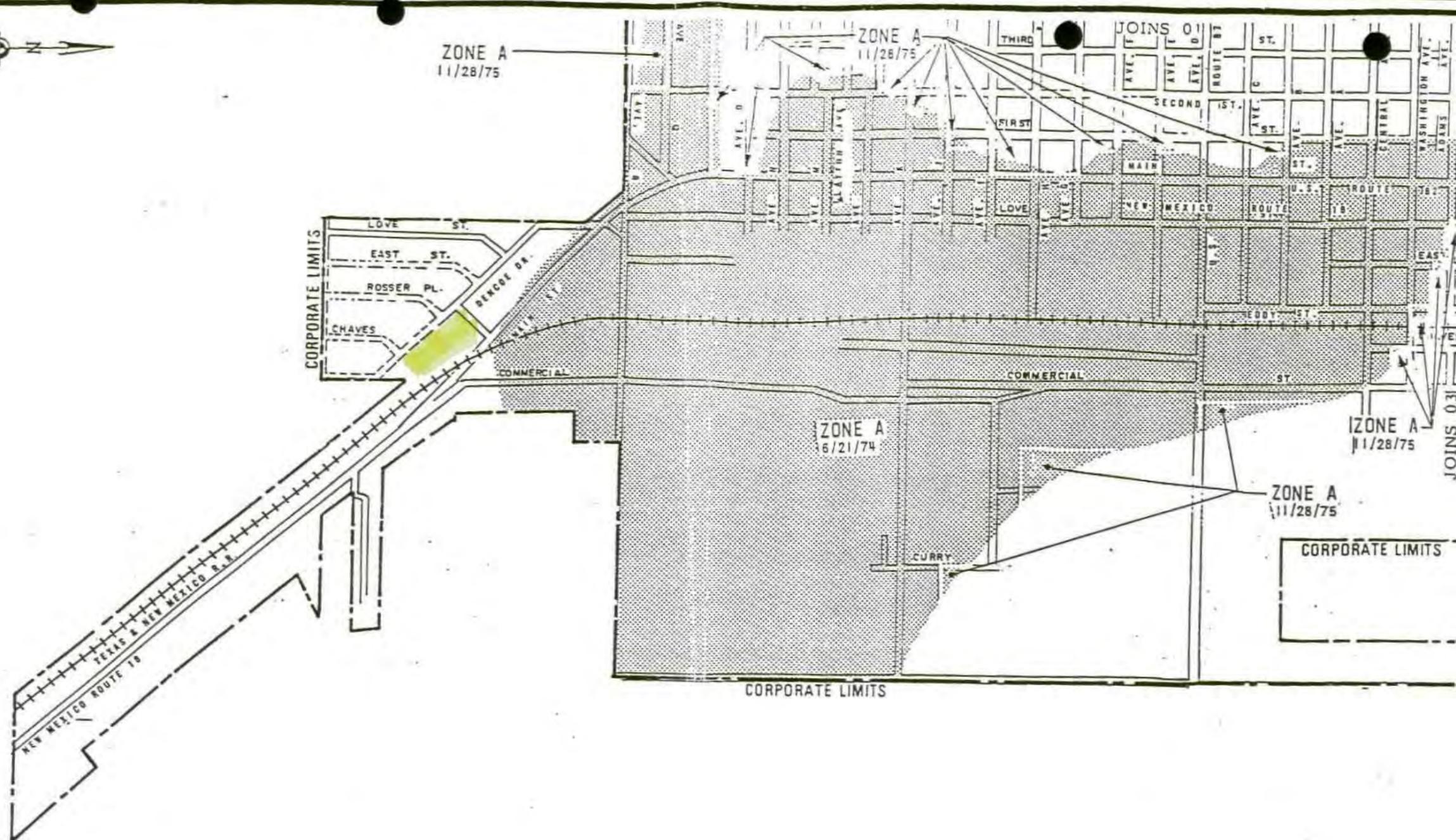


MAP REVISED
 11/28/75

FIA FLOOD HAZARD BOUNDARY MAP
 No. H 01



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
 Federal Insurance Administration
 CITY OF LOVINGTON, NM
 (LEA CO.)



MAP REVISED
11/28/75

FIA FLOOD HAZARD BOUNDARY MAP
No. II 02

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration
CITY OF LOVINGTON, NM
(LEA CO.)

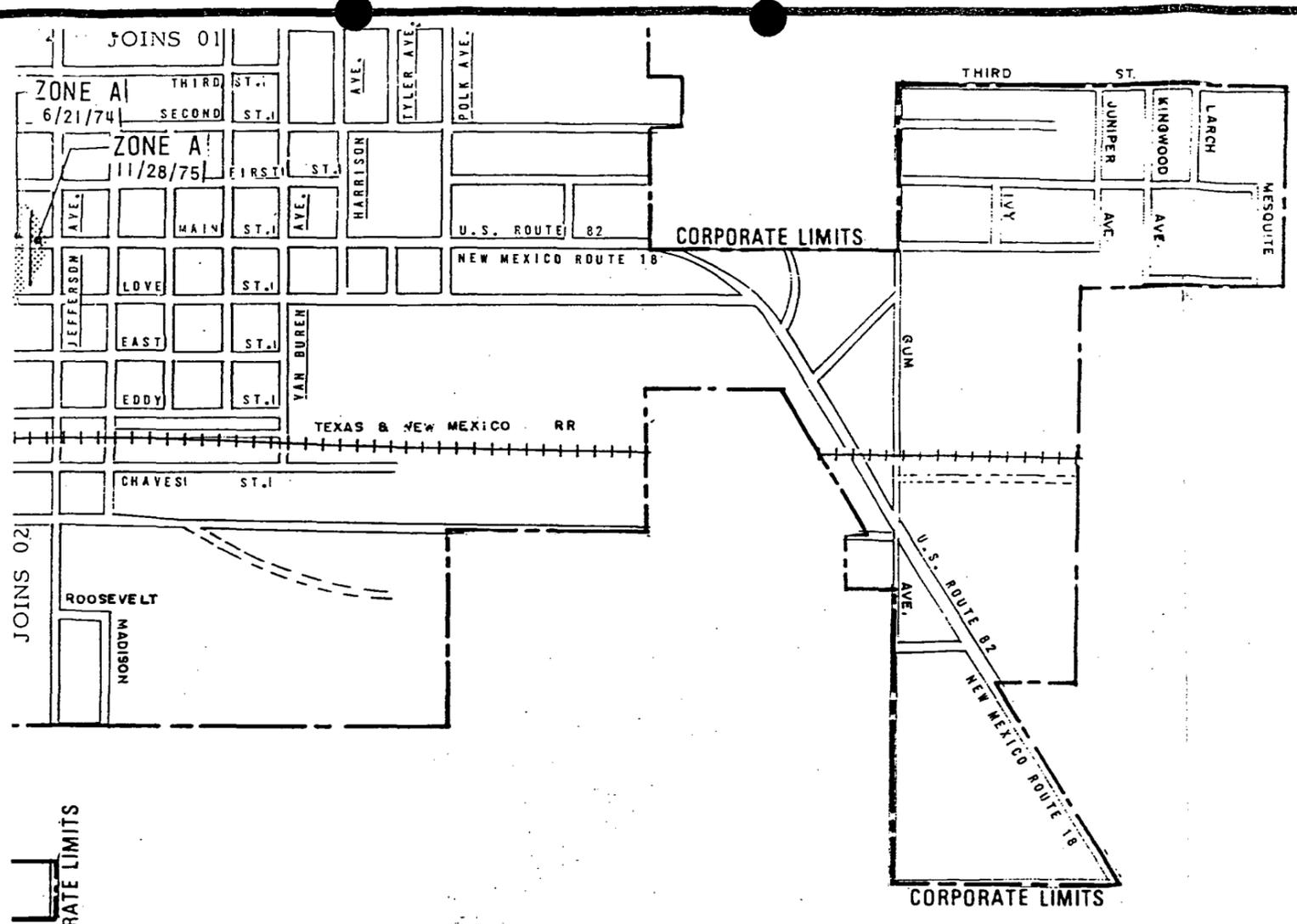
THIS FIRM CONVERTED

BY METHOD TO FIRM

EFFECTIVE NOV 1 1989

02

Pro-Kem, Inc.



MAP REVISED
11/28/75

FIA FLOOD HAZARD BOUNDARY MAP
No. H 03

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF LOVINGTON, NM
(LEA CO.)

THIS FIRM CONVERTED
BY LETTER TO FIRM
EFFECTIVE NOV 1989

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well Lovington Field Service
 Street and Number Box 204
 City Lovington State New Mexico
 Well was drilled under Permit No. 2656 and is located in the
 NE 1/4 NW 1/4 1/4 of Section 15 Twp. 16 S Rge. 36 E
 (B) Drilling Contractor Cayton & Porter License No. 103
 Street and Number Box 1047
 City Lovington State New Mexico
 Drilling was commenced July 26 19 55
 Drilling was completed July 27 19 55

Elevation at top of casing in feet above sea level _____ Total depth of well 100
 State whether well is shallow or artesian shallow Depth to water upon completion 74

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	<u> 74 </u>	<u> 100 </u>	<u> 26 </u>	<u> slick sand </u>
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
<u> 7" OD </u>	<u> 18 </u>	<u> 8 </u>	<u> 0 </u>	<u> 100 </u>	<u> 100 </u>	<u> none </u>	<u> 0 </u>	<u> 100 </u>

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____

Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor _____

FOR USE OF STATE ENGINEER ONLY

Date Received AUG 24 1955

OFFICE
GROUND WATER SUPERVISOR
SANTA FE, NEW MEXICO

File No. S-2656 Use [initials]

Location No. 16-36-15-120

(This form to be executed in triplicate)

WELL RECORD

Date of Receipt Feb. 3, 1952

Permit No. L-1339

Name of permittee, Halliburton Oil Well Cementing Company

Street or P.O., Drawer 1431, City and State, Duncan, Okla.

1. Well location and description: The shallow well is located in NE $\frac{1}{4}$, NE $\frac{1}{4}$,
(shallow or artesian)

NW $\frac{1}{4}$ of Section 15, Township 16, Range 36E; Elevation of top of

casing above sea level, Not known feet; diameter of hole, 10 inches; total depth, 100 feet;

depth to water upon completion, 55 feet; drilling was commenced Feb. 1, 1952

and completed Feb. 2, 1952; name of drilling contractor Claude Tatum

524 W Washington; Address, Lovington, New Mexico Driller's License No. VB33

2. Principal Water-bearing Strata:

	Depth in Feet		Thickness	Description of Water-bearing Formation
	From	To		
No. 1	<u>55</u>	<u>100</u>	<u>45</u>	<u>Light red sand</u>
No. 2				
No. 3				
No. 4				
No. 5				

3. Casing Record:

Diameter in inches	Pounds per ft.	Threads per inch	Depth of Casing or Liner		Feet of Casing	Type of Shoe	Perforations	
			Top	Bottom			From	To
<u>8</u>	<u>25</u>	<u>8</u>	<u>45</u>	<u>None</u>	<u>45</u>	<u>None</u>	<u>None</u>	

4. If above construction replaces old well to be abandoned, give location: Does not apply $\frac{1}{4}$, $\frac{1}{4}$

of Section New Well, Township _____, Range _____; name and address of plugging contractor,

date of plugging _____, 19____; describe how well was plugged: _____

FILED

APR 7 1952

OFFICE
ARTESIAN WELL SUPERVISOR
ROSWELL, NEW MEXICO

FILED

FEB 18 1952

OFFICE
ARTESIAN WELL SUPERVISOR
ROSWELL, NEW MEXICO

L-1339

16-36-15-120

F.H.

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well John Joy
 Street and Number 1906 South Main
 City Lovington State New Mexico
 Well was drilled under Permit No. L-6130 and is located in the
N 1/4 N 1/4 1/4 of Section 15 Twp. 163 Rge. 36E
 (B) Drilling Contractor Claude Tatum License No. MD 33
 Street and Number 521 West Washington
 City Lovington State New Mexico
 Drilling was commenced April 25 1967
 Drilling was completed April 26 1967

(Plat of 640 acres)

Elevation at top of casing in feet above sea level unknown Total depth of well 95
 State whether well is shallow or artesian shallow Depth to water upon completion 70

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	70	85	15	Water sands
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
<u>None</u>								

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____

Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received _____

07:30 AM 6-MAY 1967

File No. L-6130 Use Alcon Location No. 16 36 15 110

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well City of Lovington
 Street and Number Box 265
 City Lovington State New Mexico
 Well was drilled under Permit No. L-1704 and is located in the
SW 1/4 NE 1/4 NW 1/4 of Section 15 Twp. 16 S Rge. 36 E
 (B) Drilling Contractor Quarles Drilling Co. License No. WD-144
 Street and Number Box 545
 City Lovington State New Mexico
 Drilling was commenced July 2 19 56
 Drilling was completed July 10 19 56

Elevation at top of casing in feet above sea level _____ Total depth of well 190
 State whether well is shallow or artesian Shallow Depth to water upon completion 62

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	70	120	50	Water Sand
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
12 3/4 O. D.	33	Welded	0	190	190	none	72	171

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5 PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____

Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor _____

FOR USE OF STATE ENGINEER ONLY

Date Received _____

JUL 25 1956

OFFICE _____

GROUND WATER SUPERVISOR

File No. L-1704 Use Dom. Location No. 16-36-15-123

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well Jack Clayton
 Street and Number Pox 72I
 City Lovington State New Mexico
 Well was drilled under Permit No. L-4249 and is located in the
NW 1/4 SE 1/4 NW 1/4 of Section 15 Twp. 16 S Rge. 36 E
 (B) Drilling Contractor P & P Drilling Co. License No. WD-281
 Street and Number 1121 S. Love
 City Lovington State New Mexico
 Drilling was commenced Nov 9 19 59
 Drilling was completed Nov 10 19 59

(Plat of 640 acres)

Elevation at top of casing in feet above sea level _____ Total depth of well 96 ft.
 State whether well is shallow or artesian Shallow Depth to water upon completion 74 ft.

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	74	96		
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
		None						

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				
		7"			None

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____ Cement Plugs were placed as follows:

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received

NOV 19 8:22

No.	Depth of Plug		No. of Sacks Used
	From	To	

File No. L-4249

Use Sam

Location No. 16.36.15.141

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Denver B. Northrip Owner's Well No. _____
Street or Post Office Address P.O. Box 193
City and State Lovington, New Mexico 88260

Well was drilled under Permit No. L-8186 and is located in the:

- a. _____ ¼ _____ ¼ NW ¼ NE ¼ of Section 15 Township 16S Range 36E N.M.P.M.
- b. Tract No. _____ of Map No. _____ of the _____
- c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Lea County.
- d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Abbott Bros. License No. WD-46

Address P.O. Box 637, Hobbs, New Mexico 88240

Drilling Began 1/11/80 Completed 1/12/80 Type tools Cable Size of hole 8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 125 ft.

Completed well is shallow artesian. Depth to water upon completion of well 63 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
63	125	62	Sand	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
6 5/8	13	Welded	0	125	125	None	75	125

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received January 21, 1980

Quad _____ FWL _____ FSL _____

File No. L-8186 Use DOM. Location No. 16.36.15.21000

Deig S.A.

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well Rafael R. Pena
 Street and Number 210 W. Skelly
 City Hobbs State New Mexico
 Well was drilled under Permit No. L-3825 and is located in the
NW 1/4 NW 1/4 NE 1/4 of Section 15 Twp. 16 S Rge. 36 E
 (B) Drilling Contractor Cayton Drilling Company License No. ND-183
 Street and Number Box 1021
 City Livingston State New Mexico
 Drilling was commenced April 7 19 58
 Drilling was completed April 8 19 58

Elevation at top of casing in feet above sea level _____ Total depth of well 200 ft.
 State whether well is shallow or artesian Shallow Depth to water upon completion 60 ft.

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	60	70	10	Water Sand
2	76	88	12	Quick Sand
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				
20	100	7 in.	100 lbs.		Dry Mix

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____

Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

FILED
MAY 7 1958

Basin Supervisor _____

FOR USE OF STATE ENGINEER ONLY

Date Received _____

File No. L-3825 Use Dom Location GROUNDWATER SUPERVISOR

OFFICE
 GROUNDWATER SUPERVISOR
 ROSWELL, NEW MEXICO

16. 36. 15. 211

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well Leon Rice
 Street and Number Box 1269
 City Levinston State New Mexico
 Well was drilled under Permit No. 1-2412 and is located in the
NE 1/4 NW 1/4 NE 1/4 of Section 15 Twp. 16 S Rge. 10 E
 (B) Drilling Contractor P. E. Drilling Co. License No. 710-201
 Street and Number 1121 S. Love
 City Levinston, State New Mexico
 Drilling was commenced Oct 10 1959
 Drilling was completed Oct 15 1959

(Plat of 640 acres)

Elevation at top of casing in feet above sea level _____ Total depth of well 110 ft.
 State whether well is shallow or artesian Shallow Depth to water upon completion 81 ft.

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	<u>81</u>	<u>100</u>		
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				
		<u>16</u>	<u>3 sacks</u>		

Section 5 PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 1959
 Plugging approved by: _____ Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor _____

FOR USE OF STATE ENGINEER ONLY

Date Received DEC 4 1959

File No. 1-2412 Use JR Location No. 16-36-15-211

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well Mrs. Lou Rice
 Street and Number Box 1269
 City Lovington, State New Mexico
 Well was drilled under Permit No. L-5129 and is located in the
1/4 1/4 NE of Section 35 Twp. 16 S Rge. 3 E
 (B) Drilling Contractor P. F. Drilling Co. License No. ED-241
 Street and Number 1121 S. Love
 City Lovington State New Mexico
 Drilling was commenced May 7 1962
 Drilling was completed May 9 1962

(Plat of 640 acres)

Elevation at top of casing in feet above sea level _____ Total depth of well 103
 State whether well is shallow or artesian Shallow Depth to water upon completion 15

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	50	65		
2	65	103		
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
6 1/2			0	103	103		50	100

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				
			1 sack		

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____ Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor _____

FOR USE OF STATE ENGINEER ONLY

Date Received _____

File No. L-5129 Use Dom Location No. 16.36.15.211

FIELD ENGR. LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well JOHN G. TUNNELL
 Street and Number _____
 City LOVINGTON State NEW MEXICO
 Well was drilled under Permit No. L-5673 and is located in the
W-300 ft. $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 15 Twp. 16 S Rge. 36 E
 (B) Drilling Contractor P & P Drilling Co. License No. ED-281
 Street and Number 1121 S. Love
 City LOVINGTON State New Mexico
 Drilling was commenced June 25 1965
 Drilling was completed 26 1965

Elevation at top of casing in feet above sea level _____ Total depth of well 100
 State whether well is shallow or artesian Shallow Depth to water upon completion 75

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	<u>67</u>	<u>100</u>		
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
<u>65/8</u>			<u>0</u>	<u>100</u>	<u>100</u>			

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____ Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received 1965 JUL 12 AM 8:19 ✓

File No. L-5673 Use Wom Location No. 16.36.15.211

Wom. O.K.

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well _____
 Street and Number _____
 City _____ State _____
 Well was drilled under Permit No. _____ and is located in the
 _____ 1/4 _____ 1/4 _____ 1/4 of Section _____ Twp. _____ Rge. _____
 (B) Drilling Contractor _____ License No. _____
 Street and Number _____
 City _____ State _____
 Drilling was commenced _____ 19____
 Drilling was completed _____ 19____

Elevation at top of casing in feet above sea level _____ Total depth of well _____
 State whether well is shallow or artesian _____ Depth to water upon completion _____

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1				
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5 PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19____
 Plugging approved by: _____

Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received _____

91 13 111 9-3111 6361

File No. _____ Use _____ Location No. _____

Note- This well was reamed to accommodate a big Jet pump. Mr. Bill Baggett of Lea Gas requested permission for the oversize hole.
(This form to be executed in triplicate)

FIELD ENGR. LOG

WELL RECORD

Date of Receipt..... Permit No. 2471

Name of permittee, Mrs. Annie B. Clesby Bowen

Street or P. O. Box 791, City and State Lovington, New Mex.

1. Well location and description: The Shallow well is located in NE $\frac{1}{4}$, NW $\frac{1}{4}$,
(shallow or artesian)
NE $\frac{1}{4}$ of Section 15, Township 16S, Range 36E; Elevation of top of casing above sea level, feet; diameter of hole, 10 inches; total depth, 120 feet; depth to water upon completion, 63 feet; drilling was commenced Feb 2, 1954 and completed Feb 3, 1954; name of drilling contractor Quarles Drilling Co. Box 245; Address, Lovington, N.M.; Driller's License No. WD 144

2. Principal Water-bearing Strata:

	Depth in Feet		Thickness	Description of Water-bearing Formation
	From	To		
No. 1	<u>60</u>	<u>70</u>	<u>10</u>	<u>Soft sandstone and sand</u>
No. 2	<u>80</u>	<u>120</u>	<u>40</u>	<u>Sand</u>
No. 3				
No. 4				
No. 5				

3. Casing Record:

Diameter in inches	Pounds per ft.	Threads per inch	Depth of Casing or Liner		Feet of Casing	Type of Shoe	Perforation	
			Top	Bottom			From	To
.....
.....
.....
.....
.....

4. If above construction replaces old well to be abandoned, give location: $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$ of Section, Township, Range.....; name and address of plugging contractor,

 date of plugging, 19.....; describe how well was plugged:

FILED
 MAY 1 1954
 OFFICE
 GROUND WATER SUPERVISOR
 ROSWELL, NEW MEXICO

[Handwritten signature]

L-2471

Dom.

16.36.15.212

WELL ENGR. LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well Herb Young
 Street and Number Route 1, Loc. 43
 City Lovington State New Mexico
 Well was drilled under Permit No. L-4674 and is located in the
Lot 8 Block 1, S1/4 Sec 36, T15N R10E
1/4 of Section 12 Twp. 10S Rge. 20E
 (B) Drilling Contractor C. O. Alaredge License No. 79
 Street and Number Box 379
 City Lovington State New Mexico
 Drilling was commenced July 9 1961
July 10 1961
 Drilling was completed July 10 1961

(Plat of 640 acres)

Elevation at top of casing in feet above sea level _____ Total depth of well 90
 State whether well is shallow or artesian shallow Depth to water upon completion 62

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	62	78	16	Light Water Sand
2	78	87	9	Good Water Sand
3	87	90	3	Quick Sand
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
<u>7 in. Corrugator pipe 5 feet long cemented in top of well</u>								

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				
		<u>7</u>			<u>no mud used</u>

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____ Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor _____

FOR USE OF STATE ENGINEER ONLY

Date Received _____

1961 AUG 15 PM 1:21

File No. L-4674 Use Dom Location No. 16-36-15-244

FIELD LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

J. W. Hair

Section 1

Table with 4 columns and 4 rows for well location details.

(A) Owner of well
Street and Number... City... State...
Well was drilled under Permit No. ... and is located in the ...
(B) Drilling Contractor... License No. ...
Street and Number... City... State...
Drilling was commenced... 19...
Drilling was completed... 19...

(Plat of 640 acres)

Elevation at top of casing in feet above sea level... Total depth of well...
State whether well is shallow or artesian... Depth to water upon completion...

Section 2

PRINCIPAL WATER-BEARING STRATA

Table with 4 columns: No., Depth in Feet (From, To), Thickness in Feet, Description of Water-Bearing Formation.

Section 3

RECORD OF CASING

Table with 7 columns: Dia. in., Pounds ft., Threads in., Depth (Top, Bottom), Feet, Type Shoe, Perforations (From, To).

Section 4

RECORD OF MUDDING AND CEMENTING

Table with 5 columns: Depth in Feet (From, To), Diameter Hole in in., Tons Clay, No. Sacks of Cement, Methods Used.

Section 5

PLUGGING RECORD

Name of Plugging Contractor... License No. ...
Street and Number... City... State...
Tons of Clay used... Tons of Roughage used... Type of roughage...
Plugging method used... Date Plugged... 19...
Plugging approved by: Basin Supervisor

Cement Plugs were placed as follows:

Table with 3 columns: No., Depth of Plug (From, To), No. of Sacks Used.

FOR USE OF STATE ENGINEER ONLY

Date Received

File No.

L-5529

Use

Location No. 16 36.15-2.2.1

Done - ok

FIELD ENGA. LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well City of Lovington "Well No. 11"
 Street and Number Box 265
 City Lovington State New Mexico
 Well was drilled under Permit No. L-455-A-6 and is located in the
SE 1/4 NW 1/4 NW 1/4 of Section 15 Twp. 16 S Rge. 36 E
 (B) Drilling Contractor Cayton Drilling Company License No. ED-183
 Street and Number Box 1021
 City Lovington State New Mexico
 Drilling was commenced July 9 19 57
 Drilling was completed July 12 19 57

Elevation at top of casing in feet above sea level _____ Total depth of well 130 ft.
 State whether well is shallow or artesian Shallow Depth to water upon completion _____

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1				
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
<u>12</u>	<u>35</u>	<u>Weld</u>	<u>0</u>	<u>130</u>	<u>130</u>	<u>None</u>	<u>90</u>	<u>130</u>

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				
<u>30</u>	<u>130</u>	<u>16</u>	<u>600 lbs.</u>		<u>Dry Mix</u>

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____

Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

FILED

Date Received AUG 28 1957

OFFICE
GROUND WATER SUPERVISOR
ROSWELL, NEW MEXICO

File No. L-455-A-5 Use Area Location No. 16.36.15.11424

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well S. P. Arledge
 Street and Number Box 189
 City Louington State N.M.
 Well was drilled under Permit No. L-313 D and is located in the
NE 1/4 NW 1/4 NE 1/4 of Section 15 Twp. 16-S Rge. 36-E
 (B) Drilling Contractor Grady Backus License No. 322
 Street and Number Box 791
 City Louington State N.M.
 Drilling was commenced 1-26 1973
 Drilling was completed 1-29 1973

(Plat of 640 acres)

Elevation at top of casing in feet above sea level..... Total depth of well 122
 State whether well is shallow or artesian..... Depth to water upon completion 66

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	68	74	6	Water sand
2	84	96	12	Quick sand
3	112	122	10	Sand
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
8	20	0	0	122	122	0	70	122

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5

PLUGGING RECORD

Name of Plugging Contractor..... License No.
 Street and Number..... City..... State.....
 Tons of Clay used..... Tons of Roughage used..... Type of roughage.....
 Plugging method used..... Date Plugged..... 19.....
 Plugging approved by:..... Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received.....

File No. L-313-D Use IRR Location No. 16-36-15-212

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well M F Whitaker
Box 804
 Street and Number
 City Lovington State N. Mex.
 Well was drilled under Permit No. L 313 A and is located in the
N 1/2 1/4 NE 1/4 NE 1/4 of Section 15 Twp. 16 S. Rge. 36 E
 (B) Drilling Contractor Grady Backus License No. W D 322
 Street and Number Box 791
 City Lovington State N. Mex.
 Drilling was commenced 19
 Drilling was completed 19

Elevation at top of casing in feet above sea level _____ Total depth of well 96 ft.
 State whether well is shallow or artesian shallow Depth to water upon completion 68 ft.

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	68	76	8 ft.	Water Sand
2	86	96	10 ft.	quick Sand
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5 PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____

Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY
 Date Received _____
 STATE ENGINEER OFFICE
 1962 OCT 30 AM 8:15
 File No. L-313-A

Use Dr & Worn Location No. 16.36.15.220

FIELD ENGINE LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well John C. Tunnell
 Street and Number 1120 S. Love
 City Lovington State New Mexico
 Well was drilled under Permit No. L-5527 and is located in the
W-300ft $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 15 Twp. 16 S Rge. 36 E
 (B) Drilling Contractor P & P Drilling Co. License No. WD-281
 Street and Number 1121 S. Love
 City Lovington State New Mexico
 Drilling was commenced Jan. 20 19 65
 Drilling was completed Jan 21 19 65

(Plat of 640 acres)

Elevation at top of casing in feet above sea level _____ Total depth of well 100
 State whether well is shallow or artesian Shallow Depth to water upon completion 75

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	<u>69</u>	<u>100</u>		
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
<u>7</u>			<u>0</u>	<u>100</u>	<u>100</u>		<u>70</u>	<u>90</u>

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				
			<u>1 sack</u>		

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____

Plugging approved by: _____

Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received _____ ✓

21 78 114 22 1147 5961

File No. L-5527

Use W-300

Location No. 16-36-15-22-3

Done - ok

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well Alton J. Dyer
 Street and Number Box
 City Lovington State New Mexico
 Well was drilled under Permit No. 1-3047 and is located in the
1/4 1/4 1/4 of Section 15 Twp. 15S Rge. 30E
 (B) Drilling Contractor Claude Patum License No. 333
 Street and Number 221 W. Washington
 City Lovington State New Mexico
 Drilling was commenced December 3 1955
 Drilling was completed December 5 1955

(Plat of 640 acres)

Elevation at top of casing in feet above sea level 4111.00 Total depth of well 30 feet
 State whether well is shallow or artesian shallow Depth to water upon completion 65.1

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	55	90	25	water sands
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____ Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received JUN 24 1956

OFFICE
GROUND WATER SUPERVISOR
ROSWELL, NEW MEXICO

File No. 1-3047 Use DOM Location No. 16.36.15.230

WELL RECORD

Date of Receipt ~~XXXXXX~~ **March 3, 1954** Permit No. **L-207**

Name of permittee, **M. L. CASTLEBERRY**

Street or P. O. **LOVINGTON**, City and State **NEW MEXICO**

1. Well location and description: The **SHALLOW** well is located in **NW** $\frac{1}{4}$, **SW** $\frac{1}{4}$,
(shallow or artesian)
NE $\frac{1}{4}$ of Section **15**, Township **16S**, Range **36E**; Elevation of top of casing above sea level, _____ feet; diameter of hole, **12** inches; total depth, **100** feet; depth to water upon completion, **65** feet; drilling was commenced **DEC. 15**, 19**53**, and completed **DEC. 19**, 19**53** name of drilling contractor **C. O. ALDREDGE** **Box 379**; Address, **LOVINGTON, N. M.**; Driller's License No. **79**

2. Principal Water-bearing Strata:

	Depth in Feet		Thickness	Description of Water-bearing Formation
	From	To		
No. 1	65	75	10	LIGHT WATER SAND
No. 2	75	90	15	GOOD WATER SAND
No. 3	90	100	10	QUICK SAND
No. 4				
No. 5				

3. Casing Record:

Diameter in inches	Pounds per ft.	Threads per inch	Depth of Casing or Liner Top	Bottom	Feet of Casing	Type of Shoe	Perforation From	To
NOT CASED								

4. If above construction replaces old well to be abandoned, give location: _____ $\frac{1}{4}$, _____ $\frac{1}{4}$, _____ $\frac{1}{4}$ of Section _____, Township _____, Range _____; name and address of plugging contractor, _____
 date of plugging _____, 19____; describe how well was plugged: _____

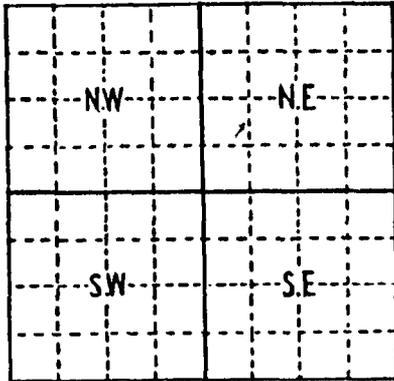
FILED
MAR 3 1954
 OFFICE
 GROUND WATER SUPERVISOR
 ROSWELL, NEW MEXICO

WELL RECORD

File No. _____

INSTRUCTIONS: This form should be typewritten, and filed in the office of the State Engineer, (P.O. Box 1079) Santa Fe, New Mexico, unless the well is situated in the Roswell Artesian Basin, in which case it should be filed in the office of the Artesian Well Supervisor, Roswell, New Mexico. Section 5 should be answered only if an old artesian well has been plugged. All other sections should be answered in full in every case, regardless of whether the well drilled is shallow or artesian in character. This report must be subscribed and sworn to before a Notary Public.

Sec. 1



(Plat of 640 acres)
Locate Well Accurately

Owner of well F. J. Blomquist
 Street and Number _____
 Post Office B. A. H. 27
 Well was drilled under Permit No. L-1927 and
 is located in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17
 Township 16S, Range 9E
 Drilling Contractor J. Taylor Callahan
 Street and Number _____
 Post Office B. A. H. 27

Drilling was commenced 12.20.13 1913 Drilling was completed 12.12.13 1913
 Elevation at top of casing in feet above sea level _____
 State whether well is shallow or artesian _____
 Total depth of well _____ feet.

Sec. 2 PRINCIPAL WATER-BEARING STRATA

No. 1, from _____ to _____, Thickness in feet _____, Formation Sandstone
 No. 2, from _____ to _____, Thickness in feet _____, Formation Sandstone
 No. 3, from _____ to _____, Thickness in feet _____, Formation _____
 No. 4, from _____ to _____, Thickness in feet _____, Formation _____
 No. 5, from _____ to _____, Thickness in feet _____, Formation _____

Sec. 3 RECORD OF CASING

DIAMETER IN INCHES	POUNDS PER FOOT	THREADS PER INCH	NAME OF MANUFACTURER	FEET OF CASING	TYPE OF SHOE	PERFORATED		PURPOSE
						FROM	TO	

Sec. 4 RECORD OF MUDDING AND CEMENTING

DIAMETER OF HOLE IN INCHES	NUMBER OF SACKS OF CEMENT	METHODS USED	SPECIFIC GRAVITY OF MUD	TONS OF CLAY USED

Sec. 5 PLUGGING RECORD OF OLD WELL

Well is located in the _____ $\frac{1}{4}$ _____ $\frac{1}{4}$ _____ $\frac{1}{4}$ of Section _____, Township _____
 Range _____ Name of plugging contractor _____
 Street and Number _____ Post Office _____
 Tons of clay used _____ Tons of roughage used _____ Type of roughage _____
 _____ Was plugging approved by Artesian Well Supervisor _____

Cement plugs were placed as follows:

No. 1 was placed at _____ feet Number of sacks of cement used _____
 No. 2 was placed at _____ feet Number of sacks of cement used _____
 No. 3 was placed at _____ feet Number of sacks of cement used _____
 No. 4 was placed at _____ feet Number of sacks of cement used _____
 No. 5 was placed at _____ feet Number of sacks of cement used _____

(OVER)

FIELD L. R. LUG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(Plat of 640 acres)

(A) Owner of well MRS M. C. CASTLEBERRY
 Street and Number BOX 171
 City LOVINGTON State N. M.
 Well was drilled under Permit No. L-207 and is located in the
NW 1/4 SW 1/4 NE 1/4 of Section 15 Twp. 16 S Rge. 36 E
 (B) Drilling Contractor P & P DRILLING CO. License No. WD-281
 Street and Number 1121 S. Love
 City LOVINGTON State N. M.
 Drilling was commenced Jan 15 1966
 Drilling was completed 15 1966

Elevation at top of casing in feet above sea level..... Total depth of well Cleaned fr 83' to 100'
 State whether well is shallow or artesian..... Depth to water upon completion.....

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1				
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5

PLUGGING RECORD

Name of Plugging Contractor..... License No.....
 Street and Number..... City..... State.....
 Tons of Clay used..... Tons of Roughage used..... Type of roughage.....
 Plugging method used..... Date Plugged..... 19.....
 Plugging approved by:.....

Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received.....

1966 FEB 16 AM 8:28

File No. L-207 Use Jrr Location No. 16.36.15.231

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well Don 1006
 Street and Number Don 1006
 City Livingston State Nebraska
 Well was drilled under Permit No. L-2862 and is located in the
1/4 36 15 15 of Section 15 Twp. 36 Rge. 15
 (B) Drilling Contractor Rayton & Corber License No. 1-102
 Street and Number Don 1001
 City Livingston State Nebraska
 Drilling was commenced May 10 1955
 Drilling was completed May 10 1955

(Plat of 640 acres)

Elevation at top of casing in feet above sea level _____ Total depth of well 6
 State whether well is shallow or artesian Shallow Depth to water upon completion 55

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	70	70	0	
2	86	92	6	
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
7	27	10	0	54	54	DOWN		

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged 19
 Plugging approved by: _____ Cement Plugs were placed as follows:

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received June 10, 1955

No.	Depth of Plug		No. of Sacks Used
	From	To	

JUN 10 1955

File No. L-2862

Use Atom

Location No. 16.36.15.233

16.36.15.233

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

(A) Owner of well Darrel T. Dismore
 Street and Number Box 1357
 City Lovington State New Mexico
 Well was drilled under Permit No. L-5226 and is located in the
SE 1/4 Corner 1/4 NE 1/4 of Section 15 Twp. 16 S. Rge. 36 E.
 (B) Drilling Contractor P. P. Drilling Co. License No. ND-281
 Street and Number 121 S. Love
 City Lovington State New Mexico
 Drilling was commenced Sept. 10 19 63
 Drilling was completed Sept. 12 19 63

(Plat of 640 acres)

Elevation at top of casing in feet above sea level _____ Total depth of well 110
 State whether well is shallow or artesian Shallow Depth to water upon completion 85

Section 2

PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	<u>70</u>	<u>105</u>		
2				
3				
4				
5				

Section 3

RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
<u>6 5/8</u>			<u>0</u>	<u>110</u>	<u>110</u>		<u>70</u>	<u>105</u>

Section 4

RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				
			<u>1 sack</u>		

Section 5

PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____

Cement Plugs were placed as follows:

No.	Depth of Plug		No. of Sacks Used
	From	To	

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received _____

File No. L-5226

Use Dom.

Location No. 16.36.15.240

01 18 1963 8-120 6531

Dom. - OK

FIELD ENGR. LOG

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1

Table with 4 columns and 4 rows for well location details.

(A) Owner of well Gerold Bean
Street and Number Box 68
City Capitan State New Mexico
Well was drilled under Permit No. L-5533 and is located in the
1/4 SE 1/4 NE 1/4 of Section 15 Twp. 16 S Rge. 36 E
P & P Drilling Co. #D-261
(B) Drilling Contractor
Street and Number 1121 S. Love
City Lovington State New Mexico
Drilling was commenced Jan 30 19 65
Drilling was completed Jan. 30 19 65

(Plat of 640 acres)

Elevation at top of casing in feet above sea level Total depth of well 100
State whether well is shallow or artesian Shallow Depth to water upon completion 75

Section 2

PRINCIPAL WATER-BEARING STRATA

Table with 4 columns: No., Depth in Feet (From, To), Thickness in Feet, Description of Water-Bearing Formation. Row 1: 1, 70, 100, [blank].

Section 3

RECORD OF CASING

Table with 7 columns: Dia in., Pounds ft., Threads in., Depth (Top, Bottom), Feet, Type Shoe, Perforations (From, To). Row 1: 6 5/8, [blank], [blank], 0, 100, 100, [blank], 70, 80.

Section 4

RECORD OF MUDDING AND CEMENTING

Table with 5 columns: Depth in Feet (From, To), Diameter Hole in in., Tons Clay, No. Sacks of Cement, Methods Used.

Section 5

PLUGGING RECORD

Name of Plugging Contractor License No.
Street and Number City State
Tons of Clay used Tons of Roughage used Type of roughage
Plugging method used Date Plugged 19
Plugging approved by: Cement Plugs were placed as follows:

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY
Date Received
File No. L-5533

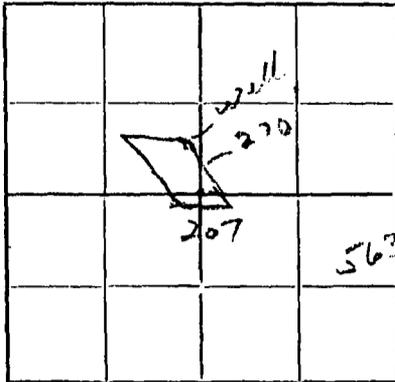
Table with 3 columns: No., Depth of Plug (From, To), No. of Sacks Used.

Use Location No. 16 36 15 240

WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1A and Section 5 need be completed.

Section 1 SE NE



(Plat of 640 acres)

(A) Owner of well Harvey Blancett
 Street and Number _____
 City Lovington State New Mexico
 Well was drilled under Permit No. L-4433 and is located in the
SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 15 Twp. 16 Rge. 36
 (B) Drilling Contractor Claude Tatum License No. WD33
 Street and Number 524 W. Washington
 City Lovington, State New Mexico
 Drilling was commenced December 2 19 68
 Drilling was completed December 7 19 68

Elevation at top of casing in feet above sea level _____ Total depth of well 112
 State whether well is shallow or artesian Shallow Depth to water upon completion 70

Section 2 PRINCIPAL WATER-BEARING STRATA

No.	Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation
	From	To		
1	70	112	42	Water Sands
2				
3				
4				
5				

Section 3 RECORD OF CASING

Dia in.	Pounds ft.	Threads in	Depth		Feet	Type Shoe	Perforations	
			Top	Bottom			From	To
7 OD	15	10	0	112	112	None	90	112

Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter Hole in in.	Tons Clay	No. Sacks of Cement	Methods Used
From	To				

Section 5 PLUGGING RECORD

Name of Plugging Contractor _____ License No. _____
 Street and Number _____ City _____ State _____
 Tons of Clay used _____ Tons of Roughage used _____ Type of roughage _____
 Plugging method used _____ Date Plugged _____ 19 _____
 Plugging approved by: _____ Cement Plugs were placed as follows:

Basin Supervisor

FOR USE OF STATE ENGINEER ONLY

Date Received _____

File No. L-4433 Use Drill Location No. 16-36-15-24142

No.	Depth of Plug		No. of Sacks Used
	From	To	

STATE OF NEW MEXICO
County of Bernalillo SS

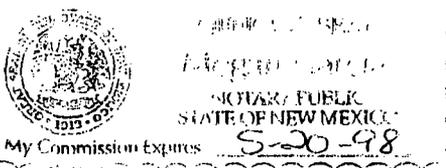
Bill Tafoya being duly sworn declares and says that he is Classified Advertising manager of **The Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made of assessed as court cost; that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 1 times, the first publication being of the 11th day of June, 1995, and the subsequent consecutive publications on _____, 1995

Bill Tafoya

Sworn and subscribed to before me, a notary Public in and for the County of Bernalillo and State of New Mexico, this 11th day of June 1995

PRICE \$ 37.33
Statement to come at end of month.

CLA-22-A (R-1/93) ACCOUNT NUMBER C80932



Meggie Garcia

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND
NATURAL RESOURCES
DEPARTMENT
OIL CONSERVATION DIVISION
Notice is hereby given that pursuant to the 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-201) - MALCO/EXXON ENERGY CHEMICALS, L.P., P.O. BOX 87, Sugar Land, Texas, 77487-0087 has submitted a Discharge plan application for their Hobbe facility located in the SE/4, Section 35, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. All effluents that may be generated at the facility 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 20 feet with a total dissolved solids concentration of approximately 100 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(GW-202) - PUD-KEH, INC., P.O. BOX 1888, 2800 South Main, Lovington, NM, 88601 has submitted a Discharge plan application for their Lovington facility located in the SE/4 SW/4, Section 13, Township 26 South, Range 28 East, NMPM, Lea County, New Mexico. All effluents that may be generated at the facility 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 25 feet with a total dissolved solids concentration of approximately 100 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 also is available at the above address between 8:00 a.m. and 4:20 p.m., Monday through Friday. Prior to filing a written proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least 7 (seven) days after the date of publication of this notice during which any comments may be submitted to him and public hearing may be requested by any interested person. Request for such 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 hearing is held, the Director will approve or disapprove the plan based on the information available. If a public hearing is held, the Director will approve the plan based on the information in the plan and information presented at the hearing.
GIVEN UNDER THE SEAL of New Mexico
Oil Conservation Division at Santa Fe, New Mexico on the 11th day of June, 1995.
WILLIAM J. LEWIS, Director
Journal: June 15, 1995

Affidavit of Publication

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath
deposes and says that he is **Adv. Director** of
THE LOVINGTON DAILY LEADER, a daily newspaper
of general paid circulation published in the English
language at Lovington, Lea County, New Mexico; that
said newspaper has been so published in such county
continuously and uninterruptedly for a period in excess
of Twenty-six (26) consecutive weeks next prior to the
first publication of the notice hereto attached as here-
inafter shown; and that said newspaper is in all things
duly qualified to publish legal notices within the mean-
ing of Chapter 167 of the 1937 Session Laws of the
State of New Mexico.

That the notice which is hereto attached, entitled
Notice Of Publication

XXXXXXXXXXXXX
and numbered XXXXXX
XXXXXXXXXXXXX
Court of Lea
County, New Mexico, was published in a regular and
entire issue of THE LOVINGTON DAILY LEADER and
not in any supplement thereof, XXXXXXXXXXXXXXXX
one (1) day
XXXXXXXXXXXXX
same day of the week, for
consecutive weeks, beginning with the issue of
June 23 95
19
and ending with the issue of
June 23 95
19

And that the cost of publishing said notice is the
sum of \$ **48.24**

which sum has been (Paid) (Assessed) as Court Costs

Joyce Clemens
Subscribed and sworn to before me this 26th
day of June 19 95

Jean Sevier
Notary Public, Lea County, New Mexico

My Commission Expires **Sept. 28** 19 98

LEGAL NOTICE 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, the following dis-
charge plan applications has been submitted to the Director
of the Oil Conservation Division, 2040 South Pacheco, Santa
Fe, New Mexico 87505, Telephone (505)827-7131:

(GW-201) - NALCO/EXXON ENERGY CHEMICALS, L.P.,
P.O. BOX 87, Sugar Land, Texas, 77487-0087 has submit-
ted a Discharge plan application for their Hobbs facility
located in the SE/4, Section 35, Township 18 South,
Range 37 East, NMPM, Lea County, New Mexico. All
effluents that may be generated at the facility 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
50 feet with a total dissolved solids concentration of
approximately 100 mg/L. The discharge plan addresses
how spills, leaks, and other accidental discharges to the
surface will be managed.

(GW-202) - PRO-KEM, INC., P.O. BOX 1506, 2400 South
Main, Lovington, NM, 88260 has submitted a Discharge
plan application for their Lovington facility located in the
SE/4 NW/4, Section 15, Township 16 South, Range 36
East, NMPM, Lea County, New Mexico. All effluents that
may be generated at the facility 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 26 feet with a total
dissolved solids concentration of approximately 100
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 com-
ments 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 avail-
able. 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 the State of New Mexico Oil
Conservation Commission at Santa Fe, New Mexico on this
9th day of June, 1995.

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

SEAL
Published in the Lovington Daily Leader June 23, 1995.

NOTICE OF PUBLICATION

RECEIVED

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

JUN 13 1995

6194
USFWS - NMESSE

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

(GW-201) -NALCO/EXXON ENERGY CHEMICALS, L.P., P.O. BOX 87, Sugar Land, Texas, 77487-0087 has submitted a Discharge plan application for their Hobbs facility located in the SE/4, Section 35, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. All effluents that may be generated at the facility 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 50 feet with a total dissolved solids concentration of approximately 100 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-202) -PRO-KEM, INC., P.O. BOX 1506, 2400 South Main, Lovington, NM, 88260 has submitted a Discharge plan application for their Lovington facility located in the SE/4 NW/4, Section 15, Township 16 South, Range 36 East, NMPM, Lea County, New Mexico. All effluents that may be generated at the facility 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 26 feet with a total dissolved solids concentration of approximately 100 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 9th day of June 9, 1995.

NO EFFECT FINDING

The described action will have no effect on listed species, wetlands, or other important natural resources.

**STATE OF NEW MEXICO
OIL CONSERVATION DIVISION**

Date June 15, 1995

Consultation # GW95OCD1

[Signature]
WILLIAM J. LEMAY, Director

SEAL

Approved by *Brian Hanco*

**U.S. FISH and WILDLIFE SERVICE
NEW MEXICO ECOLOGICAL SERVICES FIELD OFFICE
ALBUQUERQUE, NEW MEXICO**

11-18-96 DWG

-see GW-202 (Pit Close) file [R],

Groundwater depth per consultants
well search shows groundwater
more like 60'.

STATE OF NEW MEXICO)
) ss.
COUNTY OF LEA)

6-23-95

Joyce Clemens being first duly sworn on oath
deposes and says that he is Adv. Director of
THE LOVINGTON DAILY LEADER, a daily newspaper
of general paid circulation published in the English
language at Lovington, Lea County, New Mexico; that
said newspaper has been so published in such county
continuously and uninterruptedly for a period in excess
of Twenty-six (26) consecutive weeks next prior to the
first publication of the notice hereto attached as here-
inafter shown; and that said newspaper is in all things
duly qualified to publish legal notices within the mean-
ing of Chapter 167 of the 1937 Session Laws of the
State of New Mexico.

That the notice which is hereto attached, entitled
..... Notice Of Publication

.....
.....
.....
..... was published in a regular and
entire issue of THE LOVINGTON DAILY LEADER and
not in any supplement thereof, on
....., for (1) day
....., beginning with the issue of
..... June 14 19 .. 95
and ending with the issue of
..... June 14 19 .. 95

And that the cost of publishing said notice is the
sum of \$ 48.24

which sum has been (Paid) (Assested) as Court Costs

Joyce Clemens
.....
16th

Subscribed and sworn to before me this
day of June 19 .. 95

Jean Senior
.....
Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28 19 .. 98

LEGAL NOTICE
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 (the following dis-
charge plan renewal application has been submitted to the
Director of the Oil Conservation Division, 2040 South Pacheo,
Santa Fe, New Mexico 87505, Telephone (505)827-7131:

(GW-201) - NALCO/EXXON ENERGY CHEMICALS, L.P.,
P.O. BOX 87, Sugar Land, Texas, 77487-0087 has submit-
ted a Discharge plan application for their Hobbs facility
located in the SE/4, Section 35, Township 18 South,
Range 37 East, NMPM, Lea County, New Mexico. All effluents that may be generated at the facility 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 50 feet with a total dissolved solids concentration of approximately 100 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-202) PRO-KEM, INC., P.O. BOX 1506, 2400 South
Main, Lovington, NM, 88260 has submitted a Discharge
plan application for their Lovington facility located in the
SE/4 NW/4, Section 15, Township 16 South, Range 36
East, NMPM, Lea County, New Mexico. All effluents that
may be generated at the facility 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 26 feet with a total
dissolved solids concentration of approximately 100
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 com-
ments 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 avail-
able. 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 the State of New Mexico Oil
Conservation Commission at Santa Fe, New Mexico on this
9th day of June, 1995.

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

SEAL
Published in the Lovington Daily Leader June 14, 1995.

has to be redone by the Lovington Paper their fault phz



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

June 12, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-700

Mr. Gerald Phillips
President
PRO-KEM, INC.
P.O. Box 1506
Lovington, NM 88260

**RE: Discharge Plan GW-202
PRO-KEM, Inc. Lovington facility
Lea County, New Mexico**

Dear Mr. Phillips:

The NMOCD has received the proposed PRO-KEM Inc. discharge plan application for the facility located in SE/4 NW/4, Section 15, Township 16 South, Range 36 East, NMPM, Lea County, New Mexico. The application filing fee in the amount of \$50 and flat fee of \$1380 was received by the NMOCD along with the discharge plan application. The NMOCD has prepared and sent out the public notice for the PRO-KEM Inc. facility as stated in WQCC section 3-108 and has performed a preliminary review of the discharge plan as proposed by PRO-KEM Inc. as received by the OCD on June 7, 1995.

The following comments and request for additional information are based on the review of the PRO-KEM 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 page submitted by PRO-KEM Inc. as signed by Mr. Gerald Phillips on May 24, 1995.

- A. UNDER ITEM X. - Submit a procedure outlining routine inspection and maintenance plan to ensure permit compliance.

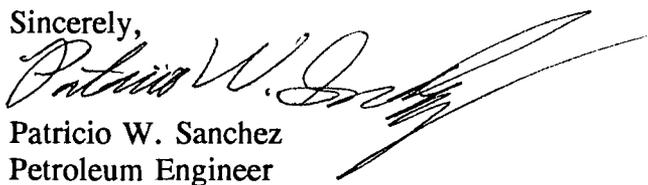
Mr. Gerald Phillips
June 12, 1995
Page 2

- B. UNDER ITEM XI. -Submit a contingency plan for reporting and dealing with clean-up of spills or releases. Include NMOCD Rule 116 and WQCC 1-203 spill reporting measures.
- C. UNDER ITEM XII. - Submit geological and Hydrological parameters- NOTE: NMOCD referenced State Engineer records in order to obtain TDS and depth to groundwater in order to publish the public notice for this facility:
TDS(total dissolved solids)=100 mg/l and depth to groundwater=26'
- D. UNDER ITEM XIII. - Submit a statement agreeing to comply with NMOCD Rule 116 and WQCC 1-203 spill reporting requirements.

Submittal of the requested information and commitments in a timely fashion will expedite the final review of the application and approval of the discharge plan.

If you have any questions, please feel free to call me at (505)-827-7156.

Sincerely,


Patricio W. Sanchez
Petroleum Engineer

xc: Mr. Wayne Price-Environmental Engineer

Z 765 963 186

State of New Mexico
MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505



Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to <i>Alby Arrenal</i>	
Street and No.	
P.O., State and ZIP Code	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

PS Form 3800, March 1993

ARNAL

RE: NOTICE OF PUBLICATION

xico 87103

MANAGER

hed notice one time immediately on receipt of this request. Please
ny error in a land description or in a key word or phrase can invalidate

Immediately upon completion of publication, please send the following to this office:

1. Publisher's affidavit in duplicate.
2. Statement of cost (also in duplicate.)
2. CERTIFIED invoices for prompt payment.

We should have these immediately after publication in order that the legal notice will be available for the hearing which it advertises, and also so that there will be no delay in your receiving payment.

Please publish the notice no later than June 16, 1995.

Sincerely,

Sally E. Martinez
Sally E. Martinez
Administrative Secretary

Attachment

VILLAGRA BUILDING - 408 Galisteo
Forestry and Resources Conservation Division
P.O. Box 1948 87504-1948
827-5830
Park and Recreation Division
P.O. Box 1147 87504-1147
827-7465

2040 South Pacheco
Office of the Secretary
827-5950
Administrative Services
827-5925
Energy Conservation & Management
827-5900
Mining and Minerals
827-5970
Oil Conservation
827-7131

Z 765 963 293

State of New Mexico
MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505



Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)



Sent to	
Street and No. Lovington Daily Leader	
P.O., State, and ZIP Code P.O. Box 1717	
Postage	Lovington, NM 88260
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

proofread carefully the entire notice.

ADER

RE: NOTICE OF PUBLICATION

88260

MANAGER

ed notice one time immediately on receipt of this request. Please y error in a land description or in a key word or phrase can invalidate

Immediately upon completion of publication, please send the following to this office:

- 1. Publisher's affidavit in duplicate.**
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827-5925
Energy Conservation & Management
827-5900
Mining and Minerals
827-5970
Oil Conservation
827-7131

PS Form 3800, March 1993

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, the following discharge plan applications has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(GW-201) -NALCO/EXXON ENERGY CHEMICALS, L.P., P.O. BOX 87, Sugar Land, Texas, 77487-0087 has submitted a Discharge plan application for their Hobbs facility located in the SE/4, Section 35, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico. All effluents that may be generated at the facility 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 50 feet with a total dissolved solids concentration of approximately 100 mg/L. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

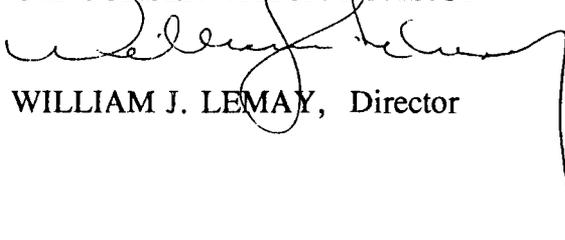
(GW-202) -PRO-KEM, INC., P.O. BOX 1506, 2400 South Main, Lovington, NM, 88260 has submitted a Discharge plan application for their Lovington facility located in the SE/4 NW/4, Section 15, Township 16 South, Range 36 East, NMPM, Lea County, New Mexico. All effluents that may be generated at the facility 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 26 feet with a total dissolved solids concentration of approximately 100 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 9th day of June 9, 1995.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY, Director

S E A L

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [REDACTED] dated 5-25-95,

or cash received on 6-13-95 in the amount of \$ 1430⁰⁰

from PRO-KEM, INC

for GW-22 LOVINGTON SERVICE FACILITY

Submitted by: _____ Date: _____
(Facility Name) (DP No.)

Submitted to ASD by: CHRIS EUSTICE Date: 6-13-95

Received in ASD by: Annie Oliver Date: 6-13-95

Filing Fee New Facility Renewal

Modification _____ Other _____
(specify)

Organization code 525.07 Applicable FY 95

To be deposited in the Water Quality Management Fund.

Full Payment or Annual Increment



PRO-KEM, INC.
BOX 1506 396-7433
LOVINGTON, NM 88260

Western Commerce Bank
Lovington, NM Tel (505) 396-2831

May 25, 1995

95-108/1122
6

PAY ONE THOUSAND FOUR HUNDRED THIRTY AND NO/100----- DOLLARS \$ 1,430.00

TO
THE
ORDER
OF

NMED WATER QUALITY MANAGEMENT

Fernald Phillip
Barbara Ward

[REDACTED]