

**GW -** 270

**PERMITS,  
RENEWALS,  
& MODS  
Application**

**Lowe, Leonard, EMNRD**

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**From:** Lowe, Leonard, EMNRD  
**Sent:** Monday, April 14, 2008 3:39 PM  
**To:** 'Alberto A. Gutierrez, RG'  
**Cc:** 'Savoie, Tony'; 'Jones, Larry'  
**Subject:** Letters for GW-260, 261, 262, 270  
**Attachments:** GW-260, Changes Letter.pdf; GW-261, Changes Letter.pdf; GW-262, Changes Letter.pdf; GW-270, Changes Letter.pdf

Mr. Alberto Gutierrez,

Here are the letters noted in reference to the submitted discharge plan application revisions for the above stated facilities.

llowe

**Leonard Lowe**

Environmental Engineer  
Oil Conservation Division/EMNRD  
1220 S. St. Francis Drive  
Santa Fe, N.M. 87505  
Office: 505-476-3492  
Fax: 505-476-3462  
E-mail: [leonard.lowe@state.nm.us](mailto:leonard.lowe@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/>



New Mexico Energy, Minerals and Natural Resources Department

---

**Bill Richardson**  
Governor  
**Joanna Prukop**  
Cabinet Secretary  
**Reese Fullerton**  
Deputy Cabinet Secretary

**Mark Fesmire**  
Division Director  
Oil Conservation Division



April 14, 2008

Mr. Alberto A. Gutierrez,  
Geolex, Inc.  
500 Marquette Avenue, NW Suite 1350  
Albuquerque, New Mexico, 87102

**Re: Note Changes for Discharge Plan Permit GW-270  
Southern Union Gas  
West Eunice Compressor Station  
Lea County, New Mexico**

Dear Mr. Gutierrez:

The New Mexico Oil Conservation Division (NMOCD) has received the information sent to our office referencing the changes/updates made to the last submitted discharge plan application for the renewal of GW-270, West Eunice Compressor Station, located in unit P, Section 36, Township 21 South, Range 36 East, NMPM, Lea County on behalf of Southern Union Gas LTD. We have reviewed and acknowledge the differences in information pertaining to this application.

In the interest of all parties involved in the renewal discharge plan process please ensure that all information is current and correct as much as possible upon submittal of the application to our office. Any deficient information shall be addressed during the renewal process. Expiration dates for NMOCD discharge permits are static upon their initial submission to the NMOCD and shall remain the same every five years.

If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3492 or [leonard.lowe@state.nm.us](mailto:leonard.lowe@state.nm.us). On behalf of the staff of the NMOCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Leonard Lowe  
Environmental Engineer

xc: Mr. Larry Johnson, OCD District I Office  
Mr. Tony Savoie, Southern Union Gas LTD.



**Lowe, Leonard, EMNRD**

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**From:** Alberto A. Gutierrez, RG [aag@geolex.com]  
**Sent:** Wednesday, March 05, 2008 4:21 PM  
**To:** Lowe, Leonard, EMNRD  
**Cc:** 'James C. Hunter, RG'  
**Subject:** RE: Southern Union Discharge Permits Gw-259,260,261,262 and 270  
**Attachments:** WestEunice2007Changes.doc; C-1\_2007Changes.doc; C-2\_2007Changes.doc; C-3\_2007Changes.doc; C-4\_2007Changes.doc

Leonard,

I believe that the attached should provide what you need. In section 1.0 of each document the original DP dates and submission dates for the new ones are detailed. Then the changes for each section are highlighted in red. There may be many changes that merely provide OCD with additional information and don't really affect operations and those you can ignore if you wish. However where there are changes that truly reflect what operational changes (such as new tanks or changes in chemicals used) they are detailed and those would be the main things you are searching. Since we thought that OCD would review the new submissions from scratch, we didn't really do this type of a cross reference; however, since you are trying to make the process smoother, this cross reference should help. I will call you to make sure you got these and that they provide the info that you need.

Let me know.

Alberto

Alberto A. Gutiérrez, RG

**Geolex, Inc<sup>®</sup>**

500 Marquette Avenue, NW Suite 1350

Albuquerque, NM 87102

505-842-8000 Ext. 105

505-842-7380 Fax

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3/14/2008

## 1.0 TYPE OF OPERATION

No Changes in general operation.

Discharge plan GW-270 was previously renewed by submittal on June 22, 2006 and was approved by NMOCD on August 3, 2006. The following changes were incorporated in the Geolex submittal dated August 28, 2007.

## 2.0 OPERATOR AND LEGALLY RESPONSIBLE PARTY

Revised to reflect:

The Operator is:

Southern Union Gas Services, Ltd. (SUGS)  
Contact: Mr. Randall Dunn  
P.O. Box 1226  
Jal, New Mexico 88252  
Telephone: (505)-395-2116

The Responsible Party is:

Southern Union Gas Services, Ltd.  
Contact: Mr. Bruce Williams  
301 Commerce St. Suite 700  
Fort Worth, Texas 76102  
Telephone: (817)-302-9421

## 3.0 LOCATION OF DISCHARGE/FACILITY

Amended to include:

The West Eunice station is located in Unit P of Section 36, Township 21 South, Range 36 East in Lea County, New Mexico (32<sup>0</sup> 30.070' North, 103<sup>0</sup> 8.652' West). This location is at an elevation of 3450 feet; approximately 4 miles west of Eunice, New Mexico (see Figures 1 and 2).

## 4.0 LANDOWNER

The land is owned by Southern Union Gas Services, Ltd. and is administered by:  
Amended to include:

Southern Union Gas Services, Ltd.  
201 N. Main Street, Suite 3000  
Fort Worth, Texas 76102  
Contact: Mr. Bruce Williams  
Telephone: (817)-302-9421

## 5.0 SITE CHARACTERISTICS

### 5.1 GEOLOGICAL SETTING

Expanded narrative

#### 5.1.3 Depth to Water, Direction of Groundwater Flow and Quality

Additional information that:

...the flow of groundwater in the upper aquifer in the area of West Eunice is southerly to southeasterly at a gradient of 0.005 (approximately 25 feet per mile).

Available information on groundwater quality is limited in the immediate area of West Eunice. The nearest published information is from wells in Section 33, T21S, R37E (approximately 4 miles south of West Eunice). These wells are completed in the Ogallala and have a Total Dissolved Solids of 700 to 800 milligrams per liter (Nicholson and Clebsch, 1961; Table 8, p. 93).

#### 5.1.4 Nearest Potential Groundwater Receptors

As seen in Figure 2, there are two water wells listed by the New Mexico State Engineer's Office within one mile of West Eunice. These wells are crossgradient of West Eunice. There are no records of any water wells within one mile downgradient of West Eunice.

Provision of map showing the locations of water wells (Figure 2)

### 5.2 SURFACE WATER

Provision of map showing directions of surface water flow (Figure 3)

## 6.0 FACILITY DESCRIPTION

Revised to reflect changes in tanks.

## 7.0 MATERIALS STORED AND USED AT FACILITY

**Table 7-1: Materials Stored at West Eunice Compressor Station**

TYPE	ID	MATERIAL	FORM	VOLUME	LOCATION	CONTAINMENT
AGT Steel	TK-1	Scrubber Liquids	Liquid	500 bbl	SW Area of Facility	Dirt Berm
AGT Steel	TK-2	Scrubber Liquids	Liquid	500 bbl	SW Area of Facility	Dirt Berm, Common w/TK-1
AGT Poly	TK-3	PC-396-XL Cleaner	Liquid	325 gal	SW Area of Facility	Fiberglass Pan
AGT Poly	TK-4	PPP-300 Corrosion Inhibitor	Liquid	325 gal	SW Area of Facility	Fiberglass Pan
AGT Steel	TK-5	Antifreeze	Liquid	375 gal	SE Area of Facility	Cement Pad/Curbed
AGT Steel	TK-6	Engine Lube Oil	Liquid	550 gal	SE Area of Facility	Cement Pad/Curbed
AGT Steel	TK-7	Antifreeze	Liquid	1050 gal	NE Area of Facility	Cement Pad/Curbed
AGT Steel	TK-8	Methanol	Liquid	1000 gal	NE Area of Facility	Fiberglass Pan
AGT Steel	TK-9	Wastewater	Liquid	100 bbl	NE Area of Facility	Cement Pad/Curbed
AGT Steel	TK-10	Engine Lube Oil	Liquid	1000 gal	NE Area of Facility	Cement Pad/Curbed
AGT Steel	TK-11	Surfactant Inhibitor	Liquid	325	NE Area of Facility	Fiberglass Pan
Subgrade Poly	TK-12	Waste Oil	Liquid	325 gal	NE Area of Facility	1000 gal double walled RFG vault
AGT Steel	TK-13	Water	Liquid	6500 gal	NE Area of Facility	None

## 8.0 SOURCES AND QUANTITIES OF EFFLUENT AND WASTE SOLIDS

Revised to update quantities and regulatory status and to include analytical data on wastewater.

**Table 8-1: Waste Sources, Quantities and Regulatory at West Eunice Compressor Station**

SOURCE	TYPE OF WASTE	VOLUME	REGULATORY STATUS	STATUS DETERMINATION
Compressor	Used Engine Oil	100-200 gal/month	Non-Exempt	Non-Hazardous per 40 CFR 279.11
	Used Filters	4 per month	Non-Exempt	Non-Hazardous per 40 CFR 261.4
	Wash and storm water from Compressor pad	Washdown 75 to 100 gal/month; stormwater varies	Non-Exempt	Chemical Analysis, knowledge of process
	Sorbent/Rags	Varies	Non-Exempt	Non-Hazardous per 40 CFR 279.11
Scrubbers	Gas Liquids	Varies; 50 to 100 bbl/month	Exempt	EPA Subtitle C
Misc. Trash	Solid Wastes	Varies	Non-Exempt	Knowledge of process

**Table 8-2: Wastewater Analyses From West Eunice Compressor Station**

Date Sampled	3/26/2007		
location	West Eunice Compressor Station		
Report #	7C27009		
Matrix	Waste water		
<b>Toxicity</b>	<b>Analytical mg/kg</b>	<b>Reg limit (TCLP) mg/kg</b>	<b>Determination</b>
Benzene	0.0641	0.5	Non-hazardous
Mercury	ND	0.2	Non-hazardous
Arsenic	ND	5.0	Non-hazardous
Barium	0.0196	100.0	Non-hazardous
Cadmium	ND	1.0	Non-hazardous
Chromium	0.0246	5.0	Non-hazardous
Lead	J(0.000688)	5.0	Non-hazardous

Selenium	0.0462	1.0	Non-hazardous
Silver	J(0.00171)	5.0	Non-hazardous
<b>Reactive</b>			
Cyanide	ND	250.0	Non-hazardous
pH	5.70 pH units	<2 or >12.5 pH units	Non-hazardous
Sulfide	ND	500.0	Non-hazardous
<b>Ignitability</b>	>85 deg. C	<60 deg C	Non-hazardous

## 9.0 LIQUID AND SOLID WASTES COLLECTION, STORAGE AND DISPOSAL

Updated regarding removal and disposal and contractor(s).

**Table 9-1: Collection, Storage, Removal and Disposal of Wastes at West Eunice Compressor Station**

TYPE OF WASTE	COLLECTION	STORAGE	REMOVED BY	DISPOSAL
Scrubber Liquids	Piped to TK-1 and TK-2	TK-1 (210 bbl) TK-2 (210 bbl)	Varies <sup>1</sup>	SUGS Jal #4 for separation and sales.
Used Oils	Drained from Compressor pad or drained from engine sump	TK-12 (100 gal)	Quail Petroleum Services	Available Permitted Recycler
Used Filters/Sorbents	Filters drained to container on pad; rags and sorbents to dumpster.	Dumpster	Quail Petroleum Services	Available Permitted Recycler
Wash Water	Piped to TK-3	TK-3 (100 bbl)	Varies <sup>1</sup>	Nearest Available Permitted Facility
Spent Antifreeze	Disposal Truck	Not stored on site	Quail Petroleum Services	Available Permitted Recycler
Solid Wastes	Dumpster	Dumpster	SUGS	Lea County Solid Waste Authority

1: Scrubber liquids are transported by either (depending on availability) Quality Transports, Chaparral Services, Riverside Trucking, FULCO Services, or Rapid Transports.

## **10.0 INSPECTION, MAINTENCE AND REPORTING**

Updated to incorporate analytical schedules.

Current TCLP analyses of wastewaters from the compressor pad indicate that the water is non-hazardous. Compressor pad wastewater will be reanalyzed for TCLP parameters if significantly different materials (e.g., oils, antifreeze, soaps) are used on the pad to reestablish the water's status.

## **11.0 SPILL AND LEAK PREVENTION AND REPORTING**

Amended to cite NMOCD Rules.

As described in Section 11.0 above, the facility is inspected on a daily basis. Any spills will be addressed in accordance with NMOCD Rule 116 and 20.6.2.1203 NMAC.

## **12.0 CLOSURE PLAN**

Amended to include reporting.

A report will be developed documenting the closure, and will be provided to NMOCD upon request.

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Additional information on operating procedures, analytical data and proposed notices.

A:	Material Data Sheets
B:	Standard Operating Procedures for Wastewater Sampling at Compressor Stations
C:	Analytical Data and Documentation
D:	Proposed Notice of Application, Locations and Newspaper for Publication



301 Commerce St., Ste. 700  
Fort Worth, TX 76102

817.302.9400 Fax: 817.302.9350

August 28, 2007

Mr. Carl Chavez  
Environmental Engineer  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Re: APPLICATION BY SOUTHERN UNION GAS SERVICES FOR RENEWAL OF A  
DISCHARGE PLAN FOR WEST EUNICE COMPRESSOR STATION

Dear Mr. Chavez:

*GW-270*

Southern Union Gas Services, Ltd. ("SUGS") hereby submits the enclosed Discharge Plan Application for the initial discharge plan for the West Eunice Compressor Station. The West Eunice Compressor Station, located in Unit P of Section 36, Township 21 South, Range 36 East in Lea County, New Mexico (32° 30.070' North, 103° 8.652' West).

Enclosed are two checks in the amounts of \$1700.00 for the permit fee and the filing fee of \$100.00, as listed in Section 20.6.2.3144 of the NMWQCC regulations.

Also included for your review as Appendix D to the application is a draft of the public notice required in NMWQCC section 20.6.2.3108. Following NMOCD review and acceptance, we propose to post this notice using a 2'x3' sign, in English and Spanish, at the gate of the above-named facility. Identified adjacent landowners will be provided with copies of this notice by mail, and any owners of any lands the proposed discharge site not owned by SUGS will be notified by certified, receipt requested mailing. The notice will also be advertised, in English and in Spanish, in a 3"x4" display advertisement in the Hobbs Sun.

Please contact our consultant in this matter, Mr. James C. Hunter, RG (Geolex, Inc.) at (505) 842-8000, if you have any questions or require additional information regarding this submittal.

Sincerely,  
Southern Union Gas Services, Ltd.

A handwritten signature in black ink that reads "Bruce M. Williams".

Bruce Williams  
Vice President – Operations

Enclosures

cc: w/o enclosures  
James C. Hunter, RG – Geolex, Inc.  
Tony Savoie – SUGS – Jal, NM

**DETACH AND DESTROY THE ADDRESS STUB BEFORE DEPOSITING THE CHECK**  
 (Provided vendor a valid Texas Direct Pay Certificate in lieu of getting billed sales tax)

NEW MEXICO OIL CONSERVATION DIVISIO  
 1220 SOUTH ST FRANCIS DR  
 SANTA FE, NM 87505

Southern Union Gas Services, Ltd.  
 301 Commerce Street Suite 700  
 Fort Worth, TX 76102  
 817-302-9400

Check No: [REDACTED]

INVOICE NUMBER DESCRIPTION	INVOICE DATE	GROSS AMOUNT	DISCOUNT	NET AMOUNT
082707 West Eunice1 Filing Fee	08/27/2007	\$100.00		\$100.00

Check Amount: **\$100.00**

THE ORIGINAL DOCUMENT HAS A WHITE REFLECTIVE WATERMARK ON THE BACK. HOLD AT AN ANGLE TO VIEW. DO NOT CASH IF NOT PRESENT.

**Southern Union Gas Services, Ltd.**  
 301 Commerce Street Suite 700  
 Fort Worth, TX 76102  
 817-302-9400

**JPMORGAN CHASE BANK, N.A.**  
 San Angelo

88-88/1113

Check No: [REDACTED]

Date: **08/28/07**

**PAY EXACTLY**

\*\*\*One Hundred Dollars Only\*\*\*\*\*

**\$100.00**  
 ONE ZERO ZERO CTS CTS

\*\*\*\*\$100.00

**PAY  
 TO THE  
 ORDER OF**

NEW MEXICO OIL CONSERVATION DIVISIO  
 1220 SOUTH ST FRANCIS DR  
 SANTA FE, NM 87505

*Richard [Signature]*

AUTHORIZED SIGNATURE



**DETACH AND DESTROY THE ADDRESS STUB BEFORE DEPOSITING THE CHECK**  
 (Provided vendor a valid Texas Direct Pay Certificate in lieu of getting billed sales tax)

NEW MEXICO OIL CONSERVATION DIVISIO  
 1220 SOUTH ST FRANCIS DR  
 SANTA FE, NM 87505

Southern Union Gas Services, Ltd.  
 301 Commerce Street Suite 700  
 Fort Worth, TX 76102  
 817-302-9400

Check No: [REDACTED]

INVOICE NUMBER DESCRIPTION	INVOICE DATE	GROSS AMOUNT	DISCOUNT	NET AMOUNT
082707 West Eunice Permit - Renewal of	08/27/2007	\$1,700.00		\$1,700.00

Check Amount: **\$1,700.00**

THE ORIGINAL DOCUMENT HAS A WHITE REFLECTIVE WATERMARK ON THE BACK. HOLD AT AN ANGLE TO VIEW. DO NOT CASH IF NOT PRESENT.

**Southern Union Gas Services, Ltd.**  
 301 Commerce Street Suite 700  
 Fort Worth, TX 76102  
 817-302-9400

**JPMORGAN CHASE BANK, N.A.**  
 San Angelo

88-88/1113

Check No: [REDACTED]

Date: **08/28/07**

**PAY EXACTLY**

**\$1,700.00**  
ONE SEVEN ZERO ZERO CTS CTS

\*\*\*One Thousand Seven Hundred Dollars Only\*\*\*\*\*

\*\*\*\*\$1,700.00

**PAY  
 TO THE  
 ORDER OF**

NEW MEXICO OIL CONSERVATION DIVISIO  
 1220 SOUTH ST FRANCIS DR  
 SANTA FE, NM 87505

*Redmond*

\_\_\_\_\_  
 AUTHORIZED SIGNATURE



# Southern Union Gas Services

301 Commerce St., Ste. 700  
Fort Worth, TX 76102

817.302.9400 Fax: 817.302.9350

August 28, 2007

Mr. Carl Chavez  
Environmental Engineer  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Re: APPLICATION BY SOUTHERN UNION GAS SERVICES FOR RENEWAL OF A  
DISCHARGE PLAN FOR WEST EUNICE COMPRESSOR STATION

Dear Mr. Chavez:

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Southern Union Gas Services, Ltd. ("SUGS") hereby submits the enclosed Discharge Plan Application for the initial discharge plan for the West Eunice Compressor Station. The West Eunice Compressor Station, located in Unit P of Section 36, Township 21 South, Range 36 East in Lea County, New Mexico (32° 30.070' North, 103° 8.652' West).

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Also included for your review as Appendix D to the application is a draft of the public notice required in NMWQCC section 20.6.2.3108. Following NMOCD review and acceptance, we propose to post this notice using a 2'x3' sign, in English and Spanish, at the gate of the above-named facility. Identified adjacent landowners will be provided with copies of this notice by mail, and any owners of any lands the proposed discharge site not owned by SUGS will be notified by certified, receipt requested mailing. The notice will also be advertised, in English and in Spanish, in a 3"x4" display advertisement in the Hobbs Sun.

Please contact our consultant in this matter, Mr. James C. Hunter, RG (Geolex, Inc.) at (505) 842-8000, if you have any questions or require additional information regarding this submittal.

Sincerely,  
Southern Union Gas Services, Ltd.



Bruce Williams  
Vice President - Operations

Enclosures

cc: w/o enclosures  
James C. Hunter, RG - Geolex, Inc.  
Tony Savoie - SUGS - Jal, NM

GW 270

**DETACH AND DESTROY THE ADDRESS STUB BEFORE DEPOSITING THE CHECK**

(Provided vendor a valid Texas Direct Pay Certificate in lieu of getting billed sales tax)

NEW MEXICO OIL CONSERVATION DIVISIO  
1220 SOUTH ST FRANCIS DR  
SANTA FE, NM 87505

**Southern Union Gas Services, Ltd.**  
301 Commerce Street Suite 700  
Fort Worth, TX 76102  
817-302-9400

Check No: [REDACTED]

INVOICE NUMBER DESCRIPTION	INVOICE DATE	GROSS AMOUNT	DISCOUNT	NET AMOUNT
082707 West Eunice Permit - Renewal of	08/27/2007	\$1,700.00		\$1,700.00

**DETACH AND DESTROY THE ADDRESS STUB BEFORE DEPOSITING THE CHECK**

(Provided vendor a valid Texas Direct Pay Certificate in lieu of getting billed sales tax)

NEW MEXICO OIL CONSERVATION DIVISIO  
1220 SOUTH ST FRANCIS DR  
SANTA FE, NM 87505

**Southern Union Gas Services, Ltd.**  
301 Commerce Street Suite 700  
Fort Worth, TX 76102  
817-302-9400

Check No: 

INVOICE NUMBER DESCRIPTION	INVOICE DATE	GROSS AMOUNT	DISCOUNT	NET AMOUNT
082707West Eunice1 Filing Fee	08/27/2007	\$100.00		\$100.00

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of check No. \_\_\_\_\_ dated 8/28/07

or cash received on \_\_\_\_\_ in the amount of \$ 100<sup>00</sup>

from Southern Union Gas Services

for EW-270

Submitted by: Laurence Rowan Date: 8/14/07

Submitted to ASD by: Laurence Rowan Date: 9/4/07

Received in ASD by: \_\_\_\_\_ Date: \_\_\_\_\_

Filing Fee  New Facility \_\_\_\_\_ Renewal \_\_\_\_\_

Modification \_\_\_\_\_ Other \_\_\_\_\_

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

Full Payment \_\_\_\_\_ or Annual Increment \_\_\_\_\_

ACKNOWLEDGEMENT OF RECEIPT  
OF CHECK/CASH

I hereby acknowledge receipt of check No. \_\_\_\_\_ dated 8/28/07

or cash received on \_\_\_\_\_ in the amount of \$ 1700<sup>00</sup>

from Southern Union Gas Services

for GW-270

Submitted by: Lawrence Romero Date: 9/4/07

Submitted to ASD by: Jawana Romero Date: 9/4/07

Received in ASD by: \_\_\_\_\_ Date: \_\_\_\_\_

Filing Fee \_\_\_\_\_ New Facility \_\_\_\_\_ Renewal \_\_\_\_\_

Modification \_\_\_\_\_ Other \_\_\_\_\_

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

Full Payment  or Annual Increment \_\_\_\_\_

**ATTACHMENT TO THE DISCHARGE PERMIT**  
**SOUTHERN UNION GAS SERVICES, LTD., West Eunice Compressor Station (GW-270)**  
**DISCHARGE PERMIT APPROVAL CONDITIONS**  
**August 21, 2006**

**Please remit all checks made payable to Water Quality Management Fund:**

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

- 1. Payment of Discharge Plan Fees:** All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of \$100.00, plus a renewal flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required \$100.00 filing fee and \$1700.00 renewal permit fee for a gas compressor station greater than 1001 horsepower from the owner/operator.
- 2. Permit Expiration and Renewal:** Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. **The permit will expire on August 21, 2011** and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved.
- 3. Permit Terms and Conditions:** Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.
- 4. Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its July 10, 2006 discharge permit modification application, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.
- 5. Modifications:** WQCC Regulation 20.6.2.3109.G NMAC addresses possible future modifications of a permit. Pursuant WQCC Regulation 20.6.2.3107.C NMAC, the owner/operator (discharger) shall notify the OCD of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants. Pursuant to WQCC Regulation 20.6.2.3109.E NMAC, the Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for

Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.

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

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

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

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

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

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

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

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

**A.** All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit

renewal. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

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

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

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

## **12. Underground Process/Wastewater Lines:**

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

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

**13. Class V Wells:** The owner/operator shall close all Class V wells (e.g., septic systems, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic

wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only, must be permitted by the New Mexico Environment Department (NMED).

- 14. Housekeeping:** The owner/operator shall inspect all systems designed for spill collection/prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and available for OCD inspection.
- 15. Spill Reporting:** The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.5.12.1203 NMAC and OCD Rule 116 (19.15.3.116 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days.
- 16. OCD Inspections:** The OCD may place additional requirements on the facility and modify the permit conditions based on OCD inspections.
- 17. Storm Water:** The owner/operator shall implement and maintain run-on and runoff plans and controls. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any stormwater run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.
- 18. Unauthorized Discharges:** The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. *An unauthorized discharge is a violation of this permit.*
- 19. Vadose Zone and Water Pollution:** The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.
- 20. Additional Site Specific Conditions:** N/A
- 21. Transfer of Discharge Permit:** The owner/operator shall notify the OCD prior to any transfer of ownership, control or possession of a facility with an approved discharge permit. The purchaser shall submit a written commitment to comply with the terms and conditions of the previously approved discharge permit and shall seek OCD approval prior to transfer.

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

23. **Certification:** **Certification: Southern Union Gas Services, Ltd.**, by the officer whose signature appears below, accepts this permit and agrees to comply with all submitted commitments, including these terms and conditions contained herein. **Southern Union Gas Services, Ltd.** further acknowledges that the OCD may, for good cause shown, as necessary to protect fresh water, public health, safety, and the environment, change the conditions and requirements of this permit administratively. Conditions accepted by:

**Southern Union Gas Services, Ltd.**

Wayne J. Farley  
Company Representative- print name

Wayne J. Farley  
Company Representative- signature

Date 8-16-06

Title V.P. Gas Operations

Environmental Services Inc.

Application for Modification of Discharge Plan  
**West Eunice Compressor Station**  
Southern Union Gas Services, LP  
201 N. Main Street  
Fort Worth, TX 76102

July 2006 SRC 049

8220 Louisiana NE, Suite A, Albuquerque, NM 87113  
tel 505.266.6611 fax 505.266.7738

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8/3/06

*addendum e-mailed  
by Cole Swanson.*

# West Eunice Compressor Station Discharge Plan

**Southern Union Gas Services, Ltd.—West Eunice Compressor Station**

This document constitutes a modification application for the groundwater discharge plan for the West Eunice Compressor Station (GW-270). This Discharge Plan application has been prepared in accordance with the New Mexico Oil Conservation Division's (OCD) *Guidelines for the Preparation of Discharge Plans at Natural Gas Plants, Refineries, Compressor and Crude Oil Pump Stations* (revised 3-97) and New Mexico Water Quality Control Commission regulations at 20.6.2 New Mexico Administrative Code (NMAC).

## **1 TYPE OF OPERATION**

The West Eunice Compressor Station (West Eunice) is a natural gas compressor station. Its purpose is to remove excess liquids from field natural gas, measure gas volume, and transport it through pipelines. The site-rated horsepower at the facility is 7153.

## **2 OPERATOR/LEGALLY RESPONSIBLE PARTY**

Operator  
Southern Union Gas Services, Ltd.  
Attn: David Maness  
Box 1311  
Jal, NM 88252  
(505) 395-2068

Legally Responsible Party  
Southern Union Gas Services, Ltd.  
Attn: Wayne J. Farley  
201 N. Main St., Suite 3000  
Fort Worth, TX 76102  
(817) 390-8686

## **3 LOCATION OF DISCHARGE/FACILITY**

Lea County, NM  
Section 36, Township 21 South, Range 36 East

A portion of the Eunice 7.5' map showing the location of the facility can be found in Figure 1.

## **4 LANDOWNER**

Southern Union Gas Services, Ltd.  
201 N Main St., Suite 3000  
Fort Worth, TX 76102  
(817) 390-8686

## **5 FACILITY DESCRIPTION**

Six C-drip inlet scrubbers are utilized at West Eunice to remove liquids from both the inlet gas to the station and gas piped on to other facilities. The six scrubbers are located south of West Eunice between the facility fence and road. One C-drip inlet scrubber is located on the facility for additional liquid removal from the gas. The gas is routed through a suction scrubber on the compressor for further liquid removal. Liquids from all of the scrubbers at the facility are transported via underground piping to the two scrubber liquids (drip) tanks. The gas then enters the first stage of compression, a Superior 8G825 engine (753 hp) unit that compresses the gas from 10 psig to 50 psig, that gas is then routed to two White Superior 2416 GT engines (3200 hp each), the gas is compressed from 50 psig to 650 psig. The gas discharged from the compressors goes to Southern Union Gas Services, Ltd.'s (SUGS) Jal #3 plant where it is processed. A simplified process flow diagram and facility layout can be found in Figures 2 and 3, respectively.

## 6 MATERIAL STORED AND USED

Table 1 identifies materials and storage containments for substances used and stored at West Eunice. Material Safety Data Sheets (MSDS) for these substances are in Appendix A.

Table 1  
Material Used and Stored

Container	ID	Material	Form	Volume	Location	Containment
AGT Steel	TK-1	Scrubber liquids (drip)	Liquid	500 bbl	Southwest Area of Facility	Secondary containment, dirt berm
AGT Steel	TK-2	Scrubber liquids (drip)	Liquid	500 bbl	Southwest Area of Facility	Secondary containment, dirt berm
AGT Poly	TK-3	PC-396-XL Cleaner	Liquid	325 gal	Southwest Area of Facility	Secondary containment, fiberglass curbed containment pad
AGT Poly	TK-4	PPP-3000 Corrosion Inhibitor	Liquid	325 gal	Southwest Area of Facility	Secondary containment, fiberglass curbed containment pad
AGT Steel	TK-5	Antifreeze	Liquid	379 gal	Southeast Area of Facility	Secondary containment, cement curbed containment pad
AGT Steel	TK-6	Lube Oil	Liquid	550 gal	Southeast Area of Facility	Secondary containment, cement curbed containment pad
AGT Steel	TK-7	Antifreeze	Liquid	1050 gal	Southeast Area of Facility	Secondary containment, fiberglass curbed containment pad
AGT-elev Steel	TK-8	Methanol	Liquid	1000 gal	Northeast Area of Facility	Secondary containment, fiberglass curbed containment pad
AGT Steel	TK-9	Lube Oil	Liquid	1000 gal	Northeast Area of Facility	Secondary containment, cement curbed containment pad
AGT Fiberglass	TK-10	Ambitrol	Liquid	2000 gal	Northeast Area of Facility	Secondary containment, cement curbed containment pad
AGT Fiberglass	TK-11	Washdown Liquids	Liquids	10,500 gal	Northeast Area of Facility	Secondary containment, cement containment pad
AGT Poly	TK-12	Detergent	Liquid	300 gal	Northeast Area of Facility	Secondary containment, cement containment pad
AGT Poly	TK-13	Water	Liquid	6500 gal	North Central Area of Facility	None

AGT - aboveground tank (non-pressurized)

AGT-elev - aboveground tank elevated on a saddle rack

The two 500 barrel aboveground tanks (AGT) receive scrubber liquids (drip) from the C-drip inlet and suction scrubbers via underground piping. The interconnected tanks are surrounded by a single berm. SUGS will evaluate the capacity of this berm to ensure it has been constructed to contain 1.33 times the total volume of both tanks and make any repairs necessary within one year after plan approval.

All of the other tanks are located on impermeable fiberglass or cement pad and curb type containment.

## 7 SOURCES AND QUANTITIES OF EFFLUENT AND WASTE SOLIDS

Table 2 summarizes the effluent and solid wastes generated at the facility.

Table 2  
Effluent and Solid Waste Sources and Quantity

Source	Unit	Type of Waste	Volume	Quality
Compressor	White Superior 8G-825	Used engine oil	160 gal/mo	
		Used filters	4/mo	No additives
		Washdown water	75 gal/mo	Water with detergents, lube oil,
		Sorbent material/rags	varies	No additives
Compressor	Superior 2416 GTL	Used engine oil	160 gal/mo	
		Used filters	4/mo	No additives
		Washdown water	75 gal/mo	Water with detergents, lube oil,
		Sorbent material/rags	varies	No additives
Compressor	Superior 2416 GTL	Used engine oil	160 gal/mo	Used motor oil with no additives
		Used filters	4/mo	No additives
		Washdown water	75 gal/mo	Water with detergents, lube oil,
		Sorbent material/rags	varies	No additives
Scrubbers	C-drip and suction	Scrubber liquids: hydrocarbon	300 bbls/wk	No additives
Miscellaneous	trash	solid waste	varies	Varies

Ambitrol, comprised of 50% water and 50% ethylene glycol, is utilized as coolant for the compressor engine. The amount of Ambitrol used at the facility varies according to need. Very little waste coolant is generated as the cooling system is sealed. What loss does occur is primarily evaporation during engine use. A small amount of Ambitrol may occasionally be found in the washdown water.

The compressor pads are washed once a month using a portable high pressure system. Occasionally, approximately 3 gallons of a biodegradable detergent is added to the wash water for cleaning. Wash water is pumped as generated from the compressor pad or sump into a classifier tank during washing.

## 8 LIQUID AND SOLID WASTE COLLECTION/STORAGE/DISPOSAL

Table 3 summarizes the effluent collection storage and disposal at the facility.

**Table 3**  
Liquid and solid waste collection/storage/disposal

Type of Waste	Collection	Storage	Hauled by	Disposal
Used oil	Pumped from compressor pad or drum into trailer-mounted tank	Not Stored on-site; removed as generated	SUGS to Jal #3 gas plant. See GW-010.	Used oil stored in waste oil tank at Jal #3. Removed by Industrial Service Corp. See GW-010.
Used filters sorbent materials and rags*	Filters drained into 55-gal drum; filters/rags stored in dumpster. Note: drum is used but not stored at facility.	Central dumpster on-site	SUGS temporarily stored at West Eunice, Procycle Oil and Metals to incinerator	Procycle Oil and Metals-incinerator
Wash water	Drain from compressor pad into sump tank during washing	TK-11	SUGS to Jal #3 gas plant. See GW-010.	Wash water stored in classifier tank. Any hydrocarbons are pumped to scrubber liquid tanks and removed by XL. Water disposed in injection well at Jal #3. See GW-010
Scrubber liquids (drip)/water**	Underground piping from C-drip and suction scrubbers	TK-1 & TK-2	Chaparral Trucking to SUGS Jal #4 compressor station. See GW-107.	Scrubber liquids stored in scrubber liquid tanks. Hydrocarbons are sold to PetroSource. Water is removed by Chaparral Trucking. See GW-107
Solid waste	None on-site	Not Stored on-site; removed as generated	SUGS	Sid Richardson's Jal #3 gas plant, see GW-010

\* In addition, used filters from SUGS's Boy, House, C-2, C-2, C-3, and C-4 Compressor Stations are brought to the central dumpster at West Eunice for storage prior to disposal.

\*\* In addition, scrubber liquids from SUGS's C-1, C-3, and C-4 Compressor Stations (approximately 600 gallons/month) are stored in the scrubber liquids tanks at West Eunice until disposal.

Southern Union Gas Services, Ltd., Jal #3 Gas Plant-see GW-010; Jal #4 Compressor Station-see GW-107

Procycle Oil and Metals, 315 Pronto, Odessa, TX 79762, (915) 550-2533.

Chaparral Trucking, PO Drawer 1769, Eunice, NM 88231, (505) 394-2545

Industrial Service Corp., PO Box 711, Slaton, TX 79364, (915) 828-3183

PetroSource Partners Ltd., 129 S. Grimes, Hobbs, NM 88240, (505) 397-7212

XL Transportation Co., PO Drawer A, Jal, NM 88252, (505) 395-2010

## 9 PROPOSED MODIFICATIONS

SUGS does not propose any modifications at this time.

## 10 INSPECTION, MAINTENANCE, AND REPORTING

West Eunice is unmanned but inspected at least once per day Monday through Friday.

SUGS will perform pressure testing on underground effluent pipelines within five years of renewal of this discharge plan. A testing timetable will be submitted to the NMOCD for approval six months prior to testing.

The two scrubber liquids (drip) tanks (TK-1 and TK-2) will be cleaned out and visually inspected once every five years, as they are not situated on concrete or gravel pads.

## **11 SPILL/LEAK PREVENTION AND REPORTING (CONTINGENCY PLANS)**

The process area of the plant is graveled to allow for early leak detection and quick response by facility personnel in the event of a leak of process fluids. SUGS will handle all spills as required by the spill procedures in Appendix B and report all spills and leaks according to the requirements of the state of New Mexico found in NMOCD Rule 116 and 20.6.2.1203 NMAC. Copies of these regulations are in Appendix C.

## **12 SITE CHARACTERISTICS**

The West Eunice Compressor Station is located on dune sands of the Eunice Plain in the Capitan Basin. The Eunice Plain is underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand 20—40 feet high (Nicholson and Clebsch, *Ground-Water Report 6: Geology and Ground-Water Conditions in Southern Lea County, New Mexico*, New Mexico Bureau of Mines & Mineral Resources, 1961).

Unnamed arroyos are located 0.2 miles south/southwest and 0.6 miles north/northwest of the facility. These appear to be the only groundwater discharge sites on the Eunice 7.5' U.S.G.S. quadrangle within 1 mile of the facility.

As of October 1996, one well was recorded with the New Mexico State Engineer Office in Roswell that is within one-half mile of the perimeter of the facility. The well, used for stock, was drilled in 1954. The highest recorded water level in this well was 100 feet; the lowest was 101 feet below grade.

Water from a well located approximately 4 miles northwest of the compressor station was analyzed in 1954 and 1958 (Nicholson and Clebsch, *Ground-Water Report 6: Geology and Ground-Water Conditions in Southern Lea County, New Mexico*, New Mexico Bureau of Mines & Mineral Resources, 1961). Total dissolved solids concentration recorded at this well for each year the water was analyzed was 74 and 73 parts per million, respectively. Typically, as described below, water from the aquifer under the compressor station has a much higher total dissolved solids concentration. This concentration, 1100 parts per million, may more closely represent the total dissolved solids concentration at the facility.

A piezometric map of the water table (Nicholson and Clebsch, *Ground-Water Report 6: Geology and Ground-Water Conditions in Southern Lea County, New Mexico*, New Mexico Bureau of Mines & Mineral Resources, 1961) shows the elevation of the water table at the site to be about 3400 feet. The elevation of the facility is 3500 feet, placing the depth to the water table at the site at 100 feet.

The aquifers below the facility are the poorly consolidated sands of the Ogallala Formation, the deeper, Triassic Dockum Group of hematite-cemented clay and sandstones, and the deeper Paleozoic dolomitic limestones. Water in the Ogallala Formation has total dissolved solids of less than 1100 ppm. The total dissolved solids in the Dockum Group are higher than that of the Ogallala. The deeper Paleozoic aquifers do not contain usable water and are brine-injected (Nicholson and Clebsch, *Ground-Water Report 6: Geology and Ground-Water Conditions in Southern Lea County, New Mexico*, New Mexico Bureau of Mines & Mineral Resources, 1961).

The soil type at the facility is the Berino-Cacique loam fine sands association, which is typically found on uplands in southern Lea County. The Berino soils are well-drained soils that have a light sandy clay loam subsoil. The Cacique soils are well-drained soils that have a sandy clay loam subsoil underlain by indurated caliche at a depth of 20 to 34 inches (Soil Survey, Lea County, New Mexico, 1974, U.S.D.A., Soil Conservation Survey). Any runoff from the facility would probably collect in a shallow area 300 yards south of the facility.

### **13 ADDITIONAL INFORMATION**

#### **Closure Plan**

Should SUGS choose to permanently close the West Eunice Compressor Station, all reasonable and necessary measures will be taken to prevent the exceedance of 20.6.2.3103 NMAC quality standards. Closure measures will include removal or closure in place of all underground piping and equipment. All tanks will be emptied. No potentially toxic materials or effluents will remain on the site. All potential sources of toxic pollutants will be inspected. Should contaminated soil be discovered, any necessary reporting under NMOCD Rule 113 and 20.2.1203 NMAC will be made, and clean-up activities will commence. Post-closure maintenance and monitoring plans would not be necessary unless contamination is encountered.

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Revised June 10, 2003

Submit Original  
Plus 1 Copy  
to Santa Fe  
1 Copy to Appropriate  
District Office

**DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS,  
REFINERIES, COMPRESSOR, GEOTHERMAL FACILITIES  
AND CRUDE OIL PUMP STATIONS**

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

New       Renewal       Modification

1. Type: West Eunice Compressor Station
2. Operator: Southern Union Gas Services, LP  
Address: 201 N. Main Street, Fort Worth, TX 76102  
Contact Person: Wayne Farley Phone: (817) 390-8686
3. Location: SE /4 SE /4 Section 36 Township 21S Range 36E  
Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
6. Attach a description of all materials stored or used at the facility.
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
11. Attach a contingency plan for reporting and clean-up of spills or releases.
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
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: Wayne J. Farley

Title: Vice President, Gas Operations

Signature: *Wayne J. Farley*

Date: 6-22-06

E-mail Address: wayne.farley@sug.com

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# West Eunice Compressor Station Discharge Plan

**Southern Union Gas Services, LP—West Eunice Compressor Station**

This document constitutes a renewal application for the groundwater discharge plan for the West Eunice Compressor Station. This Discharge Plan application has been prepared in accordance with the New Mexico Oil Conservation Division's (OCD) *Guidelines for the Preparation of Discharge Plans at Natural Gas Plants, Refineries, Compressor and Crude Oil Pump Stations* (revised 3-97) and New Mexico Water Quality Control Commission regulations at 20 New Mexico Administrative Code (NMAC) 6.2.

## **1 TYPE OF OPERATION**

The West Eunice Compressor Station (West Eunice) is a natural gas compressor station. Its purpose is to remove excess liquids from field natural gas, measure gas volume, and transport it through pipelines. The site-rated horsepower at the facility is 560.

## **2 OPERATOR/LEGALLY RESPONSIBLE PARTY**

Operator  
Southern Union Gas Services, LP  
Attn: Randall Dunn  
Box 1226, Jal, NM 88252  
(505) 395-2116

Legally Responsible Party  
Southern Union Gas Services, LP  
Attn: Wayne J. Farley  
201 N. Main St., Fort Worth, TX 76102  
(817) 390-8686

## **3 LOCATION OF DISCHARGE/FACILITY**

Lea County, NM  
Section 36, Township 21 South, Range 36 East

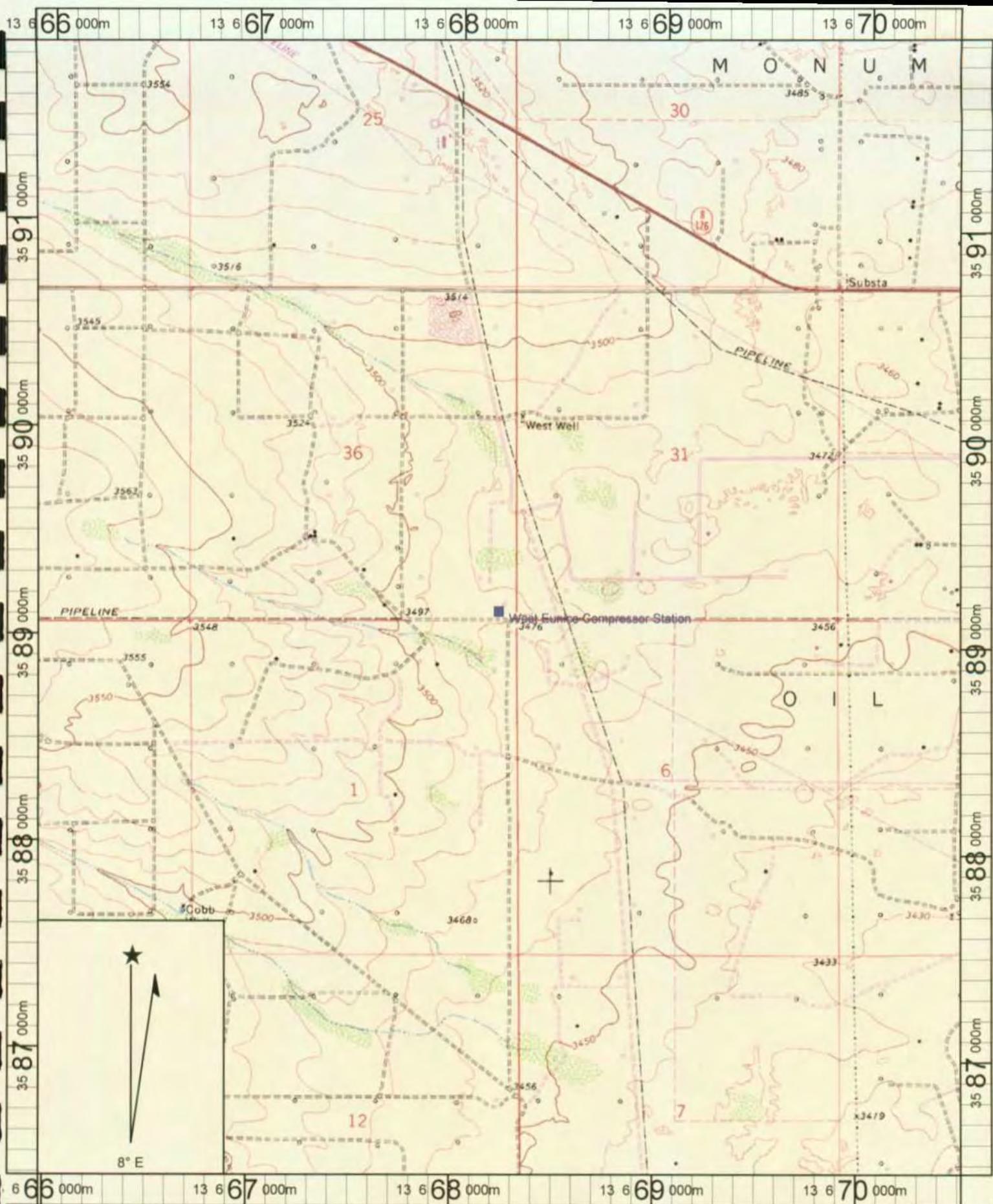
A portion of the Eunice 7.5' map showing the location of the facility can be found in Figure 1.

## **4 LANDOWNER**

Southern Union Gas Services, LP  
201 N Main St., Fort Worth, TX 76102  
(817) 390-8686

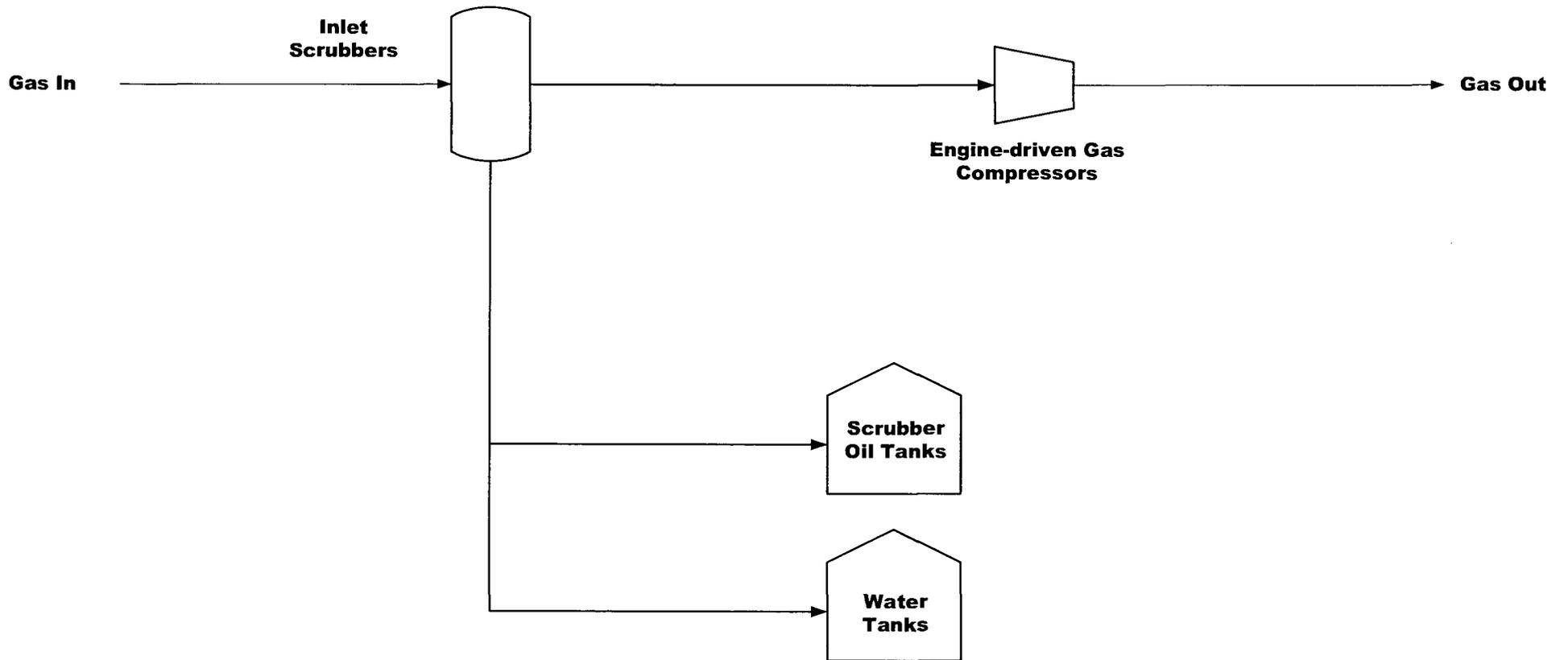
## **5 FACILITY DESCRIPTION**

Six C-drip inlet scrubbers are utilized at West Eunice to remove liquids from both the inlet gas to the station and gas piped on to other facilities. The six scrubbers are located south of West Eunice between the facility fence and road. One C-drip inlet scrubber is located on the facility for additional liquid removal from the gas. The gas is routed through a suction scrubber on the compressor for further liquid removal. Liquids from all of the scrubbers at the facility are transported via underground piping to the two scrubber liquids (drip) tanks. The gas then enters the compressor, which is driven by a 560-horsepower natural gas-fired engine (a Caterpillar 398). The gas discharged from the compressor goes to Southern Union's Jal #4 plant where it is recompressed and sent to another Southern Union facility. A simplified process flow diagram and facility layout can be found in Figures 2 and 3, respectively.



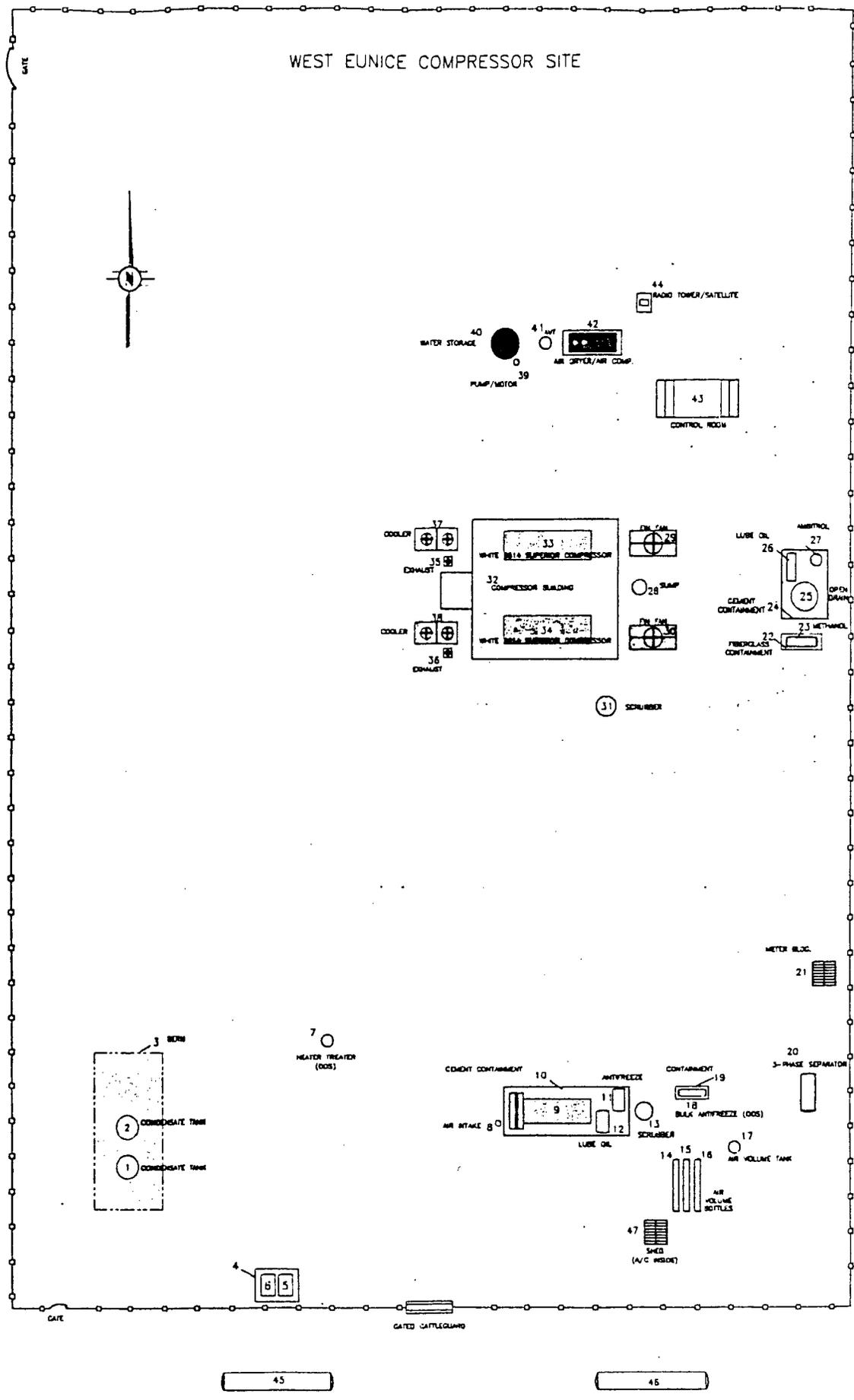
Name: EUNICE  
 Date: 2/8/2006  
 Scale: 1 inch equals 2000 feet

Location: 13 0668206 E 3589162 N  
 Caption: Figure 1  
 Site Location



es

**Figure 2**  
**Process Flow Diagram**  
**Southern Union Gas Services, LP - West Eunice Compressor Station**



esf

**Figure 3**  
**Site Layout**  
**Southern Union Gas Services - West Eunice Compressor Station**

## 6 MATERIAL STORED AND USED

Table 1 identifies materials and storage containments for substances used and stored at West Eunice. Material Safety Data Sheets (MSDS) for these substances are in Appendix 1.

Table 1  
Material Used and Stored

Container	ID	Material	Form	Volume	Location	Containment
AGT Steel	TK-1	Scrubber liquids (drip)	Liquid	500 bbl	Southwest Area of Facility	Secondary containment, dirt berm
AGT Steel	TK-2	Scrubber liquids (drip)	Liquid	500 bbl	Southwest Area of Facility	Secondary containment, dirt berm
AGT Poly	TK-3	PC-396-XL Cleaner	Liquid	325 gal	Southwest Area of Facility	Secondary containment, fiberglass curbed containment pad
AGT Poly	TK-4	PPP-3000 Corrosion Inhibitor	Liquid	325 gal	Southwest Area of Facility	Secondary containment, fiberglass curbed containment pad
AGT Steel	TK-5	Antifreeze	Liquid	379 gal	Southeast Area of Facility	Secondary containment, cement curbed containment pad
AGT Steel	TK-6	Lube Oil	Liquid	550 gal	Southeast Area of Facility	Secondary containment, cement curbed containment pad
AGT Steel	TK-7	Antifreeze	Liquid	1050 gal	Southeast Area of Facility	Secondary containment, fiberglass curbed containment pad
AGT-elev Steel	TK-8	Methanol	Liquid	1000 gal	Southeast Area of Facility	Secondary containment, fiberglass curbed containment pad
AGT Steel	TK-9	Lube Oil	Liquid	1000 gal	Northeast Area of Facility	Secondary containment, cement curbed containment pad
AGT Steel	TK-10	Ambitrol	Liquid	2000 gal	Northeast Area of Facility	Secondary containment, cement curbed containment pad
UGT Fiberglass	TK-11	Washdown Liquids	Liquids	325 gal	Northeast Area of Facility	Secondary containment, fiberglass curbed containment pad
AGT Poly	TK-12	Water	Liquid	6500 gal	Nort Central Area of Facility	None

AGT - aboveground tank (non-pressurized)

AGT-elev - aboveground tank elevated on a saddle rack

UGT - underground tank (non-pressurized)

The two 500 barrel aboveground tanks (AGT) receives scrubber liquids (drip) from the C-drip inlet and suction scrubbers via underground piping. The interconnected tanks are surrounded by a single berm. Southern Union will evaluate the capacity of this berm to ensure it has been constructed to contain 1.33 times the total volume of both tanks and make any repairs necessary with one year after plan approval.

Each of the aboveground elevated tanks (Ambitrol and lube oil) are located on impermeable fiberglass pad and curb type containment. The Ambitrol drum is also stored on impermeable pad and curb type containments.

## 7 SOURCES AND QUANTITIES OF EFFLUENT AND WASTE SOLIDS

Table 2 summarizes the effluent and solid wastes generated at the facility.

Table 2  
Effluent and Solid Waste Sources and Quantity

Source	Unit	Type of Waste	Volume	Quality
Compressor	White Superior 8G-825	Used engine oil	160 gal/mo	
		Used filters	4/mo	No additives
		Washdown water	75 gal/mo	Water with detergens, lube oil,
		Sorbent material/rags	varies	No additives
Compressor	Superior 2416 GTL	Used engine oil	160 gal/mo	
		Used filters	4/mo	No additives
		Washdown water	75 gal/mo	Water with detergens, lube oil,
		Sorbent material/rags	varies	No additives
Compressor	Superior 2416 GTL	Used engine oil	160 gal/mo	Used motor oil with no additives
		Used filters	4/mo	No additives
		Washdown water	75 gal/mo	Water with detergens, lube oil,
		Sorbent material/rags	varies	No additives
Scrubbers	C-drip and suction	Scrubber liquids: hydrocarbon	50 bbbls/wk	No additives
Miscellaneous	trash	solid waste	varies	Varies

Ambitrol, comprised of 50% water and 50% ethylene glycol, is utilized as coolant for the compressor engine. The amount of Ambitrol used at the facility varies according to need. Very little waste coolant is generated as the cooling system is sealed. What loss does occur is primarily evaporation during engine use. A small amount of Ambitrol may occasionally be found in the washdown water.

The compressor pad is washed once a month using a portable high pressure system. Occasionally, approximately 3 gallons of a biodegradable detergent, F218, is added to the wash water for cleaning. The detergent is not stored at the facility but is brought in as needed. Wash water is pumped as generated from the compressor pad or sump into a trailer-mounted tank during washing.

## 8 LIQUID AND SOLID WASTE COLLECTION/STORAGE/DISPOSAL

Table 3  
Liquid and solid waste collection/storage/disposal

Type of Waste	Collection	Storage	Hauled by	Disposal
Used oil	Pumped from compressor pad or drum into trailer-mounted tank	Not Stored on-site; removed as generated	Sid Richardson to Jal #3 gas plant. See GW-010.	Used oil stored in waste oil tank at Jal #3. Removed by Industrial Service. Corp. See GW-010.
Used filters sorbent materials and rags*	Filters drained into 55-gal drum; filters/rags stored in dumpster. Note: drum is used but not stored at facility.	Central dumpster on-site	Sid Richardson; temporarily stored at West Eunice, Procycle Oil and Metals to incinerator	Procycle Oil and Metals-incinerator
Wash water	Drain from compressor pad into sump tank during washing	TK-11	Sid Richardson to Jal #3 gas plant. See GW-010.	Wash water stored in classifier tank. Any hydrocarbons are pumped to scrubber liquid tanks and removed by XL. Water disposed in injection well at Jal #3. See GW-010
Scrubber liquids (drip)/water**	Underground piping from C-drip and suction scrubbers	TK-1 & TK-2	Chaparral Trucking to Sid Richardson's Jal #4 compressor. See GW-107.	Scrubber liquids stored in scrubber liquid tanks. Hydrocarbons are sold to PetroSource. Water is removed by Chapparral Trucking. See GW-107
Solid waste	None on-site	Not Stored on-site; removed as generated	Sid Richardson	Sid Richardson's Jal #3 gas plant, see GW-010

\* In addition, used filters from Sid Richardson's Boy, House, C-2, C-2, C-3, and C-4 Compressor Stations are brought to the central dumpster at West Eunice for storage prior to disposal.

\*\* In addition, scrubber liquids from Sid Richardson's C-1, C-3, and C-4 Compressor Stations (approximately 600 gallons/month) are stored in the scrubber liquids tanks at West Eunice until disposal.

Southern Union Gas Services, LP, Jal #3 Gas Plant-see GW-010; Jal #4 Compressor Station-see GW-107

Procycle Oil and Metals, 315 Pronto, Odessa, TX 79762, (915) 550-2533.

Chaparral Trucking, PO Drawer 1769, Eunice, NM 88231, (505) 394-2545

Industrial Service Corp., PO Box 711, Slaton, TX 79364, (915) 828-3183

PetroSource Partners Ltd., 129 S. Grimes, Hobbs, NM 88240, (505) 397-7212

XL Transportation Co., PO Drawer A, Jal, NM 88252, (505) 395-2010

## 9 PROPOSED MODIFICATIONS

Southern Union does not propose any modifications at this time.

## 10 INSPECTION, MAINTENANCE, AND REPORTING

West Eunice is unmanned but inspected at least once per day Monday through Friday.

Southern Union will perform pressure testing on underground effluent pipelines within five years of renewal of this discharge plan. A testing timetable will be submitted to the NMOCD for approval six months prior to testing.

The two scrubber liquids (drip) tanks (TK-1 and TK-2) will be cleaned out and visually inspected once every five years, as they are not situated on concrete or gravel pads.

## **11 SPILL/LEAK PREVENTION AND REPORTING (CONTINGENCY PLANS)**

The process area of the plant is graveled to allow for early leak detection and quick response by facility personnel in the event of a leak of process fluids. Southern Union will handle all spills as required by the spill procedures in Appendix 3 and report all spills and leaks according to the requirements of the state of New Mexico found in NMOCD Rule 116 and 20 NMAC 6.2.1203. Copies of these regulations are in Appendix 2.

## **12 SITE CHARACTERISTICS**

The West Eunice Compressor Station is located on dune sands of the Eunice Plain in the Capitan Basin. The Eunice Plain is underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand 20—40 feet high (Nicholson and Clebsch, *Ground-Water Report 6: Geology and Ground-Water Conditions in Southern Lea County, New Mexico*, New Mexico Bureau of Mines & Mineral Resources, 1961).

Unnamed arroyos are located 0.2 miles south/southwest and 0.6 miles north/northwest of the facility. These appear to be the only groundwater discharge sites on the Eunice 7.5' U.S.G.S. quadrangle within 1 mile of the facility.

As of October 1996, one well was recorded with the New Mexico State Engineer Office in Rowell within one-half mile of the perimeter of the facility. The well, used for stock, was drilled in 1954. The highest recorded water level in this well was 100 feet; the lowest was 101 feet below grade.

Water from a well located approximately 4 miles northwest of the compressor station was analyzed in 1954 and 1958 (Nicholson and Clebsch, *Ground-Water Report 6: Geology and Ground-Water Conditions in Southern Lea County, New Mexico*, New Mexico Bureau of Mines & Mineral Resources, 1961). Total dissolved solids concentration recorded at this well for each year the water was analyzed was 74 and 73 parts per million, respectively. Typically, as described below, water from the aquifer under the compressor station has a much higher total dissolved solids concentration. This concentration, 1100 parts per million, may more closely represent the total dissolved solids concentration at the facility.

A piezometric map of the water table (Nicholson and Clebsch, *Ground-Water Report 6: Geology and Ground-Water Conditions in Southern Lea County, New Mexico*, New Mexico Bureau of Mines & Mineral Resources, 1961) shows the elevation of the water table at the site to be about 3400 feet. The elevation of the facility is 3500 feet, placing the depth to the water table at the site at 100 feet.

The aquifers below the facility are the poorly consolidated sands of the Ogallala Formation, the deeper, Triassic Dockum Group of hematite-cemented clay and sandstones, and the deeper Paleozoic dolomitic limestones. Water in the Ogallala Formation has total dissolved solids of less than 1100 ppm. The total dissolved solids in the Dockum Group is higher than that of the Ogallala. The deeper Paleozoic aquifers do not contain usable water and are grine-injected (Nicholson and Clebsch, *Ground-Water Report 6: Geology and Ground-Water Conditions in Southern Lea County, New Mexico*, New Mexico Bureau of Mines & Mineral Resources, 1961).

The soil type at the facility is the Berino-Cacique loam fine sands association, which is typically found on uplands in southern Lea County. The Berino soils are well-drained soils that have a light sandy clay loam subsoil. The Cacique soils are well-drained soils that have a sandy clay loam subsoil underlain by indurated caliche at a depth of 20 to 34 inches. (Soil Survey, Lea County, New Mexico, 1974, U.S.D.A., Soil Conservation Survey). Any runoff from the facility would probably collect in a shallow area 300 yards south of the facility.

## **13 ADDITIONAL INFORMATION**

### **Closure Plan**

Should Southern Union choose to permanently close the West Eunice Compressor Station, all reasonable and necessary measures will be taken to prevent the exceedance of 20 NMAC 6.2.3103 quality standards. Closure measures will include removal or closure in place of all underground piping and equipment. All tanks will be emptied. No potentially toxic materials or effluents will remain on the site. All potential sources of toxic pollutants will be inspected. Should contaminated soil be discovered, any necessary reporting under NMOCD Rule 113 and 20 NMAC 3.2.1203 will be made, and clean-up activities will commence. Post-closure maintenance and monitoring plans would not be necessary unless contamination is encountered.

**AFFIRMATION**

I hereby certify that I am familiar with the information contained in and submitted with this discharge plan for the WEST EUNICE compressor station and that such information is true, accurate, and complete to the best of my knowledge and belief.

Wayne J. Farley

Wayne J. Farley  
Manager of Gas Operations  
Southern Union Gas Services, LP

6-22-06  
Date

# RICHARDSON ENERGY MARKETING, LTD.

## MATERIAL SAFETY DATA SHEET

### NATURAL GAS CONDENSATE

#### 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Revised May 2001

Richardson Energy Marketing, Ltd.

333 Clay Street, Suite 3440

Houston, Texas 77002

Company Phone Number: (713) 650-6330

CHEMTREC: (800) 424-9300

CHEMICAL FAMILY: Complex mixture of petroleum hydrocarbons

#### SYNONYMS:

Drips (sour)

Gas Well Condensate

Natural Gas Liquids

Field Condensate

High Pressure Inlet Liquids

Pipeline Liquids

#### 2. COMPOSITION AND INFORMATION ON INGREDIENTS

Revised Feb. 2000

Ingredient Name	Exposure Limits	Concentration Percent by weight
Natural Gas Condensate CAS #68919-39-1	OSHA PEL- TWA: (Petroleum Distillate-Naphtha)	500PPM 100
Hydrogen Sulfide (H <sub>2</sub> S) CAS #7783-06-4	OSHA PEL – Ceiling/Peak: ACGIH TLV-TWA/STEL:	10 / 50 PPM 10 / 15 PPM (variable)
Benzene	ACGIH TLV- OSHA	0.50 PPM

A complex combination of hydrocarbons separated and/or condensed from natural gas and containing carbon numbers predominantly in the range C<sub>2</sub>-C<sub>20</sub>, can obtain as much as 15-20 % methane (C<sub>1</sub>), ethane (C<sub>2</sub>), and propane (C<sub>3</sub>), depending on process conditions and pressure.

#### 3. HAZARDOUS IDENTIFICATION

Revised Feb. 2000

**FLAMMABLE:** High fire hazard, keep away from sparks, open flame, static electricity and other ignition sources.

**HYDROGEN SULFIDE (H<sub>2</sub>S):** High concentrations may cause immediate unconsciousness and death may result unless the victim is promptly and successfully resuscitated. H<sub>2</sub>S may cause eye and respiratory tract irritation. Effects central nervous system.

**CONTACT:** May cause eye, skin or mucous membrane irritation. Harmful if absorbed through the skin. Avoid prolonged breathing of vapors or mists. Inhalation may cause irritation, dizziness, nausea, headache, intoxication, and respiratory system effects.

# MATERIAL SAFETY DATA SHEET

## NATURAL GAS CONDENSATE

### ROUTES OF EXPOSURE

**EYES:** Vapors may cause irritation, inflammation, redness and tearing.

**SKIN:** Contact may cause irritation to the skin and mucous membranes. Prolonged or repeated contact with the skin may cause redness, itching, inflammation, cracking, dermatitis (rash), and possible secondary infection. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are exposed.

**INGESTION:** The major health effect of ingestion occurs from the danger of aspiration (breathing in) of liquid into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia, severe lung damage, or respiratory failure.

**INHALATION:** Vapors may cause nose and throat irritation. Inhalation may cause irritation, dizziness, nausea, headache, intoxication, and respiratory system effects. Inhalation of high concentrations may cause central nervous system depression, unconsciousness, coma, and possibly death resulting from respiratory failure.

**CAUTION:** Hydrogen Sulfide (H<sub>2</sub>S) gas may be present in mist and vapors.

**CHRONIC / CARCINOGEN:** May contain benzene; a regulated human carcinogen. Benzene is recognized as having the potential cause anemia and other blood diseases, including leukemia, after repeated or prolonged exposure. Benzene is listed as a carcinogen 1A.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Skin exposure may irritate open wounds, skin disorders, and dermatitis conditions. Chronic respiratory disease, liver or kidney dysfunction, or pre-existing central nervous system disorders may be aggravated by exposure.

### 4 FIRST AID MEASURES

Revised Feb. 2000

**EYES:** Immediately flush with water for at least 15 minutes. Do not apply ointment into the eyes without medical advice. Seek medical attention.

**SKIN:** Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water. If redness develops, seek medical attention.

**INGESTION:** Do not induce vomiting. Seek immediate medical attention.

**INHALATION:** Remove to fresh air. If breathing has stopped, administer artificial respiration; if breathing and heart has stopped, administer CPR. Seek immediate medical attention.

**NOTES TO PHYSICIAN:** No information available.

# MATERIAL SAFETY DATA SHEET

## NATURAL GAS CONDENSATE

### 5. FIRE FIGHTING MEASURES

Revised Feb. 2000

**FLAMMABLE PROPERTIES:** FLASH POINT: -40°F      AUTOIGNITION: >500°F  
OSHA/NFPA CLASS: 1A    LOWER EXPLOSIVE LIMITS: 4%    UPPER EXPLOSIVE LIMIT: 11%

**FIRE AND EXPLOSION HAZARDS:** Vapors may be ignited when exposed to heat, spark, and open flame or other sources of ignition. Flowing product may be ignited by static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to a sewer system may cause fire or explosion hazard.

#### **EXTINGUISHING MEDIA:**

**SMALL FIRES:** An extinguisher suitable for Class B fires, i.e., dry chemical, CO<sub>2</sub>, water spray, fire fighting foam.

**LARGE FIRES:** Water spray (fog position) or fire fighting foam. Water may be ineffective for actual firefighting, but may be used to cool fire-exposed containers.

**FIRE FIGHTING INSTRUCTIONS:** Small fires in the incipient stage may typically be extinguished using handheld fire extinguishers or other firefighting equipment.

Firefighting that may result in heat exposure, smoke or toxic by-products of combustion require approved self-contained breathing apparatus (SCBA) and protective clothing. Isolate area immediate to the fire and cool any exposures with water. For large-scale fires maintain a distance to minimize exposure to personnel. Notify local fire department immediately for large-scale fires, or any fire that may get out of control, for their expertise and equipment.

### 6. ACCIDENTAL RELEASE MEASURES

Revised Feb. 2000

**ACTIVATE THE FACILITY SPILL CONTINGENCY PLAN:** Evacuate all nonessential personnel and secure all ignition sources. Evaluate the wind direction, product travel, the need for diking, sewer system, and confirm and contain the spill area. Protect bodies of water by use of dikes, soak booms, absorbents if possible and safe. Do not allow flammable liquid into sewers or closed drainage systems. Product may release substantial amounts of vapors and gases, including Hydrogen Sulfide gas (H<sub>2</sub>S). Vacuum as much of the standing liquid up as possible. Dispose of or remediate the contaminated soil and debris in accordance with local, state and federal requirements. Response teams and clean up crews must be properly trained and utilize the proper response precautions and personal protection equipment.

# MATERIAL SAFETY DATA SHEET

## NATURAL GAS CONDENSATE

### 7. HANDLING AND STORAGE

Revised Feb. 2000

**HANDLING PRECAUTIONS:** When handling a flammable liquid keep away from heat, sparks, and open flames. No smoking or open flames on any storage or handling areas. All electrical equipment should be of the approved type for classified area(s). All containers, tanks, etc., must be clearly labeled as to content and hazard warnings. Do not use as a solvent and do not siphon by mouth.

**STORAGE PRECAUTIONS:** Store away from heat, spark-producing equipment and tools use, excessive temperatures, and open flames. Bond and ground containers, transfer hoses, etc., during the transfer of product to reduce the possibility of static ignited fire or explosion. Store in well ventilated areas. H<sub>2</sub>S may accumulate within storage tanks in deadly concentrations.

### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Revised Feb. 2000

**ENGINEERING CONTROLS:** Use adequate ventilation to keep vapor concentrations below occupational exposure and flammability limits.

**EYE/FACE PROTECTION:** Safety glasses with sideshields and faceshield or goggles are recommended when there is a possibility of splashing or spraying.

**SKIN PROTECTION:** Impervious gloves are recommended. Chemical protective clothing recommended based on the level of exposure.

**RESPIRATORY PROTECTION:** In areas where Hydrogen Sulfide gas (H<sub>2</sub>S) concentrations are above the permissible exposure limit, self contained breathing apparatus (SCBA) or supplied air work units with egress bottle must be used.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Revised Feb. 2000

**APPEARANCE:** Colorless to straw yellow colored water like liquid.

**ODOR:** Characteristic petroleum odor. If there is Hydrogen Sulfide gas (H<sub>2</sub>S) present there will be a characteristic rotten egg "sulfurous" odor.

#### BASIC PHYSICAL PROPERTIES:

Boiling Range:	85 to 437 °F
Vapor Pressure:	<275- 475 Hg @ 68 °F
Percent Volatile:	Essentially 100%
Solubility (H <sub>2</sub> O):	Soluble

Specific Gravity (H <sub>2</sub> O=1):	AP 0.76
Vapor Density (air=1):	>1
Evaporation Rate:	high

# MATERIAL SAFETY DATA SHEET

## NATURAL GAS CONDENSATE

### 10. STABILITY AND REACTIVITY

Revised Feb. 2000

**STABILITY:** Stable under normal conditions. Avoid high temperatures, open flames, sparks, welding, smoking, and open flames.

**INCOMPATIBLE MATERIALS:** Strong oxidizers.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon Monoxide, Aromatic Hydrocarbons, Hydrogen Sulfide, and Sulfur Dioxide.

**HAZARDOUS POLYMERIZATION:** Will not occur

### 11. TOXICOLOGICAL PROPERTIES

Revised Feb. 2000

**CHRONIC EFFECTS AND CARCINOGENICITY:** Exposure to light hydrocarbons in the same boiling range as this product have been associated in animal studies with effects to the central nervous system, peripheral nervous system, liver, and kidneys. The significance of these animal models to predict similar human response is uncertain. Observing good work practices and personal hygiene procedures can minimize potential risks to humans.

Product may contain benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood forming system and serious blood disorders, such as aplastic anemia and leukemia. IARC, OSHA, ACGIH, and NTP list benzene.

### 12. ECOLOGICAL INFORMATION

Revised Feb. 2000

Keep out of sewers, drainage ditches and waterways. Report spills and releases, as applicable, under Federal and State regulations.

### 13. DISPOSAL CONSIDERATIONS

Revised Feb. 2000

Consult federal, state, and local waste regulations to determine appropriate waste characterization of material and allowable disposal method(s).

### 14. TRANSPORTATION INFORMATION

Revised Feb. 2000

		Alternative Classification
<b>PROPER SHIPPING NAME:</b>	PETROLEUM DISTILLATES, N.O.S. or PETROLEUM PRODUCTS, N.O.S.	HYDROCARBONS, LIQUID N.O.S.
<b>HAZARD CLASS</b>	3	3
<b>DOT ID NUMBER</b>	UN 1268	UN 3295
<b>DOT SHIPPING LABEL</b>	FLAMMABLE LIQUID	FLAMMABLE LIQUID

Dependent on the product properties, the shipper may also elect to classify as follows:

GASOLINE UN 1203 or PETROLEUM CRUDE UN 1267. Ref. 49 CFR 172.101

# MATERIAL SAFETY DATA SHEET

## NATURAL GAS CONDENSATE

### 15. REGULATORY INFORMATION

Revised Feb. 2000

**U.S. FEDERAL REGULATORY INFORMATION:** Any spill or uncontrolled releases of this product, including any substantial threat of a release, may be subject to federal reporting requirements. Consult those regulations that are applicable to your facility and/or operation.

**CLEAN WATER ACT (OIL SPILLS):** Any spill or release of this product to "navigable waters" or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) as required by U.S. Federal Law. Also contact state and local regulatory agencies as required.

**CERCLA SECTION 103 AND SARA SECTION 304 (RELEASE TO THE ENVIRONMENT):** The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil, refined and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements may still apply.

#### SARA SECTION 311/312 HAZARD CLASSES

<u>ACUTE HEALTH</u>	<u>CHRONIC HEALTH</u>	<u>FIRE</u>	<u>REACTIVE</u>	<u>SUDDEN RELEASE OF PRESSURE</u>
X	X	X	NA	NA

**SARA SECTION 313 SUPPLIER NOTIFICATION:** This product contains the following toxic chemicals subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>CONCENTRATION PERCENT BY WEIGHT</u>
Benzene	71-43-2	< 0.1 to 2

**STATE REGULATORY INFORMATION:** Any spill or uncontrolled release of this product may be subject to state and/or local reporting requirements. This product and/or its constituents may also be subject to other regulations at the state and/or local level. Consult those regulations that are applicable to your facility and/or operation.

### 16. OTHER INFORMATION

Revised May 2001

<b>NFPA® HAZARD RATING</b>	<u>Health</u>	<u>Fire</u>	<u>Reactivity</u>	<u>Other</u>
	3	4	0	Negligible
<b>HMIS® HAZARD RATING</b>	<u>Health</u>	<u>Fire</u>	<u>Reactivity</u>	
	3	4	0	*Chronic

**ABBREVIATIONS:** AP = approximate      < = less than      > = greater than  
ppm = part per million      N/A = not applicable      N/D = not determined

# MATERIAL SAFETY DATA SHEET

## NATURAL GAS CONDENSATE

### ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
ANSI	American National Standards Institute
API	American Petroleum Institute
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
HMIS	Hazardous Materials Information System
IARC	International Agency For Research On Cancer
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association
NIOSH	National Institute Of Occupational Safety and Health
NOIC	Notice of Intended Change
NTP	National Toxicology Program
OPA	Oil Pollution Act of 1990
OSHA	U.S. Occupational Safety and Health Administration
PEL	Permissible Exposure Limit (OSHA)
RCRA	Resource Conservation and Recovery Act
REL	Recommended Exposure Limit (NIOSH)
SARA	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	Self Contained Breathing Apparatus
SPCC	Spill Prevention, Control and Countermeasures
STEL	Short-Term Exposure Limit
TLV	Threshold Exposure Value (ACGIH)
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average
WEEL	Workplace Environmental Exposure Level

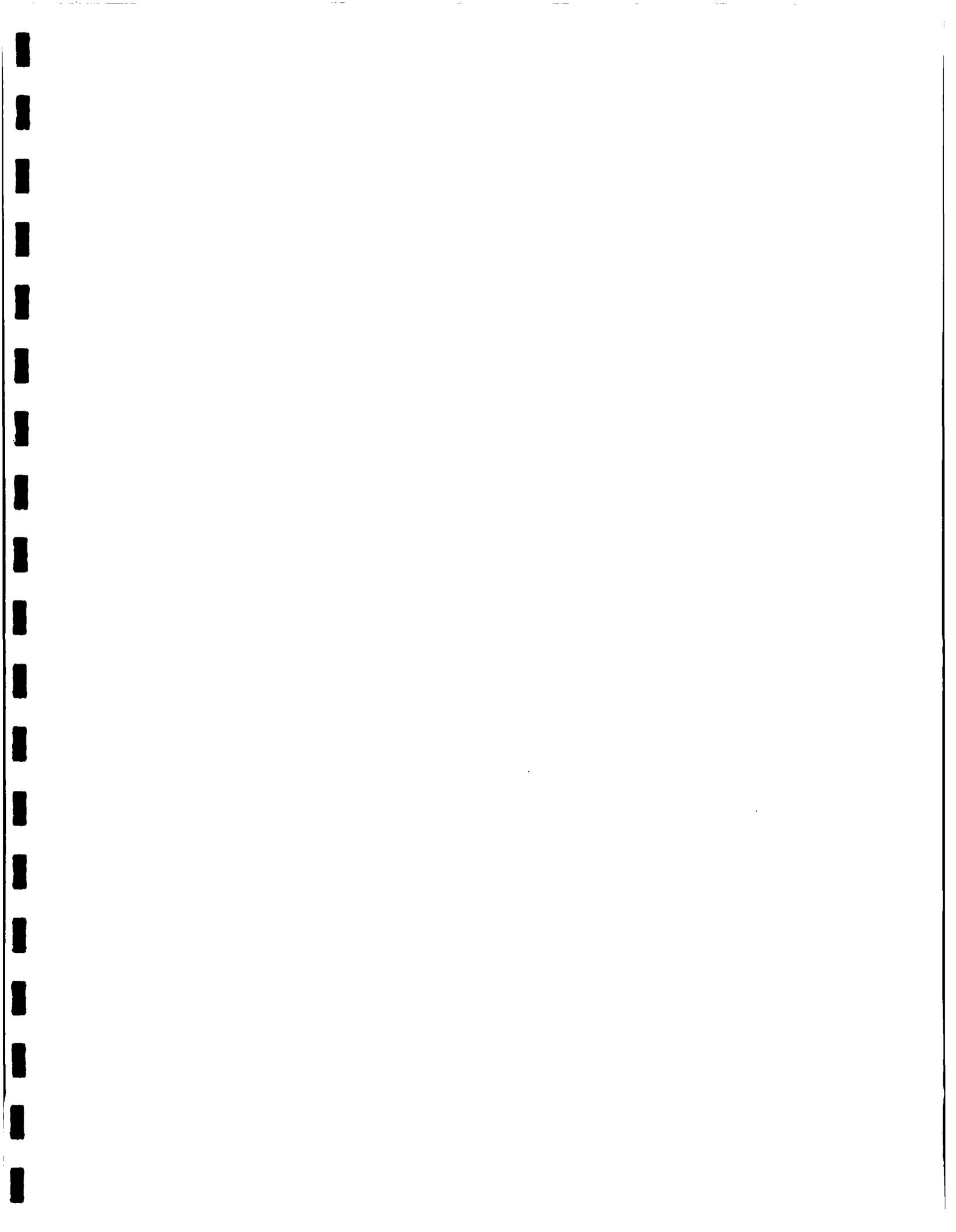
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Information that is presented is compiled from sources considered to be reliable and is accurate and reliable to the best of Richardson Energy Marketing, Ltd. knowledge and belief, but is not guaranteed. Since conditions of use are beyond Richardson Energy Marketing, Ltd. control, no warranties expressed or implied are made, except those that may be written in contract of sale or acknowledgement.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet and even when reasonable safety procedures are followed. Furthermore, vendee assumes all risks in their use of the material.

Inquiries regarding this MSDS should be directed to:

Herb Harless, CSP  
Director, Environmental Health and Safety  
(817) 338-8386



Escudero Chemical NFPA 3 2 4

\*\*\*\*\*

PRODUCT: ESCUDERO PC-396  
CLEANER

Fire 2  
Health 2  
Reactive 0  
Special

\*\*\*\*\*

0=LEAST to 4=EXTREME

SUPPLIER: ESCUDERO, INC.  
P.O. BOX 51207  
MIDLAND, TEXAS 79710-1207  
(915) 557-2271

EMERGENCY NUMBER - 915/557-2271

**SECTION II, HAZARDOUS INGREDIENTS/IDENTITY INFORMATION**

HAZARDOUS COMPONENTS - (CAS Number) OSHA PEL ACGIH TLV OTHER

PETROLEUM DISTILLATE-(64742-06-9)-----TWA 100 ppm RECOMMENDED BY  
MANUFACTURER

AMINE SULFANATE-----NO DATA

**SECTION III, PHYSICAL/CHEMICAL CHARACTERISTICS**

BOILING POINT, ND MELTING POINT, NA  
SPECIFIC GRAVITY (H2O=1), APP. 0.91  
VAPOR PRESSURE, ND VAPOR DENSITY (Air=1), >1.0  
EVAPORATION RATE (BuAc=1), < 1  
SOLUBILITY IN WATER, Insoluble pH, 9.94  
APPEARANCE AND ODOR, Clear Solution with Hydrocarbon Odor

**SECTION IV, FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT (Method), Between 100 and 200 Degrees F

FLAMMABLE LIMITS; Lower, ND Upper, ND

EXTINGUISHING MEDIA, Water fog or spray, foam, dry powder, carbon dioxide (CO2).

SPECIAL FIRE FIGHTING PROCEDURES, Approach fire from upwind side. Avoid breathing smoke, fumes, mist, or vapors on the downwind side. Fire fighters wear protective clothing, and self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS, Containers may rupture from internal pressure if confined to fire area. Cool with water. Get non-essential people out of the area.

---

**SECTION V, REACTIVITY INFORMATION**

**STABILITY**

**PRODUCT IS;** Stable

**INCOMPATIBILITY**

**MATERIALS TO AVOID:** Oxidizers or oxidizing materials.

**HAZARDOUS DECOMPOSITION OR BYPRODUCTS,** From fire; fumes, smoke, carbon dioxide, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion.

**HAZARDOUS POLYMERIZATION,** Will not occur

---

**SECTION VI, HEALTH HAZARD DATA**

**ROUTES OF ENTRY**

**INHALATION?** Possible (Irritant, narcotic)

**SKIN/EYES?** Possible (Irritant)

**INGESTION?** Not Likely (Irritant, narcotic)

**HEALTH HAZARDS**

**ACUTE,** Inhalation of vapors may be narcotic or anesthetic. Ingestion of liquid will cause gastrointestinal distress, irritation, and possibly nausea. Liquid or vapors may be irritating to skin. Liquid can cause severe irritation to the eyes and cause corneal burns.

**CHRONIC,** Prolonged exposure will dry and defat the skin, leading to irritation or dermatitis.

**CARCINOGENICITY**

**LISTED IN NTP?** No

**IARC MONOGRAPHS?** No

**OSHA REGULATED?** No

**SIGNS AND SYMPTOMS OF EXPOSURE,** Signs of inhalation overexposure, in order: irritation of respiratory tract, nervous system depression, headaches, dizziness, staggering gait, confusion, unconsciousness, and coma. Skin irritation develops slowly after contact. Eye irritation develops immediately upon contact.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE,** Breathing disorders and dermatitis.

**EMERGENCY AND FIRST AID PROCEDURES,**

**EYE CONTACT,** Flush eyes with water for 15 minutes and get medical advice.

**SKIN CONTACT,** Wash skin with soap and water. Remove any contaminated clothing. Get medical attention if symptoms develop and persist.

**INGESTION,** Do not induce vomiting. Get immediate medical attention. Aspiration into lungs may cause chemical pneumonia.

**INHALATION,** Remove victim to fresh air and, if needed, immediately begin artificial respiration. Give oxygen if breathing is labored. Get emergency medical help. Contact physician immediately.

---

**SECTION VII, PRECAUTIONS FOR SAFE HANDLING AND USE**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED,** For small spills, pick up with absorbent media. Store as hazardous waste.

Large spills, contain with dikes, pick up with vacuum truck. Handle as hazardous waste. Notify proper local, state, and federal agencies.

For vapor release, get people out of the area. Shut off ignition sources, and ventilate the area. Notify proper authorities if required by SARA Title III.

**WASTE DISPOSAL METHOD,** EPA approved hazardous waste disposal site. Follow applicable local, state and federal regulations.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE,** Store in a cool place away from ignition sources.

Store away from oxidizers or materials bearing a yellow "DOT" label.

**OTHER PRECAUTIONS,** Clean up leaks immediately to prevent soil or water contamination.

---

**SECTION VIII, CONTROL MEASURES**

**RESPIRATORY PROTECTION:** (If concentration reaches or exceeds TLV), NIOSH approved organic vapor mask required.

<b>VENTILATION; LOCAL EXHAUST,</b>	Recommended	<b>SPECIAL,</b>	---
	<b>MECHANICAL,</b>	Recommended	<b>OTHER,</b>
			---

**PROTECTIVE GLOVES:** Chemical resistant gauntlet type gloves suitable for hydrocarbon solvent.

**EYE PROTECTION,** Chemical goggles or full-face shield.

**OTHER PROTECTIVE EQUIPMENT,** Boots, aprons, drench showers, eye wash as needed for protection against spills and/or splashes.

**WORK HYGIENIC PRACTICES,** Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown in section VI.

Laundry contaminated clothing before reuse.

---

**SECTION IX, TRANSPORTATION INFORMATION**

**DOT Proper Shipping Name, Hazard Class., UN/NA Number, RQ (If Needed)**

Combustible liquid, N.O.S. (Contains Petroleum distillate), NA1993

**SECTION X, OTHER DATA**

**EPA HAZARDS,** Acute Yes      Chronic No      **Flammability** Yes  
Sudden Release of Pressure No      **Reactive** No

**SARA Title III**

Threshold Planning Quantity, NONE

Reportable Quantity, NONE

Section 313, Toxic Materials: YES

Chemical Name	CAS Number	Weight %
XYLENE	1330-20-7	1.5
1,2,4 TRIMETHYLBENZENE	95-63-6	2.0

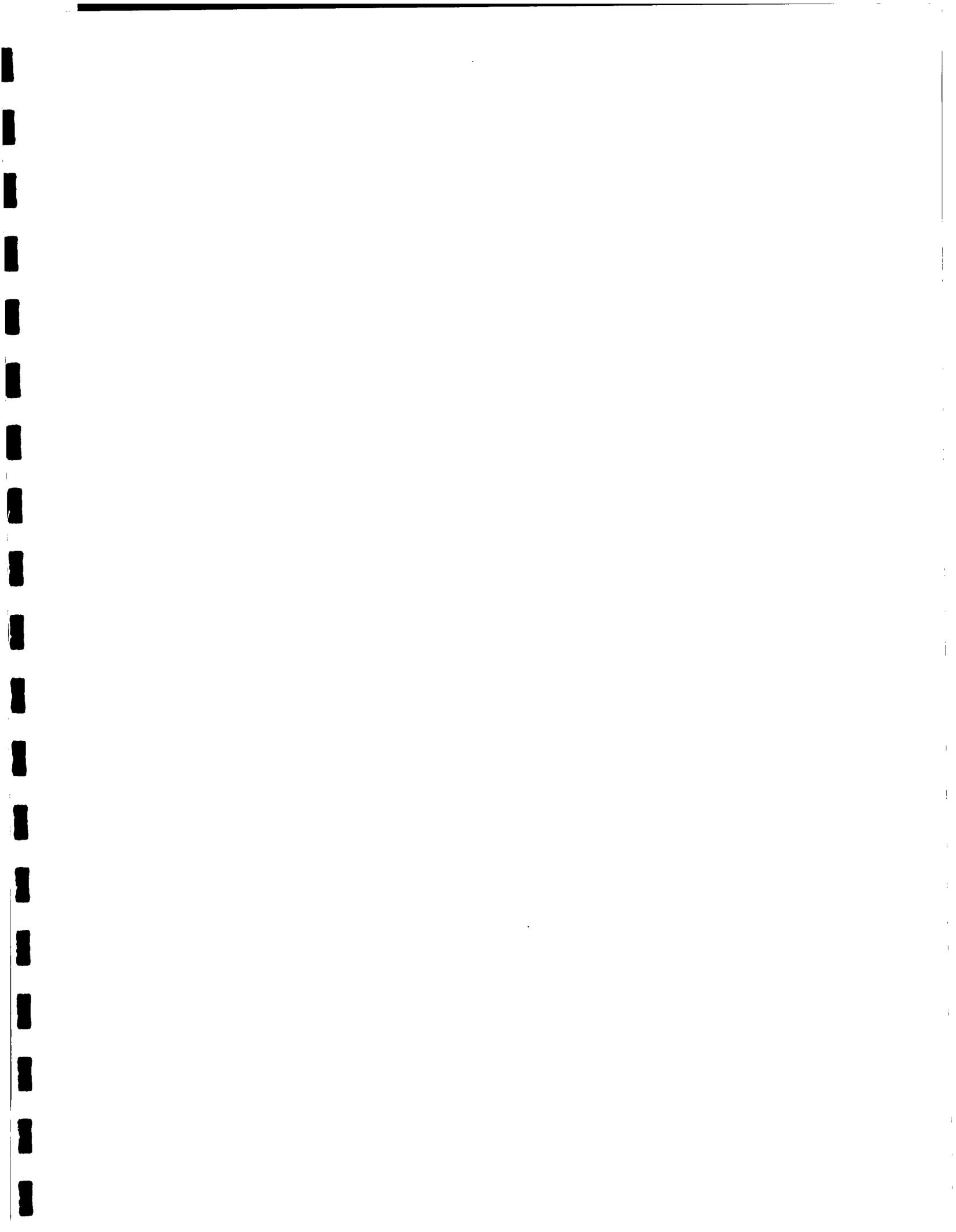
**TOXIC SUBSTANCES CONTROL ACT (TSCA), 40 CFR 710**

Sources of the raw materials used in this mixture assure that all chemical ingredients present are in compliance with Sect. 8(b) Chemical Substance Inventory, or are otherwise in compliance with TSCA.

**NA**-Not applicable      **ND**-Data not available  
**CS**-Cancer Suspect Agent      **OX**-Oxidizer      **COR**-Corrosive  
**CALC**-Calculate      **EST**-Estimated  
**STEL**-Short Time Exposure Limit      **TLV**-Threshold Limit Value  
**PEL**-Permissible Exposure Limit      **TWA**-Time Weighted Average, 8 hours  
**HMS, PPI**-Hazardous Material Identification System, Personal Protection Index

The data presented is true and correct to the best of our knowledge and belief, however, neither seller nor preparer makes any warranties, expressed or implied, concerning the information presented. The user is cautioned to perform his own hazard evaluation and to rely upon his own determinations.

Form essentially the same as OSHA Form 174 Dated September 1985



MATERIAL SAFETY DATA SHEET

NFPA *Corrosion Chemical 314*

\*\*\*\*\*

PRODUCT: ESCUDERO PPP-3000  
3 PHASE CORROSION INHIBITOR

Fire 4  
Health 3  
Reactive 0  
Personal Protection Index G

\*\*\*\*\*

0=LEAST to 4=EXTREME

SUPPLIER: ESCUDERO, INC.  
P.O. BOX 51207  
MIDLAND, TEXAS 79710-1207  
(915) 557-2271

EMERGENCY NUMBER - 915/557-2271

SECTION II, HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS - (CAS Number) OSHA PEL ACGIH TLV OTHER

Methanol----- (67-56-1) --200 ppm-----260 mg/m<sup>3</sup>  
OSHA TWA 200 ppm-260 mg/m<sup>3</sup>  
OSHA STEL 250 ppm

HAZARDS DISCLOSURE:

This product contains hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.2100.

\*\*THIS PRODUCT IS EXTREMELY FLAMMABLE. ELIMINATE ALL SOURCES OF IGNITION-HEAT, SPARKS, FLAME, ELECTRICITY, IMPACT AND FRICTION.

SECTION III, PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT, ND MELTING POINT, NA  
SPECIFIC GRAVITY (H<sub>2</sub>O=1), 0.7973 (WATER=1)  
VAPOR PRESSURE, ND mm Hg VAPOR DENSITY (Air=1), ND (Air=1)  
EVAPORATION RATE (BuAc=1), < 1  
SOLUBILITY IN WATER, Soluble pH, 9.75  
APPEARANCE AND ODOR, Light Amber with Ammonia Odor

SECTION IV, FIRE AND EXPLOSION HAZARD DATA

TTC FLASH POINT (Method), 64.0 °F (17.8 C)

FLAMMABLE LIMITS; Lower, ND Upper, ND

EXTINGUISHING MEDIA, Dry Chemical, CO<sub>2</sub>, water spray or alcohol resistant foam.

SPECIAL FIRE FIGHTING PROCEDURES, Evacuate area and fight fire from a safe distance. Avoid breathing smoke, fumes, and decomposition products. As in any fire, wear self-contained breathing apparatus pressure-demand NSHA/NIOSH (approved or equivalent) and full protective gear. Vapors can travel to a source of ignition and flash back. May burn with invisible flame. Can release vapors at or below ambient temperatures. This product is extremely flammable.

MATERIAL SAFETY DATA SHEET  
ESCUADERO PPP-3000 / 3 PHASE CORROSION INHIBITOR

---

**FIRE AND EXPLOSION HAZARD DATA CON'T:**

**UNUSUAL FIRE AND EXPLOSION HAZARDS,** Containers may rupture from internal pressure if confined to fire area. Cool with water. Get non-essential people out of the area.

---

**SECTION V, REACTIVITY INFORMATION**

**STABILITY**

**PRODUCT IS;** Stable

**INCOMPATIBILITY**

**MATERIALS TO AVOID,** Product has an explosive reaction with chloroform and sodium methoxide and diethyl zinc. Has a violent reaction with alkyl aluminum salts, acetyl bromide, chloroform and sodium hydroxide, cyanuric chloride, nitric acid. Avoid contact with acids and oxidizers. Incompatible with beryllium dihydride, metals (potassium, magnesium, etc.), oxidants (barium, perchlorate, bromine, chlorine, etc.

**HAZARDOUS DECOMPOSITION OR BYPRODUCTS,** From fire; fumes, smoke, carbon dioxide, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion.

**HAZARDOUS POLYMERIZATION,** Will not occur

---

**SECTION VI, HEALTH HAZARD DATA**

**INHALATION?** Possible (Irritant)

**SKIN/EYES?** Possible (Irritant)

**INGESTION?** Not Likely (May cause serious poisoning) Death by as little as 1 ounce is possible.

**HEALTH HAZARDS**

**ACUTE,** Inhalation of vapors may be narcotic or anesthetic. Ingestion of liquid will cause gastrointestinal distress, irritation, and possibly nausea. Liquid or vapors may be irritating to skin. Liquid can cause severe irritation to the eyes and cause corneal burns. Ingestion may cause blindness.

**CHRONIC,** Prolonged exposure can produce severe or fatal central nervous system depression, blindness, and damage to the pancreas.

**CARCINOGENICITY**

**LISTED IN NTP?** No

**IARC MONOGRAPHS?** No

**OSHA REGULATED?** No

**MATERIAL SAFETY DATA SHEET**  
**ESCUADERO PPP-3000 / 3 PHASE CORROSION INHIBITOR**

---

**SIGNS AND SYMPTOMS OF EXPOSURE, Inhalation overexposure:** headache, weakness, drowsiness, lightheadedness, nausea, difficult breathing, drunkenness, eye irritation, blurred vision, blindness, loss of consciousness, vertigo, fatigue, convulsions, and possibly death, depending on exposure. Victims may improve and then get worse again up to 30 hours later. **Skin:** Repeated or prolonged skin contact may cause drying, cracking, and inflammation of the skin due to the defatting action of the product. **Eyes:** Toxic effects is exerted upon the nervous system, particularly the optic nerves and possibly the retina. The condition can progress to permanent blindness.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** Personnel with pre-existing CNS disease, skin disorders, impaired liver or kidney function, GI tract disorders or chronic respiratory diseases should avoid exposure to this product.

**EMERGENCY AND FIRST AID PROCEDURES,**

**EYE CONTACT,** If wearing contacts, remove immediately and flush eyes with water for 15 minutes, get medical advice immediately.

**SKIN CONTACT,** Wash skin with soap and water. Remove any contaminated clothing. Get medical attention if symptoms develop and persist.

**INGESTION,** If immediately medical attention is not available give 2 glasses of water to drink to induce vomiting. Seek immediate medical attention.

**INHALATION,** Remove victim to fresh air and, if needed, immediately begin artificial respiration. Give oxygen if breathing is labored. Get emergency medical help. Contact physician immediately.

---

**SECTION VII, PRECAUTIONS FOR SAFE HANDLING AND USE**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED,** For small spills, pick up with absorbent media. Store as hazardous waste.

Large spills, contain with dikes, pick up with vacuum truck. Handle as hazardous waste. Notify proper local, state, and federal agencies.

For vapor release, get people out of the area. Shut off ignition sources, and ventilate the area. Notify proper authorities if required by SARA Title III.

**WASTE DISPOSAL METHOD,** EPA approved hazardous waste disposal site. Follow applicable local, state and federal regulations.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE,** Store in a cool place away from ignition sources.

Keep away from oxidizers or materials bearing a yellow "DOT" label.

**OTHER PRECAUTIONS,** Clean up leaks immediately to prevent soil or water contamination.

MATERIAL SAFETY DATA SHEET  
ESCUDERO PPP-3000 / 3 PHASE CORROSION INHIBITOR

SECTION VIII, CONTROL MEASURES

RESPIRATORY PROTECTION: (If concentration reaches or exceeds TLV),  
NIOSH approved organic vapor mask required.

VENTILATION; LOCAL EXHAUST, Recommended SPECIAL, ---  
MECHANICAL, Recommended OTHER, ---

PROTECTIVE GLOVES: Chemical resistant gauntlet type gloves suitable for  
hydrocarbon solvent.

EYE PROTECTION, Chemical goggles or full-face shield.

OTHER PROTECTIVE EQUIPMENT, Boots, aprons, drench showers, eye wash as  
needed for protection against spills and/or splashes.

WORK HYGIENIC PRACTICES, Avoid contact with skin, eyes, and clothing.  
After handling this product, wash hands before eating, drinking, or  
smoking. If contact occurs, remove contaminated clothing. If needed,  
take first aid action shown in section VI.

Laundry contaminated clothing before reuse.

SECTION IX, TRANSPORTATION INFORMATION

DOT Proper Shipping Name, Hazard Class, UN/NA Number, RQ (If Needed)

Flammable Liquid, Corrosive, (Contains Methanol) N.O.S.3, UN 2924, PG 11

SECTION X, OTHER DATA

EPA HAZARDS: Acute Yes Chronic Yes Flammability Yes  
Sudden Release of Pressure Yes Reactive No

SARA Title III

Threshold Planning Quantity, NONE

Reportable Quantity, Yes, Based on 5,000 pounds Methanol

Section 313, Toxic Materials: Yes

Chemical Name

CAS Number

Weight %

Methanol

67-56-1

80%

TOXIC SUBSTANCES CONTROL ACT (TSCA), 40 CFR 710

Sources of the raw materials used in this mixture assure that all  
chemical ingredients present are in compliance with Sect. 8(b) Chemical  
Substance Inventory, or are otherwise in compliance with TSCA.

NA-Not applicable

ND-Data not available

CS-Cancer Suspect Agent

OX-Oxidizer

COR-Corrosive

CALC-Calculate

EST-Estimated

STEL-Short Time Exposure Limit

TLV-Threshold Limit Value

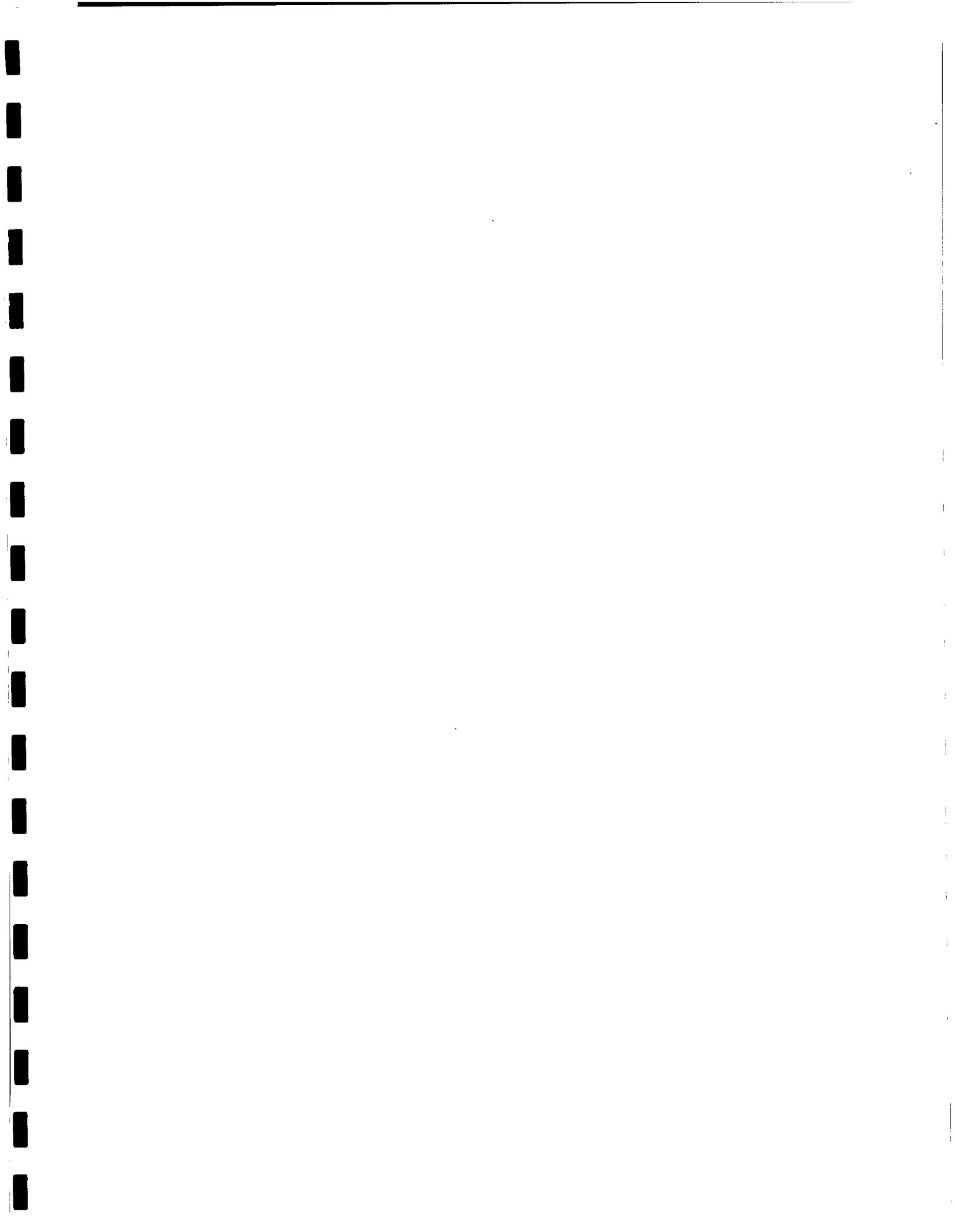
PEL-Permissible Exposure Limit

TWA-Time Weighted Average, 8 hours

HMS, PPI-Hazardous Material Identification System, Personal Protection  
Index

The data presented is true and correct to the best of our knowledge and  
belief, however, neither seller nor preparer makes any warranties,  
expressed or implied, concerning the information presented. The user  
is cautioned to perform his own hazard evaluation and to rely upon his  
own determinations.

Form essentially the same as OSHA Form 174 Dated September 1985



READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT

MSDS CODE AND NAME : JCLE105N JEFFCOOL® E105N  
 DATE ISSUED : 7/1/2004  
 DATE PRINTED : 4/19/2005

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****MATERIAL IDENTITY****MSDS CODE AND NAME****JCLE105N JEFFCOOL® E105N****Chemical Name and/or Family or Description:**

Industrial coolant and/or heat transfer fluid

**COMPANY INFORMATION**

Huntsman Petrochemical Corporation  
 P.O. Box 4980  
 The Woodlands, TX 77387-4980

**TELEPHONE NUMBERS****Transportation Emergency**

Company: (409) 727-0831

CHEMTREC: (800) 424-9300

Medical Emergency: (409) 722-9673 (24 Hour)

General MSDS Assistance: (281) 719-8432

Technical Information: (512) 459-8543

**2. COMPOSITION AND INFORMATION ON INGREDIENTS**

THE CRITERIA FOR LISTING COMPONENTS IN THE COMPOSITION SECTION ARE AS FOLLOWS: CARCINOGENS ARE LISTED WHEN PRESENT AT 0.1 % OR GREATER; COMPONENTS WHICH ARE OTHERWISE HAZARDOUS ACCORDING TO OSHA ARE LISTED WHEN PRESENT AT 1.0 % OR GREATER; NON-HAZARDOUS COMPONENTS ARE LISTED AT 3.0 % OR GREATER. THIS IS NOT INTENDED TO BE COMPLETE COMPOSITIONAL DISCLOSURE. REFER TO SECTION 14 FOR APPLICABLE STATES' RIGHT TO KNOW AND OTHER REGULATORY INFORMATION.

Product and/or Component(s) Carcinogenic According to:

OSHA IARC NTP OTHER NONE X

**Composition:**

Chemical Name	CAS Number	Exposure Limits	Range in %
1,2-ethanediol (Common Name-Ethylene glycol)	107-21-1	100 mg/m <sup>3</sup> CEILING-ACGIH (AEROSOL) (A4)	35.00-49.99
Deionized water	7732-18-5		35.00-49.99
Phosphoric acid, dipotassium salt	7758-11-4		1.00-2.99

REFER TO SECTION 16 OF THE MSDS FOR PROHIBITED PRODUCT APPLICATIONS.

**MSDS CODE AND NAME** : JCLE105N JEFFCOOL® E105N  
**DATE ISSUED** : 7/1/2004  
**DATE PRINTED** : 4/19/2005  
**COMPANY** : HUNTSMAN

**3. HAZARD IDENTIFICATION**

**EMERGENCY OVERVIEW**

**Appearance:**

Clear liquid; may be colored by customer request

**Odor:**

Mild odor

**WARNING STATEMENT**

**WARNING I**

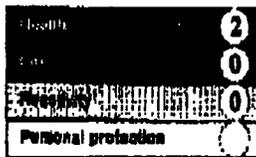
HARMFUL IF SWALLOWED  
 MAY CAUSE DIZZINESS AND DROWSINESS  
 MAY CAUSE EYE IRRITATION  
 ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE

**ATTENTION I**

FOR INDUSTRIAL USE ONLY  
 CAN CAUSE LIVER AND KIDNEY DAMAGE IF SWALLOWED  
 CONTAINS ETHYLENE GLYCOL WHICH MAY CAUSE BIRTH DEFECTS  
 BASED ON ANIMAL DATA

THIS PRODUCT IS NOT TO BE USED IN FOOD, DRUG, COSMETIC OR POTABLE WATER APPLICATIONS

**Hazardous Material Information System (United States)**



**National Fire Protection Association NFPA (United States)**



**POTENTIAL HEALTH EFFECTS**

**Primary Route of Exposure**

Eye X Skin X Inhalation X Ingestion

**Effects of Overexposure**

**Acute:**

**Eyes:**

May cause minimal irritation, experienced as temporary discomfort.

**Skin:**

Brief contact is not irritating. Prolonged contact, as with clothing wetted with material, may cause defatting of skin or irritation, seen as local redness with possible mild discomfort. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact; see other effects, below, and Section 11 for information regarding potential long term effects.

**Inhalation:**

Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or so from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness. Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material.

**Ingestion:**

Contains ethylene glycol and/or diethylene glycol, which are toxic when swallowed. A lethal dose for an adult is 1-2 ml per kilogram, or about 4 ounces (one-half cup). Symptoms include headache, weakness, confusion, dizziness, staggering, slurred speech, loss of coordination, faintness, nausea and vomiting, increased heart rate, decreased blood pressure, difficulty breathing and seeing, pulmonary edema, unconsciousness, convulsions, collapse, and coma. Symptoms may be delayed. Decreased urine output and kidney failure may also occur. Severe poisoning may cause death.

**MSDS CODE AND NAME** : JCLE105N JEFFCOOL® E105N  
**DATE ISSUED** : 7/1/2004  
**DATE PRINTED** : 4/19/2005  
**COMPANY** : HUNTSMAN

Aspiration may occur during swallowing or vomiting, resulting in lung damage.

**Sensitization Properties:** Unknown

**Chronic:**

Repeated ingestion may cause kidney damage.

**Medical Conditions Aggravated by Exposure:**

Repeated overexposure may aggravate existing kidney disease.

**Other Remarks:**

None

#### 4. FIRST AID MEASURES

**Eyes:**

Rinse eyes with plenty of water for several minutes. Get medical attention if eye irritation persists.

**Skin:**

Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

**Ingestion:**

If person is conscious and can swallow, immediately give two glasses of water (16 oz.) but do not induce vomiting. If vomiting occurs, give fluids again. Have physician determine if condition of person will permit induction of vomiting or evacuation of stomach. Do not give anything by mouth to an unconscious or convulsing person.

**Inhalation:**

If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.

**Other Instructions:**

Ethylene glycol (EG) and diethylene glycol (DEG) intoxication may initially produce behavioral changes, drowsiness, vomiting, diarrhea, thirst, and convulsions. EG and DEG are nephrotoxic. End stages of poisoning may include renal damage or failure with acidosis. Supportive measures, supplemented with hemodialysis if indicated, may limit the progression and severity of toxic effects.

FOR ETHYLENE GLYCOL POISONING intravenous ethanol is a recognized antidotal treatment; other antidotal treatments also exist for EG poisoning. FOR DIETHYLENE GLYCOL POISONING the role of intravenous ethanol in the treatment is unclear but it may be of benefit in view of structural and toxicological similarities to ethylene glycol. Contact a Poison Center for further treatment information.

Aspiration of this product during induced emesis may result in severe lung injury. If evacuation of stomach is necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation. Contact a Poison Center for additional treatment information.

#### 5. FIRE-FIGHTING MEASURES

**Ignition Temperature - AIT (degrees C):**

Not applicable.

**Flash Point (degrees C):**

Not applicable.

**Flammable Limits % (Lower-Upper):**

Lower: Not Determined

Upper: Not Determined

**MSDS CODE AND NAME** : JCLE105N JEFFCOOL® E105N  
**DATE ISSUED** : 7/1/2004  
**DATE PRINTED** : 4/18/2005  
**COMPANY** : HUNTSMAN

---

**Recommended Fire Extinguishing Agents And Special Procedures:**

Product is not combustible. Use agent suitable for surrounding fire. Use water spray to cool fire-exposed containers.

**Unusual or Explosive Hazards:**

None

**Special Protective Equipment for Firefighters:**

Wear full protective clothing and positive pressure breathing apparatus. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

---

**6. ACCIDENTAL RELEASE MEASURES (Transportation Spills: CHEMTREC (800)424-9300)**

---

**Procedures in Case of Accidental Release, Breakage or Leakage:**

Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

---

**7. HANDLING AND STORAGE**

---

**Precautions to be Taken in****Handling:**

Minimum feasible handling temperatures should be maintained.

**Storage:**

Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

---

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

---

**Protective Equipment (Type)****Eye/Face Protection:**

Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

**Skin Protection:**

Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

**Respiratory Protection:**

Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air supplied respirators should always be worn when airborne concentration of the contaminant or oxygen content is unknown.

**Ventilation:**

Adequate to meet component occupational exposure limits (see Section 2).

**Exposure Limit for the Total Product:**

None established for product; refer to Section 2 for component exposure limits.

**MSDS CODE AND NAME** : JCLE106N JEFFCOOL® E106N  
**DATE ISSUED** : 7/1/2004  
**DATE PRINTED** : 4/19/2005  
**COMPANY** : HUNTSMAN

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:**

Clear liquid; may be colored by customer request

**Odor:**

Mild odor

**Boiling Point (degrees C):**

93.3 - 121.1 (200 - 250 F)

**Melting/Freezing Point (degrees C):**

-38.5 (-34 F)

**Specific Gravity (water=1):**

1.06

**pH:**

10.2

**Vapor Pressure:**

> .1 mmHg at 20 C (68 F)

**Viscosity:**

< 18.7 cSt at 20 C (68 F)

**VOC Content:**

Not Determined

**Vapor Density (Air=1):**

2.1

**Solubility in Water (%):**

>10

**Other:**

None

**10. STABILITY AND REACTIVITY**

**This Material Reacts Violently With:**

Air Water Heat Strong Oxidizers Others None of these X

**Comments:**

None

**Products Evolved When Subjected to Heat or Combustion:**

Not applicable.

**Hazardous Polymerizations:**

DO NOT OCCUR

**MSDS CODE AND NAME** : JCLE108N JEFFCOOL® E108N  
**DATE ISSUED** : 7/1/2004  
**DATE PRINTED** : 4/19/2005  
**COMPANY** : HUNTBMAN

## 11. TOXICOLOGICAL INFORMATION

### TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

**Oral:**

Animal data does not reflect human toxicity; see Sections 3 & 11

**Inhalation:**

Not determined.

**Dermal:**

LD50 Believed to be > 1.00 - 2.00 g/kg (rabbit) slightly toxic

### IRRITATION INDEX, ESTIMATION OF IRRITATION (SPECIES)

**Skin:**

(Draize) Believed to be < .50 /5.0 (rabbit) no appreciable effect

**Eye:**

(Draize) Believed to be < 15.00 /110 (rabbit) no appreciable effect

**Sensitization:**

Not determined.

**Other:**

Oral administration of ethylene glycol to pregnant experimental animals has been shown to cause birth defects in the offspring. These effects were not seen when ethylene glycol was administered by dermal application or by inhalation. Continuous ingestion of a diet containing 1% or 2% ethylene glycol for two years produced liver and kidney damage, and bladder stones in rats.

## 12. DISPOSAL CONSIDERATIONS:

### Waste Disposal Methods:

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

### Remarks:

To prevent contamination of drinking water supplies, and poisoning of children, aquatic life, wildlife, and farm and domestic animals, ethylene glycol products such as used antifreeze solution, regardless of quantity, should never be discarded onto the ground, into surface waters, or into storm sewers.

## 13. TRANSPORT INFORMATION

### Transportation

**DOT:**

**Proper Shipping Name:**

Not regulated for drums

**Hazard Class:**

Not regulated

**Identification Number:**

Not regulated

**Packing Group:**

Not regulated

**Label Required:**

Not regulated

Depending on container size, spills of this product may require reporting under SARA 304 and/or CERCLA 102(A) regulations. Please refer to Sections 2 and 14 of MSDS for composition and component RQ information.

### IMDG

**Proper Shipping Name:**

**MDS CODE AND NAME** : JCLE108N JEFFCOOL® E105N  
**DATE ISSUED** : 7/1/2004  
**DATE PRINTED** : 4/19/2008  
**COMPANY** : HUNTSMAN

Not evaluated

**ICAO**

Proper Shipping Name:  
Not evaluated

**TDG**

Proper Shipping Name:  
Not regulated

Hazard Class:  
Not regulated

Identification Number:  
Not regulated

Label Required:  
Not regulated

**14. REGULATORY INFORMATION**

**Federal Regulations:**

**HAZARDOUS MATERIALS**

Section 302/304 Extremely Hazardous Substances

Chemical Name	CAS Number	Range in %	TPQ	RQ
None.				

Section 311 Hazardous Categorization:

Acute X Chronic X Fire Pressure Reactive N/A

Section 313 Toxic Chemical

Chemical Name	CAS Number	Concentration
1,2-ethanediol (Common Name-Ethylene glycol)	107-21-1	35.00-49.99

**CERCLA 103(a)(2)(B) Hazardous Substances:**

Chemical Name	CAS Number	Range in %	RQ
1,2-ethanediol (Common Name-Ethylene glycol)	107-21-1	35.00-49.99	8000

**State Right-to-Know Regulations:**

Chemical Name	State Right-to-know
1,2-ethanediol	FL, IL, MA, NJ, PA, RI

**California Prop. 65:**

The following detectable components of this product are substances, or belong to classes of substances, known to the State of California to cause cancer and/or reproductive toxicity.

Chemical Name	CAS Number
None.	

**INTERNATIONAL REGULATIONS:**

Export Notification (TSCA-12b): This product may be subject to export notification under TSCA section 12(b); contains:  
Proprietary additive

**TSCA Inventory Status:**

This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

**WELLS Classification:**

Class D, Div 1, Subdiv B: Toxic Class D, Div 2, Subdiv A: Teratogenic

**MSDS CODE AND NAME** : JCLE105N JEFFCOOL® E105N  
**DATE ISSUED** : 7/1/2004  
**DATE PRINTED** : 4/10/2008  
**COMPANY** : HUNTSMAN

**Canadian Inventory Status:**

This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

**EINECS Inventory Status:**

This product, or its components, are listed on or are exempt from the European Inventory of Existing Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELINCS).

**Australian Inventory Status:**

This product, or its components, are listed on or are exempt from the Australian Inventory of Chemical Substances (AICS).

**Japan Inventory Status:**

Not determined

**15. ENVIRONMENTAL INFORMATION**

**Aquatic Toxicity:**

Not determined.

**Mobility:**

Not determined.

**Persistence and Biodegradability:**

This product is estimated to have a rapid rate of biodegradation; greater than or equal to 80 % degradation over a test period of 7 days or less.

**Potential to Bioaccumulate:**

This product is estimated to have a low potential to bioconcentrate.

**Remarks:**

None

**16. OTHER INFORMATION 7/1/2004**

Acute or chronic oral consumption of products containing ethylene glycol can produce significant adverse health effects, including death, in humans and animals. Keep out of reach of children and pets.

Due to toxicity considerations with ethylene glycol, the following applications are considered to be prohibited applications: Potable Water Applications; Food, Drug and Cosmetic Formulations; Antifreeze for potable water systems in recreational vehicles and seasonal homes, Antifreeze for fire sprinkler systems.

Huntsman recommends that all exposures to this product be minimized by strictly adhering to recommended occupational controls procedures to avoid any potential adverse health effects.

Supersedes: 3/31/2003

The following section has been revised: 2

Date Issued: 7/1/2004.

**THE INFORMATION IN THIS DATA SHEET IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT. IT IS PROVIDED FOR THE PURPOSE OF HAZARD COMMUNICATION AS PART OF HUNTSMAN'S PRODUCT SAFETY PROGRAM. IT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE PRODUCT BY A PROPERLY TRAINED PERSON. YOU ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN. THE DATA RELATES ONLY TO THE SPECIFIC PRODUCT DESIGNATED, AND DOES NOT RELATE TO USE OF THE PRODUCT IN COMBINATION WITH ANY OTHER MATERIAL OR USE OF THE PRODUCT IN ANY PROCESS. THE DATA IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY FOR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT, ITS COMPOSITION, ITS SAFETY OR THE INFORMATION CONTAINED IN THIS DATA SHEET.**

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**CURRENT DATA SHEETS ARE AVAILABLE FOR ALL HUNTSMAN PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL HUNTSMAN PRODUCTS YOU BUY, USE OR DISTRIBUTE BY CALLING (281) 719-5432 OR DIRECTING YOUR INQUIRIES TO:**

HUNTSMAN

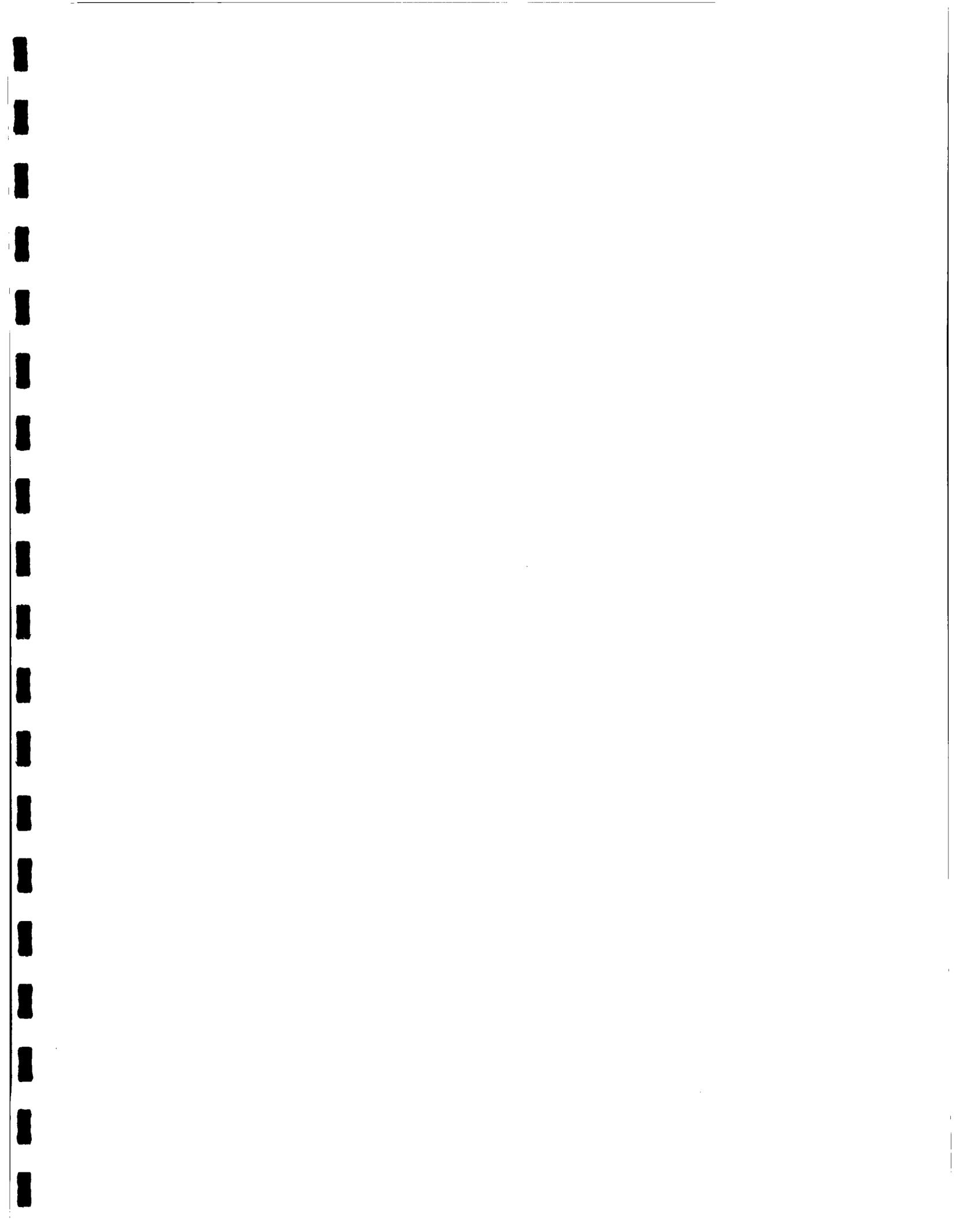
**MSDS CODE AND NAME** : JCLE105N JEFFCOOL® E105N  
**DATE ISSUED** : 7/1/2004  
**DATE PRINTED** : 4/19/2005  
**COMPANY** : HUNTSMAN

---

**MANAGER, PRODUCT SAFETY**  
P.O. BOX 4089  
THE WOODLANDS, TX 77387-4900

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**MATERIAL SAFETY DATA SHEET**  
EQUILON MSDS: 61052E-01 01/04/99

**MYSELLA(R) LA GAS ENGINE OIL 40**

**TELEPHONE NUMBER:**

24 HOUR EMERGENCY ASSISTANCE  
EQUIVA SERVICES: 877-276-7283  
CHEMTREC: 800-424-9300

GENERAL MSDS ASSISTANCE  
877-276-7285

**NAME AND ADDRESS**

EQUILON ENTERPRISES LLC  
PRODUCT STEWARDSHIP  
P.O. BOX 674414  
HOUSTON, TX 77267-4414

**SECTION I NAME**

**PRODUCT:** MYSELLA(R) LA GAS ENGINE OIL 40  
**CHEM NAME:** MIXTURE (SEE SECTION II-A)  
**CHEM FAMILY:** PETROLEUM HYDROCARBON; INDUSTRIAL OIL  
**SHELL CODE:** 67189

**HEALTH HAZARD:** 1 **FIRE HAZARD:** 1 **REACTIVITY:** 0

**SECTION II-A INGREDIENTS**

2. COMPOSITION		CAS NO.	PERCENT
P	MYSELLA LA GAS ENGINE OIL 40		
1	SOL. REF., HYDROTREATED, HEAVY PARRAFINIC DIST.	64742-54-7	75-80
2	SOL. REF., HYDROTREATED, ACID TREATED HEAVY NAPHTHENIC DIST.	64742-18-3	10-15
3	ADDITIVES	MIXTURE	10

**NFPA HAZARD RATING:** HEALTH 0 FIRE 1 REACTIVITY 0

**SECTION II-B ACUTE TOXICITY DATA**

**NO. ACUTE ORAL LD50 ACUTE DERMAL LD50 ACUTE INHALATION LC50**

P NOT AVAILABLE

**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:** BASED ON ESSENTIALLY SIMILAR PRODUCT TESTING PRODUCT IS CONSIDERED PRACTICALLY NON-IRRITATING TO THE EYES.

**SKIN CONTACT:** BASED ON ESSENTIALLY SIMILAR PRODUCT TESTING PRODUCT IS CONSIDERED SLIGHTLY IRRITATING TO THE SKIN AND NO MORE THAN SLIGHTLY TOXIC BY DERMAL ABSORPTION. PROLONGED AND REPEATED CONTACT MAY LEAD TO VARIOUS SKIN DISORDERS SUCH AS DERMATITIS, OIL ACNE, OR FOLLICULITIS.

**INHALATION:** THE INHALATION OF VAPORS (GENERATED AT HIGH TEMPERATURES ONLY) OR OIL MIST MAY CAUSE A MILD IRRITATION OF THE MUCOUS MEMBRANES OF THE UPPER RESPIRATORY TRACT.

**INGESTION:** BASED ON ESSENTIALLY SIMILAR PRODUCT TESTING PRODUCT IS

CONSIDERED NO MORE THAN SLIGHTLY TOXIC IF SWALLOWED.

SIGNS AND SYMPTOMS: IRRITATION AS NOTED ABOVE.

AGGRAVATED MEDICAL CONDITIONS:

PREEXISTING SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE.

OTHER HEALTH EFFECTS:

THIS PRODUCT AND ITS COMPONENTS ARE NOT CLASSIFIED AS CARCINOGENS BY INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), NATIONAL TOXICOLOGY PROGRAM (NTP) OR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

**SECTION IV OCCUPATIONAL EXPOSURE LIMITS**

COMP NO.	OSHA PEL/TWA	OSHA PEL/CEILING	ACGIH TLV/TWA	ACGIH TLV/STEL	OTHER
P	5 MG/M3*	NONE	5 MG/M3*	10 MG/M3*	

\*OIL MIST, MINERAL

**SECTION V EMERGENCY AND FIRST AID PROCEDURES**

**EYE CONTACT:** FLUSH EYES WITH WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

**SKIN CONTACT:** REMOVE CONTAMINATED CLOTHING AND WIPE EXCESS OFF. WASH WITH SOAP AND WATER OR A WATERLESS HAND CLEANER FOLLOWED BY SOAP AND 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 INDUCE VOMITING. IN GENERAL NO TREATMENT IS NECESSARY UNLESS LARGE QUANTITIES OF PRODUCT ARE INGESTED. HOWEVER, GET MEDICAL ADVICE.

**NOTE TO PHYSICIAN:** IN GENERAL, EMESIS INDUCTION IS UNNECESSARY IN HIGH VISCOSITY, LOW VOLATILITY PRODUCTS, I.E., MOST OILS AND GREASES.

**SECTION VI SUPPLEMENTAL HEALTH INFORMATION**

NONE IDENTIFIED.

**SECTION VII PHYSICAL DATA**

BOILING POINT (DEG F): >550 SPECIFIC GRAVITY (H2O = 1): 0.8927 VAPOR PRESSURE (MM HG): 12 <0.1

MELTING POINT (DEG F): 10 (POUR POINT) SOLUBILITY IN WATER: NEGLIGIBLE VAPOR DENSITY (AIR = 1) NOT AVAILABLE

VISCOSITY: 154 (CS @ 104 DEG F)

EVAPORATION RATE (NORMAL BUTYL ACETATE = 1): NOT AVAILABLE

APPEARANCE AND ODOR: PALE YELLOW LIQUID. SLIGHT HYDROCARBON ODOR.  
PHYS/CHEM PROPERTIES: SEE ABOVE FOR DETAILS

## SECTION VIII FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD 465 DEG F (PMCC)  
FLAMMABLE LIMITS/PERCENT VOLUME IN AIR: LOWER: N/AV HIGHER: N/AV

### EXTINGUISHING MEDIA:

USE WATER FOG, FOAM, DRY CHEMICAL OR CO2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

### SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS:

MATERIAL WILL NOT BURN UNLESS PREHEATED. 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:

NONE IDENTIFIED

## SECTION IX REACTIVITY

STABILITY: HAZARDOUS POLYMERIZATION WILL NOT OCCUR

### CONDITIONS AND MATERIALS TO AVOID:

AVOID HEAT, OPEN FLAMES AND OXIDIZING MATERIALS.

### HAZARDOUS DECOMPOSITION PRODUCTS:

THERMAL DECOMPOSITION PRODUCTS ARE HIGHLY DEPENDENT ON THE COMBUSTION CONDITIONS. A COMPLEX MIXTURE OF AIRBORNE SOLID, LIQUID, PARTICULATES AND GASES WILL EVOLVE WHEN THIS MATERIAL UNDERGOES PYROLYSIS OR COMBUSTION. CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED UPON COMBUSTION.

## SECTION X EMPLOYEE PROTECTION

### RESPIRATORY PROTECTION:

IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SECTION 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 AND PARTICULATES.

### PROTECTIVE CLOTHING:

WEAR CHEMICAL-RESISTANT GLOVES AND OTHER PROTECTIVE CLOTHING AS REQUIRED TO MINIMIZE SKIN CONTACT. NO SPECIFIC EYE PROTECTION ROUTINELY NECESSARY. TEST DATA FROM PUBLISHED LITERATURE AND/OR GLOVE AND CLOTHING MANUFACTURERS INDICATE THE BEST PROTECTION IS PROVIDED BY NITRILE GLOVES.

### ADDITIONAL PROTECTIVE MEASURES

NONE IDENTIFIED

## SECTION XI EMPLOYEE PROTECTION

### SPILL OR LEAK PROCEDURES:

MAY BURN ALTHOUGH NOT READILY IGNITABLE. USE CAUTIOUS JUDGMENT WHEN CLEANING UP LARGE SPILLS. \*\*\*LARGE SPILLS: WEAR RESPIRATOR AND PROTECTIVE CLOTHING AS APPROPRIATE. SHUT OFF SOURCE OF LEAK IF SAFE TO DO SO. DIKE AND CONTAIN. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND, OR OTHER SUITABLE MATERIALS; DISPOSE OF PROPERLY. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE. \*\*\*SMALL SPILLS: TAKE UP WITH AN ABSORBENT MATERIAL AND DISPOSE OF PROPERLY.

## SECTION XII SPECIAL PRECAUTIONS

MINIMIZE SKIN CONTACT. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING,

SMOKING OR USING TOILET FACILITIES. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE. PROPERLY DISPOSE OF CONTAMINATED LEATHER ARTICLES, INCLUDING SHOES, THAT CANNOT BE DECONTAMINATED.

STORE IN A COOL, DRY PLACE WITH ADEQUATE VENTILATION. KEEP AWAY FROM OPEN FLAMES AND HIGH TEMPERATURES.

### SECTION XIII TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION:  
NOT HAZARDOUS BY D.O.T. REGULATIONS

DOT PROPER SHIPPING NAME: NOT APPLICABLE

OTHER REQUIREMENTS: NOT APPLICABLE

### SECTION XIV OTHER REGULATORY CONTROLS

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

PROTECTION OF STRATOSPHERIC OZONE (PURSUANT TO SECTION 611 OF THE CLEAN AIR ACT AMENDMENTS OF 1990): PER 40 CFR PART 82, THIS PRODUCT DOES NOT CONTAIN NOR WAS IT DIRECTLY MANUFACTURED WITH ANY CLASS I OR CLASS II OZONE DEPLETING SUBSTANCES.

IN ACCORDANCE WITH SARA TITLE III, SECTION 313, THE ATTACHED 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.

<u>STATE LISTED COMPONENT</u>	<u>CAS NO</u>	<u>PERCENT</u>	<u>STATE CODE</u>
SOL. REF., HYDROTREATED, ACID TREATED HEAVY NAPHTHENIC DIST.	64742-18-3	10-15	MA

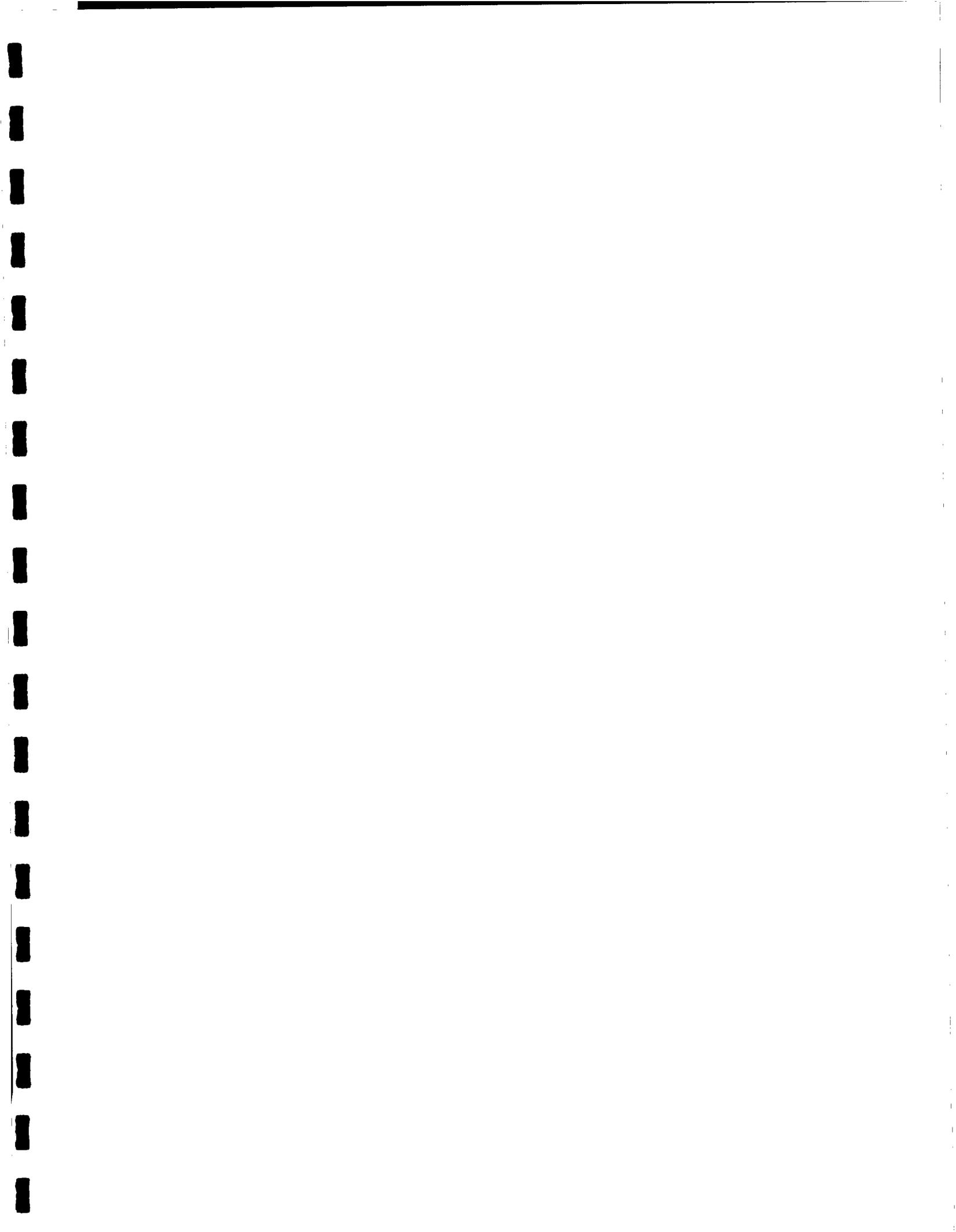
CA = CALIFORNIA HAZ. SUBST. LIST; CA65C, CA65R, CA65C/R = CALIFORNIA SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT OF 1986 OR PROPOSITION 65 LIST; CT = CONNECTICUT TOXIC. SUBST. LIST; FL = FLORIDA SUBST. LIST; IL = ILLINOIS TOX. SUBST. LIST; LA = LOUISIANA HAZ. SUBST. LIST; MA = MASSACHUSETTS SUBST. 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

ORIGINAL ISSUE.

THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO US AT THIS TIME, AND IS BELIEVED TO BE ACCURATE BASED UPON THAT DATA. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT, FOR PURPOSE OF HAZARD COMMUNICATION. IT IS NOT INTENDED TO CONSTITUTE PRODUCT PERFORMANCE INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, UNDERLYING DATA OR THE INFORMATION CONTAINED HEREIN. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE, AND ARE ENCOURAGED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

TO DETERMINE THE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, YOU SHOULD CONSULT WITH YOUR LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. WE WILL NOT PROVIDE ADVICE ON SUCH MATTERS, OR BE RESPONSIBLE FOR ANY INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN. THE UNDERLYING DATA, AND THE INFORMATION PROVIDED HEREIN



# Mallinckrodt

## Material Safety Data

Emergency Phone Number: 314-982-5000

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Mallinckrodt, Inc., Science Products Division, P.O. Box M, Paris, KY 40361

### METHYL ALCOHOL

#### PRODUCT IDENTIFICATION:

Synonyms: Wood alcohol; methanol; carbinol

Formula CAS No.: 67-56-1

Molecular Weight: 32.04

Chemical Formula: CH<sub>3</sub>OH

Hazardous Ingredients: None.

#### PRECAUTIONARY MEASURES

**DANGER! MAY BE FATAL IF SWALLOWED.  
HARMFUL IF INHALED. FLAMMABLE!  
MAY CAUSE BLINDNESS. CAUSES IRRITATION.**

Keep away from heat, sparks and flame.  
Avoid breathing vapor.  
Keep container closed.  
Use with adequate ventilation.  
Wash thoroughly after handling.

#### EMERGENCY/FIRST AID

In all cases call a physician immediately. If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes.

SEE SECTION 5.

DOT Hazard Class: Flammable Liquid 2

*methanol*

#### SECTION 1 Physical Data

Appearance: Clear, colorless liquid.

Odor: Characteristic odor.

Solubility: Miscible with water.

Boiling Point: 64.5°C (148°F)

Melting Point: -98°C (-144°F)

Specific Gravity: 0.8

Vapor Density (Air=1): 1.1

Vapor Pressure (mm Hg): 97 at 20°C (68°F)

Evaporation Rate: (BuAc=1): 5.9

#### SECTION 2 Fire and Explosion Information

Fire:

Flammable. Flashpoint: 11°C (52°F) (CC).

Autoignition temperature: 385°C (725°F).

Flammable limits, in air, % by volume:

lcl = 6.7; ucl = 36.

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Moderate explosion hazard and dangerous fire hazard when exposed to heat, sparks or flames.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire. Vapors can flow along surfaces to distant ignition source and flash back.

1-800-944-0000

#### SECTION 3 Reactivity Data

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Carbon oxides and formaldehyde may form when heated to decomposition.

Hazardous Polymerization:

This substance does not polymerize.

Incompatibilities:

Strong oxidizing agents such as nitrates, perchlorates or sulfuric acid. Will attack some forms of plastics, rubber, and coatings. May react with metallic aluminium and generate hydrogen gas.

#### SECTION 4 Leak/Spill Disposal Information

Ventilate area of leak or spill. Remove all sources of ignition. Clean-up personnel require protective clothing and respiratory protection from vapors. Contain and recover liquid when possible. Collect as hazardous waste and atomize in a suitable RCRA approved combustion chamber, or absorb with vermiculite, dry sand, earth or similar material for disposal as hazardous waste in a RCRA approved facility. Do not flush to sewer.

Reportable Quantity (RQ)(CWA/CERCLA): 5000 lbs.

Ensure compliance with local, state and federal regulations.

NFPA Ratings: Health: 1 Flammability: 3 Reactivity: 0

Effective Date: 05-01-86 Supersedes 10-18-85

METHYL ALCOHOL

# Mallinckrodt Material Safety Data

Emergency Phone Number: 314-982-5000

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Mallinckrodt, Inc., Science Products Division, P.O. Box M, Paris, KY 40361.

## Addendum to Material Safety Data Sheet

### REGULATORY STATUS

This Addendum Must Not Be  
Detached from the MSDS

Identifies SARA 313 substance(s)

Any copying or redistribution of the MSDS

must include a copy of this addendum

(Chem.Key: METOL)

Hazard Categories for SARA  
Section 311/312 Reporting  
Acute Chronic Fire Pressure Reactive

X X X

Product or Components  
of Product:

METHYL ALCOHOL (67-56-1)

SARA EHS Sect. 302		SARA Section 313 Chemicals		CERCLA Sec.103	RCRA
RQ (lbs.)	TPQ (lbs.)	Name List	Chemical Category	RQ (lbs.)	Sec. 261.33
No	No	Yes	No	5000	U154

**SARA Section 302 EHS RQ:** Reportable Quantity of Extremely Hazardous Substance, listed at 40 CFR 355.

**SARA Section 302 EHS TPQ:** Threshold Planning Quantity of Extremely Hazardous Substance. An asterisk (\*) following a Threshold Planning Quantity signifies that if the material is a solid and has a particle size equal to or larger than 100 micrometers, the Threshold Planning Quantity = 10,000 LBS.

**SARA Section 313 Chemicals:** Toxic Substances subject to annual release reporting requirements listed at 40 CFR 372.65.

**CERCLA Sec. 103:** Comprehensive Environmental Response, Compensation and Liability Act (Superfund). Releases to air, land or water of these hazardous substances which exceed the Reportable Quantity (RQ) must be reported to the National Response Center, (800-424-8802); Listed at 40 CFR 302.4

**RCRA:** Resource Conservation and Reclamation Act. Commercial chemical product wastes designated as acute hazards and toxic under 40 CFR 261.33

Effective Date: 05-01-86 Supersedes 10-18-85

METHYL ALCOHOL

**SECTION 5 Health Hazard Information**

**A. EXPOSURE / HEALTH EFFECTS**

**Inhalation:**

A slight irritant to the mucous membranes. Toxic effects exerted upon nervous system, particularly the optic nerve. Once absorbed into the body, it is very slowly eliminated. Symptoms of overexposure may include headache, drowsiness, nausea, vomiting, blurred vision, blindness, coma, and death. A person may get better but then worse again up to 30 hours later.

**Ingestion:**

Toxic. Symptoms parallel inhalation. Can intoxicate and cause blindness. Usual fatal dose: 100-125 milliliters.

**Skin Contact:**

Methyl alcohol is a defatting agent and may cause skin to become dry and cracked. Skin absorption can occur; symptoms may parallel inhalation exposure.

**Eye Contact:**

Irritant. Continued exposure may cause eye lesions.

**Chronic Exposure:**

Marked impairment of vision and enlargement of the liver has been reported. Repeated or prolonged exposure may cause skin irritation.

**Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

**B. FIRST AID**

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion:**

If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately.

**Skin Exposure:**

Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention if irritation develops or persists.

**Eye Exposure:**

Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**C. TOXICITY DATA (RTECS, 1982)**

Oral rat LD50: 5628 mg/kg. Skin rabbit: 20 gm/kg. Aquatic toxicity rating TLM 96: Over 1,000. Mutation data cited. Reproductive effects data cited.

**SECTION 6 Occupational Control Measures**

**Airborne Exposure Limits:**

-OSHA Permissible Exposure Limit (PEL):  
200 ppm (TWA)

-ACGIH Threshold Limit Value (TLV):  
200 ppm (TWA) (skin)  
250 ppm (STEL) (skin)

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

**Personal Respirators: (NIOSH Approved)**

If the TLV is exceeded, wear a supplied air, full-facepiece respirator, airtight hood, or self-contained breathing apparatus.

**Skin Protection:**

Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure.

**Eye Protection:**

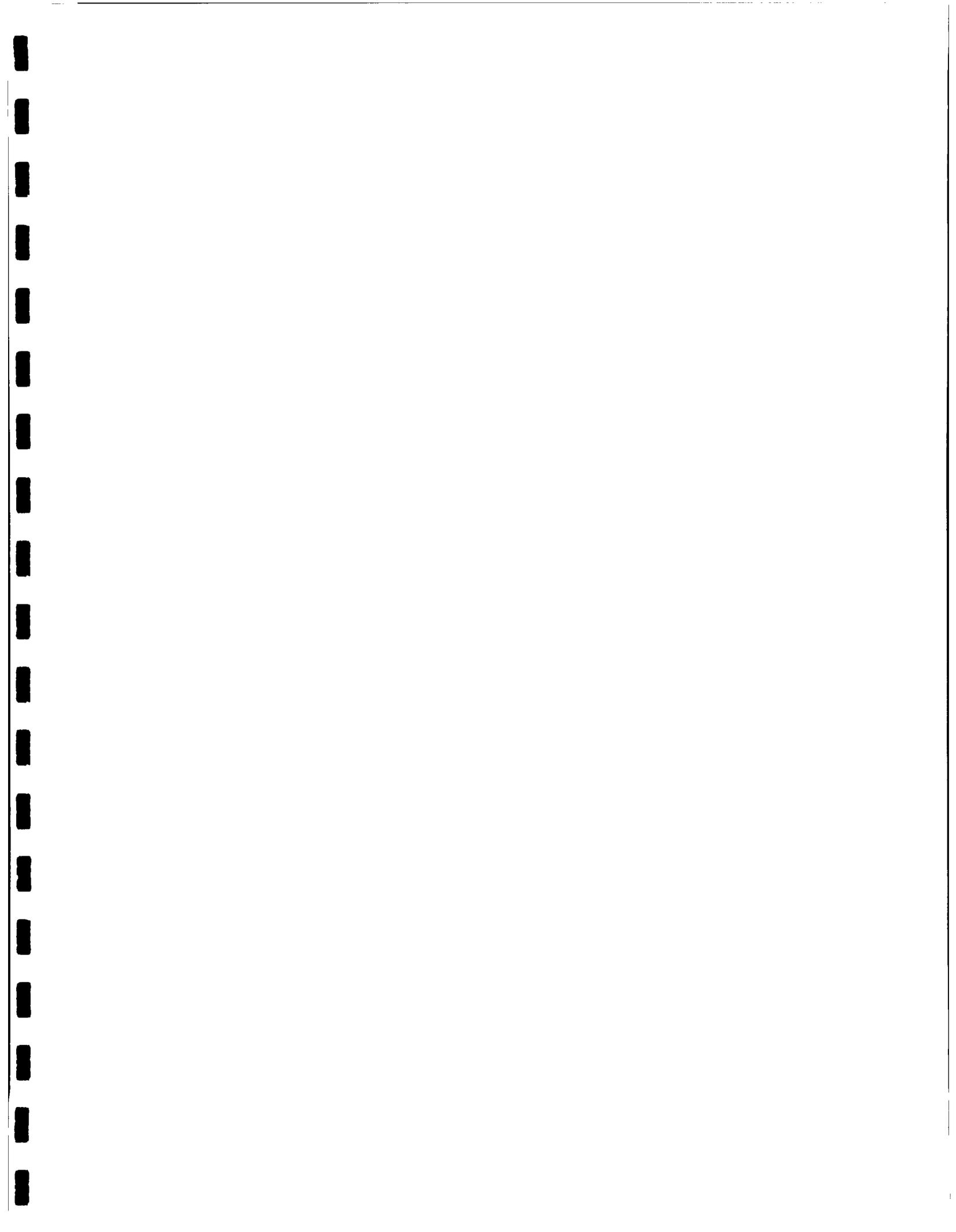
Use chemical safety goggles. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.

**SECTION 7 Storage and Special Information**

Protect against physical damage. Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage room or cabinet. Separate from oxidizing materials. Storage and use areas should be No Smoking areas. Spark-proof tools and explosion-proof equipment should be used in the storage and handling area.

METO

Handwritten notes and stamps at the bottom left of the page, including "METHYL ALCOHOL" and other illegible markings.





SKC, Jal #3

**Dow U.S.A.**

The Dow Chemical Company  
Midland, Michigan 48674

# Material Safety Data Sheet

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

Product Code: 07666

Page: 1

Product Name: AMBITROL (R) FL 50 COOLANT

Effective Date: 01/22/91 Date Printed: 06/11/92

MSDS:000584

## 1. INGREDIENTS: (% w/w, unless otherwise noted)

Ethylene Glycol	CAS# 000107-21-1	47-55%
Diethylene Glycol	CAS# 000111-46-6	<3%
Water	CAS# 007732-18-5	<50%
Dipotassium phosphate	CAS# 007758-11-4	<5%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

## 2. PHYSICAL DATA:

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

## 3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: None  
METHOD USED: PMCC

FLAMMABLE LIMITS  
LFL: Not applicable.  
UFL: Not applicable.

EXTINGUISHING MEDIA: Water fog, carbon dioxide, dry chemical.

FIRE & EXPLOSION HAZARDS: After 50% of the initial volume has evaporated, the residual solution will burn at temperatures above 290F when exposed to an ignition source.

FIRE-FIGHTING EQUIPMENT: Wear positive-pressure, self-contained breathing apparatus.

## 4. REACTIVITY DATA:

(Continued on page 2 , over)

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Product Name: AMBITROL (R) .FL 50 COOLANT

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#### 4. REACTIVITY DATA: (CONTINUED)

STABILITY: (CONDITIONS TO AVOID) Not considered to be a problem under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Oxidizing material

HAZARDOUS DECOMPOSITION PRODUCTS: After water has volatilized, burning will produce carbon monoxide, carbon dioxide, and water.

HAZARDOUS POLYMERIZATION: Will not occur.

#### 5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

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

DISPOSAL METHOD: Burn in approved incinerator in accordance with local, state, and federal regulations.

#### 6. HEALTH HAZARD DATA:

EYE: Essentially nonirritating to eyes. Vapors or mists may irritate eyes.

SKIN CONTACT: Prolonged or repeated exposure not likely to cause significant skin irritation. May cause more severe response if skin is abraded (scratched or cut).

SKIN ABSORPTION: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The dermal LD50 has not been determined. Repeated skin exposure to large quantities may result in absorption of harmful amounts.

INGESTION: Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. Amounts ingested incidental to industrial handling are not likely to cause injury; however, ingestion of larger amounts could cause serious injury, even death. The oral LD50 for rats is 8200 mg/kg. Single oral dose toxicity is expected to be moderate to humans even though tests with animals show a lower degree of toxicity.

(Continued on page 3)

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## 6. HEALTH HAZARD DATA: (CONTINUED)

**INHALATION:** At room temperature, exposures to vapors are minimal due to low vapor pressure. If heated or sprayed as an aerosol, concentrations may be attained that are sufficient to cause irritation and other effects.

**SYSTEMIC & OTHER EFFECTS:** Excessive exposure may cause irritation to upper respiratory tract. Observations in animals include formation of bladder stones after repeated oral doses of diethylene glycol. Observations in animals include kidney and liver effects and deposition of calcium salts in various tissues after long-term dietary intake of ethylene glycol. Based on data from long-term animal studies, diethylene glycol is not believed to pose a carcinogenic risk to man. Ethylene glycol did not cause cancer in long-term animal studies. Based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the major and possibly only route of exposure to produce birth defects. Exposures by inhalation (tested nose-only in animals to prevent ingestion) or skin contact, the primary routes of occupational exposure, had minimal or essentially no effect on the fetus. Birth defects are unlikely from exposure to diethylene glycol. Exposures having no adverse effects on the mother should have no effect on the fetus. Diethylene glycol has not interfered with reproduction in animal studies. In studies on rats, ethylene glycol has been shown not to interfere with reproduction. In studies on mice, ingestion of ethylene glycol in large amounts caused a small decrease in the number of litters/pair, live pups/litter, and in live pup weight. Results of in vitro (test tube) mutagenicity tests have been negative.

## 7. FIRST AID:

**EYES:** Irrigate immediately with water for at least 5 minutes.

**SKIN:** Wash off in flowing water or shower.

**INGESTION:** If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything to an unconscious person.

**INHALATION:** Remove to fresh air if effects occur. Consult a physician.

**NOTE TO PHYSICIAN:** Consult standard literature. Supportive care. Treatment based on judgment of the physician in response to

(Continued on page 4 , over)

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## 7. FIRST AID: (CONTINUED)

reactions of the patient. In the treatment of intoxication by ethylene glycol, the use of ethanol, hemodialysis and intravenous fluids to control acidosis should be considered. N. Eng. J. Med. 304:21 1981. If burn is present, treat as any thermal burn, after decontamination.

## 8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): Ethylene glycol: ACGIH TLV and OSHA PEL are 50 ppm Ceiling. Diethylene glycol: AIHA WEEL is 50 ppm. total; 10 mg/m<sup>3</sup>, aerosol only.

VENTILATION: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator.

SKIN PROTECTION: Use impervious gloves when prolonged or frequently repeated contact could occur.

EYE PROTECTION: Use safety glasses. If vapor exposure causes eye discomfort, use a full-face respirator.

## 9. ADDITIONAL INFORMATION:

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

Trace quantities of ethylene oxide (EO) may be present in this product. While these trace quantities could accumulate in headspace areas of storage and transport vessels, they are not expected to create a condition which will result in EO concentrations greater than 0.5 ppm (8 hour TWA) in the breathing zones of the workplace for appropriate applications. OSHA has established a permissible exposure limit of 1.0 ppm 8 hr TWA for EO. (Code of Federal Regulations Part 1910.1047 of Title 29)

MSDS STATUS: Revised section 8.

For information regarding state/provincial and federal regulations see The Regulatory Information Section.

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REGULATORY INFORMATION: (Not meant to be all-inclusive--selected regulations represented.)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances 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:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
ETHYLENE GLYCOL	000107-21-1	47 -55 %

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

- An immediate health hazard
- A delayed health hazard

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

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**SOUTHERN UNION GAS SERVICES, LTD.  
STANDARD OPERATING PROCEDURE**

Subject: Guidelines for Notification of Spills, Leaks, Releases of Hydrocarbon Liquids,  
Produced Water or Natural Gas

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**SCOPE**

This procedure provides the guidelines necessary to properly notify the State of New Mexico in the event of a Spill, Leak or Release of Hydrocarbon Liquids, Produced Water or Natural Gas.

**RESPONSIBILITY**

Each employee involved in field and plant operations and his/her supervisor are responsible for the requirements of this procedure.

**DEFINITIONS**

*Immediate notification* - Notification to the State District office by phone or in person as soon as possible but no later than 24 hours of initial discovery. Followed by a written notification within 15 days of initial discovery

*Subsequent notification* - Notification to the appropriate State District office by written report within 15 days of discovery. The State of New Mexico **Form C-141** (attached) must be used for all written notifications.

*Major Release* - Requires verbal notification within 24 hours of discovery, followed by a written notification within 15 days of initial discovery.

*Minor Release* - Requires written notification only within 15 days of initial discovery.

*Spill, leak or release* - An incident where crude oil, produced water or natural gas is discharged and contaminates either a water, soil, or air.

*Hydrocarbon Liquid* - Crude oil associated with the exploration and production, including transportation, of oil or gas.

*Watercourse* - Any lake bed or gully, draw, stream bed, wash, arroyo, or natural or manmade channel through which water flows or has flowed.

*Reporting Requirements* - The notification of releases shall be made by the person operating or controlling either the release or the location of the release.

**SOUTHERN UNION GAS SERVICES, LTD.  
STANDARD OPERATING PROCEDURE**

Subject: Guidelines for Notification of Spills, Leaks, Releases of Hydrocarbon Liquids,  
Produced Water or Natural Gas

**INITIAL RESPONSE TO A SPILL, LEAK OR RELEASE**

- STEP 1: Evaluate the potential hazard to the general public. Take appropriate action.
- STEP 2: Eliminate or restrict the source of the spill, leak or release by whatever safe and reasonable means available.
- STEP 3: Contain the spill, leak or release to minimize the area of exposure. This may be accomplished by the use of dikes, berms or absorbent materials such as tubes, pads, hay, etc..
- STEP 4: Remove as much standing liquid ( free oil ) as possible by any reasonable method.

**INTER-COMPANY REPORTING REQUIREMENTS**

Any spill, leak or release of hydrocarbon liquid, produced water or natural gas that requires State notification or effects any watercourse will be reported to the Area Manager and/or the Area EH&S Coordinator immediately.

**NEW MEXICO REPORTING REQUIREMENTS**

**Immediate Notification ( Major release )**

Any amount of hydrocarbon liquid into a watercourse.

>25 bbls. of hydrocarbon liquid on the ground.

>25 bbls. of produced water into a watercourse.

>25 bbls. of produced water on the ground.

>500 mcf of natural gas

or an unauthorized release of any volume (oil, water or gas) that :

- 1) results in a fire;
- 2) will reach a watercourse;
- 3) may ( w/ reasonable probability) endanger public health
- 4) results in substantial damage to property or the environment.

**Subsequent Notification ( Minor release )**

>5 bbls. but <25 bbls. of hydrocarbon liquid on the ground.

>5 bbls. but <25 bbls. of produced water on the ground or in a watercourse.

>50 mcf but <500 mcf of natural gas.

**SOUTHERN UNION GAS SERVICES, LTD.  
STANDARD OPERATING PROCEDURE**

Subject: Guidelines for Notification of Spills, Leaks, Releases of Hydrocarbon Liquids,  
Produced Water or Natural Gas

**NEW MEXICO REMEDIATION REQUIREMENTS**

Soil must be remediated if :

TPH	>5000 ppm
BTEX	>50 ppm
Benzene	>10 ppm

In circumstances where the contaminated soil is :

<100 ft. above the water table  
<1000 ft. from a water well  
<1000 ft. from a surface water body

Remediation levels may be lower in these cases and the Area EH&S Coordinator should be consulted as to the extent of remediation required.

**REMEDICATION PROCEDURES**

- STEP 1: Where the spill, leak or release is from a gathering pipeline the pipe should be excavated in a manner that allows for some blending with uncontaminated soil upon backfilling.
- STEP 2: Sample the contaminated soil for the required components using a representative composite sample. Depending on the size contaminated area, a typical composite sample would be one with equal parts of soil from the four "corners" and one part from the center of the contaminated area.
- STEP 3: Determine the type of remediation to be used i.e., natural remediation, soil blending, land farming, enhanced bio-remediation, thermal disorbtion etc.. For significant spills, leaks or releases contact Area EH&S Coordinator for recommendations or assistance in making this determination.
- STEP 4: Monitor the remediation process to see that it is progressing. This could entail further sampling, watering, aerating or tilling.

**SOUTHERN UNION GAS SERVICES, LTD.  
STANDARD OPERATING PROCEDURE**

Subject: Guidelines for Notification of Spills, Leaks, Releases of Hydrocarbon Liquids,  
Produced Water or Natural Gas

**PREVENTIVE MEASURES**

Certain steps should be taken to prevent the occurrence of a spill, leak or release:

- ( 1 ) The integrity of equipment should be monitored and maintained.
- ( 2 ) Containment's, that would prevent any contact with the soil of liquids that cause contamination, should be used when possible.
- ( 3 ) Gathering systems should be kept free of liquids where possible at pigging facilities, drips and siphons.
- ( 4 ) Equipment near watercourses should be of particular concern.
- ( 5 ) Past experience should be used in determining the need for other preventive measures.

**SOUTHERN UNION GAS SERVICES, LTD.  
STANDARD OPERATING PROCEDURE**

Subject: Guidelines for Notification of Spills, Leaks, Releases of Hydrocarbon Liquids,  
Produced Water or Natural Gas

**Attachment A**

**Contaminated Soils Ranking Criteria**

- **Depth to Ground Water**

< 50 feet	20
50-99 feet	10
>100 feet	0
  
- **Wellhead Protection Area**  
 <1000 feet from a water source, or  
 <200 feet from a private domestic water source
 

YES	20
NO	0
  
- **Distance to Surface Water**

<200 horizontal feet	20
200-1000 horizontal feet	10
>1000 horizontal feet	0

A = \_\_\_\_\_  
 B = \_\_\_\_\_  
 C = \_\_\_\_\_  
 Total = \_\_\_\_\_

Total Ranking is as follows:

	Level I >19	Level II 10-19	Level II 0-9
<b>Benzene (PPM)</b>	10	10	10
<b>BTEX (PPB)</b>	50	50	50
<b>TPH (PPM)</b>	100	1000	5000

**SOUTHERN UNION GAS SERVICES, LTD.  
STANDARD OPERATING PROCEDURE**

Subject: Guidelines for Notification of Spills, Leaks, Releases of Hydrocarbon Liquids,  
Produced Water or Natural Gas

**Attachment B**

**Leak, Spill or Release Report**

Facility \_\_\_\_\_ Person Filing Report \_\_\_\_\_  
Report Date \_\_\_\_/\_\_\_\_/\_\_\_\_ Time of Filing \_\_\_\_:\_\_\_\_ AM / PM

Responsible Party: Southern Union Gas Services

Facility address: \_\_\_\_\_  
City: \_\_\_\_\_ State: NM  TX  Zip Code: \_\_\_\_\_  
Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_ Fax: \_\_\_\_-\_\_\_\_-\_\_\_\_

Discharge Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time: \_\_\_\_:\_\_\_\_ AM / PM  
Duration of Discharge: \_\_\_\_ Hr. \_\_\_\_ Min. Quantity Discharged: \_\_\_\_\_ Gal. / Lbs.  
Source and/or Cause of Discharge: \_\_\_\_\_

Type of Discharge:  Gas  Crude Oil  Condensate  Saltwater  Other  
If other, explain by noting the chemical composition and physical characteristics on the reverse side of this page or attach the MSDS.

Location: ¼ \_\_\_\_ ¼ \_\_\_\_ Section \_\_\_\_ Township \_\_\_\_ Range \_\_\_\_ Survey \_\_\_\_ Block \_\_\_\_

Distance from the nearest town, community or landmark: \_\_\_\_\_

Site characteristics are as follows:

- Precipitation during the release prior to remediation: \_\_\_\_\_
- Wind Conditions and Direction: \_\_\_\_\_
- Temperature: \_\_\_\_\_
- Soil Type: \_\_\_\_\_
- Depth of Penetration: \_\_\_\_\_
- Area of Delineation: \_\_\_\_\_
- Nearest Residence: \_\_\_\_\_
- Nearest \*Fresh Water: \_\_\_\_\_

\*Any water well or watercourse, i.e., river, lake, stream, playa, arroyo, draw, wash, gully, natural or man-made channel.

Attach a copy of the chronological record of all federal, state and local agencies notified in reference to this report. Always indicate the name of the person who receives the call and the time the call was made for each agency.

**SOUTHERN UNION GAS SERVICES, LTD.  
STANDARD OPERATING PROCEDURE**

Subject: Guidelines for Notification of Spills, Leaks, Releases of Hydrocarbon Liquids,  
Produced Water or Natural Gas

**ATTACHMENT C**

**DEFINITIONS**

**Unsaturated/Contaminated Soil**

Soils, which are not highly contaminated/saturated, but contain Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and Total Petroleum Hydrocarbons (TPH) or other potential fresh water contaminants.

**Saturated/Highly Contaminated**

Those soils that contain a free liquid phase or exhibit gross staining.

**Watercourse**

Any lakebed or gully, draw, streambed, wash, arroyos, or natural or man-made channel through which water flows or has flowed.

**Immediate Notification**

Shall be as soon as possible after discovery and shall be in person or by telephone to the district office of the Division in which the incident occurred. If incident occurs after normal business hours, notify the District Supervisor, the Oil & Gas Inspector, or the Deputy Oil & Gas Inspector. Follow up with a completed written report within ten (10) days of the incident.

**Subsequent Notification**

A complete written report of the incident within ten (10) days of the discovery of the incident.

**Written Report**

Complete written reports will be submitted in **DUPLICATE** to the district office of the OCD in the district in which the incident occurred within ten (10) days after discovery of the incident.

**Content of Notification**

Refer to Attachment B.

**TITLE 19 NATURAL RESOURCES & WILDLIFE**  
**CHAPTER 15 OIL AND GAS**  
**PART 3 DRILLING**

**19.15.3.1 ISSUING AGENCY:** Energy, Minerals and Natural Resources Department, Oil Conservation Division, 2040 S. Pacheco, Santa Fe, New Mexico 87505, (505) 827-7131.  
[2-1-96; 19.15.3.1 NMAC - Rn, 19 NMAC 15.C.1, 11-15-01]

**19.15.3.2 SCOPE:** All persons/entities engaged in oil and gas development and production within New Mexico.  
[2-1-96; 19.15.3.2 NMAC - Rn, 19 NMAC 15.C.2, 11-15-01]

**19.15.3.3 STATUTORY AUTHORITY:** Sections 70-2-1 through 70-2-38 NMSA 1978 sets forth the Oil and Gas Act which grants the Oil Conservation Division jurisdiction and authority over all matters relating to the conservation of oil and gas, the prevention of waste of oil and gas and of potash as a result of oil and gas operations, the protection of correlative rights, and the disposition of wastes resulting from oil and gas operations.  
[2-1-96; 19.15.3.3 NMAC - Rn, 19 NMAC 15.C.3, 11-15-01]

**19.15.3.4 DURATION:** Permanent.  
[2-1-96; 19.15.3.4 NMAC - Rn, 19 NMAC 15.C.4, 11-15-01]

**19.15.3.5 EFFECTIVE DATE:** February 1, 1996.  
[2-1-96; 19.15.3.5 NMAC - Rn, 19 NMAC 15.C.5, 11-15-01]

**19.15.3.6 OBJECTIVE:** To regulate the drilling of oil and gas wells within the State of New Mexico to enable the Oil Conservation Division to fulfill its statutory mandates under the Oil & Gas Act.  
[2-1-96; 19.15.3.6 NMAC - Rn, 19 NMAC 15.C.6, 11-15-01]

**19.15.3.7 DEFINITIONS:** [Reserved].

**19.15.3.8-99 [RESERVED]**

**19.15.3.100 OPERATOR REGISTRATION; CHANGE OF OPERATOR; CHANGE OF NAME:**

**A.** Prior to commencing operations, every operator of a well or wells in New Mexico shall register with the division as an operator. Applicants shall provide the following to the financial assurance administrator in the division's Santa Fe office:

- (1) an oil and gas registration identification (OGRID) number obtained from the division, the state land office or the taxation and revenue department;
- (2) a current address of record to be used for notice, and a current emergency contact name and telephone number for each district in which the operator operates wells; and
- (3) the financial assurance required by 19.15.3.101 NMAC.

**B.** The division may deny registration as a well operator if:

- (1) the applicant is not in compliance with Subsection A of 19.15.1.40 NMAC;
- (2) an officer, director, partner in the applicant or person with an interest in the applicant exceeding 25 percent, is or was within the past five years an officer, director, partner or person with an interest exceeding 25 percent in another entity that is not currently in compliance with Subsection A of 19.15.1.40 NMAC;

(3) the applicant is or was within the past five years an officer, director, partner or person with an interest exceeding 25 percent in another entity that is not currently in compliance with Subsection A of 19.15.1.40 NMAC;

(4) the applicant is a corporation or limited liability company, and is not registered with the public regulation commission to do business in New Mexico; or

(5) the applicant is a limited partnership, and is not registered with the New Mexico secretary of state to do business in New Mexico.

**C.** Operators shall keep the division informed of their current address of record and emergency contact names and telephone numbers by submitting changes in writing to the division's financial assurance

administrator in the division's Santa Fe office within 30 days of the change.

**D.** The division may require an operator or applicant to identify its current and past officers, directors and partners, and its current and past ownership interest in other operators.

**E.** Change of operator.

(1) A change of operator occurs when the entity responsible for a well or a group of wells changes. A change of operator may result from a sale, assignment by a court, a change in operating agreement or other transaction. Under a change of operator, wells are moved from the OGRID number of the operator of record with the division to the new operator's OGRID number.

(2) The operator of record with the division and the new operator shall apply for a change of operator by jointly filing a form C-145 using the division's web-based online application. If the operator of record with the division is unavailable, the new operator shall apply to the division for approval of change of operator without a joint application. The operator shall make such application in writing, and provide documentary evidence of the applicant's right to assume operations. The new operator may not commence operations until the division approves the application for change of operator.

(3) The division director or his designee may deny a change of operator if:

(a) the new operator is not in compliance with Subsection A of 19.15.1.40 NMAC; or

(b) the new operator is acquiring wells, facilities or sites subject to a compliance order requiring remediation or abatement of contamination, or compliance with 19.15.3.201 NMAC, and the new operator has not entered into an agreed compliance order setting a schedule for compliance with the existing order.

(4) In determining whether to grant or deny a change of operator when the new operator is not in compliance with Subsection A of 19.15.1.40 NMAC, the division director or his designee shall consider such factors as whether the non-compliance with Subsection A of 19.15.1.40 NMAC is caused by the operator not meeting the financial assurance requirements of 19.15.3.101 NMAC, being subject to a division or commission order finding the operator to be in violation of an order requiring corrective action, having a penalty assessment that has been unpaid for more than 70 days since the issuance of the order assessing the penalty or having more than the allowed number of wells out of compliance with 19.15.4.201 NMAC. If the non-compliance is caused by the operator having more than the allowed number of wells not in compliance with 19.15.4.201 NMAC, the division director or his designee shall consider the number of wells not in compliance, the length of time the wells have been out of compliance and the operator's efforts to bring the wells into compliance.

**F.** Change of name.

(1) A change of operator name occurs when the name of the entity responsible for a well or wells changes but the entity does not change. For a change of name, the OGRID number remains the same but division records are changed to reflect the new operator name.

(2) An operator shall apply for a change of name by filing a form C-146 using the division's web-based online application and supplying documentary proof that the change is a name change and not a change of operator. If the operator is a corporation, limited liability company or limited partnership, the name must be registered with the public regulation commission or the New Mexico secretary of state, as applicable. The division shall not approve a change of name until the state land office and the taxation and revenue department have cleared the change of name on the OGRID.

**G.** Examples of change of operator and change of name.

(1) Mr. Smith, a sole proprietor, operates five wells under the name "Smith oil company". Mr. Smith changes the name of his company to "Smith production company". The name of the entity operating the wells has changed, but the entity has not changed. Mr. Smith should apply for a change of name.

(2) Mr. Smith incorporates his business, changing from the sole proprietorship, "Smith production company", to a corporation: "Smith production company, inc.". The entity responsible for the wells has changed, and Mr. Smith and "Smith production company, inc." should apply for a change of operator.

(3) Smith production company, inc., a New Mexico operator, merges with XYZ, inc., which does not operate in New Mexico. At the surviving entity's election, this transaction may be treated as a change of name from Smith production company, to XYZ, inc., maintaining the existing OGRID, or as a change of operator, with a new OGRID.

(4) Two New Mexico operators, Smith production company, inc. and Jones production company, inc., merge. The surviving corporation is Jones production company, inc. A different entity now operates the wells Smith production company, formerly operated, and the wells must be placed under that entity's OGRID. Jones production company, inc. and Smith production company, inc. should apply for a change of operator as to the wells Smith production company, inc. operated.

**19.15.3.101 FINANCIAL ASSURANCE FOR WELL PLUGGING:**

**A.** Any person, firm, corporation or association who has drilled or acquired, is drilling or proposes to drill or acquire any oil, gas or injection or other service well on privately owned or state owned lands within this state shall furnish a financial assurance acceptable to the division in the form of an irrevocable letter of credit or cash or surety bond running to the state of New Mexico conditioned that the well be plugged and abandoned and the location restored and remediated in compliance with division rules.

**B.** The division accepts two forms of financial assurance: a one-well financial assurance that covers a single well and a blanket financial assurance that covers multiple wells. Any well that has been in temporary abandonment for more than two years must be covered by a one-well financial assurance, except that the division may waive the requirement of a one-well financial assurance for a well that is shut-in because of the lack of a pipeline connection. The division may release the one-well financial assurance upon the operator's or surety's written request after the well is returned to production if a blanket financial assurance covers the well.

**C. Amounts.**

(1) A blanket financial assurance shall be in the amount of \$50,000 covering all oil, gas or service wells drilled, acquired or operated in this state by the principal on the bond.

(2) A one-well financial assurance shall be in the amounts stated below in accordance with the well's depth and location.

(a) Chaves, Eddy, Lea, McKinley, Rio Arriba, Roosevelt, Sandoval and San Juan counties, New Mexico: \$5000 plus \$1 per foot of projected depth of proposed well or measured depth of existing well.

(b) All other counties in the state: \$10,000 plus \$1 per foot of projected depth of proposed well or measured depth of existing well.

(3) The appropriate division district office may approve revised plans for an actively drilling well for drilling as much as 500 feet deeper than the depth stated on the well's financial assurance. Any well to be drilled more than 500 feet deeper than the depth stated on the well's financial assurance shall be covered by a new financial assurance in the amount prescribed for the new projected depth.

(4) The amount of the one-well financial assurance required for any intentionally deviated well shall be determined by the well's measured depth, and not its true vertical depth.

**D. General requirements for financial assurance.**

(1) The operator shall file financial assurance documents with the division's Santa Fe office, and obtain approvals and releases of financial assurance from that office.

(2) All financial assurance documents shall be on forms prescribed by or otherwise acceptable to the division.

(3) A financial assurance shall be conditioned for well plugging and abandonment and location restoration and remediation only, and not to secure payment for damages to livestock, range, crops or tangible improvements or any other purpose.

(4) The division may require proof that the individual signing for an entity on a financial assurance document or an amendment to a financial assurance document has the authority to obligate that entity.

**E. Additional requirements for cash and surety bonds.**

(1) Surety bonds shall be issued by a reputable corporate surety authorized to do business in the state of New Mexico.

(2) The operator shall deposit cash representing the full amount of the bond in an account in a federally-insured financial institution located within the state of New Mexico, such account to be held in trust for the division. Authorized representatives of the operator and the depository institution shall execute a document evidencing the cash bond's terms and conditions. The operator shall file the document with the division prior to the bond's effective date. If the operator's financial status or reliability is unknown to the division director he or she may require the filing of a financial statement or such other information as may be necessary to evaluate the operator's ability to fulfill the bond's conditions. From time to time any accrued interest over and above the bond's face amount may be paid to the operator.

**F. Additional requirements for letters of credit.**

(1) The division may accept irrevocable letters of credit issued by national or state-chartered banking associations.

(2) Letters of credit shall be irrevocable for a term of not less than five years, unless the applicant shows good cause for a shorter time period.

(3) Letters of credit shall provide for automatic renewal for successive, like terms upon expiration, unless the issuer has notified the division in writing of non-renewal at least 30 days prior to expiration.

(4) The division may forfeit and collect a letter of credit if not replaced by an approved financial assurance at least 30 days before the expiration date.

**G. Release of financial assurance.**

(1) The division shall release a financial assurance document upon the operator's or surety's written request if all wells drilled or acquired under that financial assurance have been plugged and abandoned and the location restored and remediated and released pursuant to 19.15.4.202 NMAC, or have been covered by another financial assurance the division has approved.

(2) Transfer of a property or a change of operator does not of itself release a financial assurance. The division shall not approve a request for change of operator for a well until the new operator has the required financial assurance in place.

**H. Forfeiture of financial assurance.**

(1) Upon the operator's failure to properly plug and abandon and restore and remediate the location of any well or wells a financial assurance covers, the division shall give notice to the operator and surety, if applicable, and hold a hearing as to whether the well or wells should be plugged and abandoned and the location restored and remediated in accordance with a division-approved plugging program. If it is determined at the hearing that the operator has failed to plug and abandon the well and restore and remediate the location as provided for in the financial assurance or division rules, the division director shall issue an order directing the well to be plugged or abandoned and the location restored and remediated in a time certain. Such an order may also direct the forfeiture of the financial assurance upon the failure or refusal of the operator, surety or other responsible party to properly plug and abandon the well and restore and remediate the location.

(2) If the financial assurance's proceeds exceed the costs the division incurred plugging and abandoning the well and restoring and remediating the location the financial assurance covers, the division shall return the excess to the surety or the operator, as appropriate.

(3) If the financial assurance's proceeds are not sufficient to cover all the costs the division incurred in plugging and abandoning the well and restoring and remediating the location, the division may seek indemnification from the operator as provided in NMSA 1978, Section 70-2-14(E).

(4) The division shall deposit all forfeitures and all funds collected pursuant to a judgment in a suit for indemnification in the oil and gas reclamation fund.

**I. Effective dates.**

(1) 19.15.3.101 NMAC is effective immediately as to all wells drilled or acquired after its effective date.

(2) As to all other wells, 19.15.3.101 NMAC is effective January 1, 2008.

[1-1-50, 6-17-77, 6-5-86, 2-1-96; 19.15.3.101 NMAC - Rn, 19 NMAC 15.C.101, 11-15-01; A, 12/15/05]

**19.15.3.102 PERMIT TO DRILL, DEEPEN OR PLUG BACK:**

**A.** The operator shall obtain a permit prior to commencing drilling, deepening or re-entry operations, or before plugging a well back to a different pool or completing or re-completing a well in an additional pool.

**B.** Applicants shall file a complete form C-101, application for permit to drill, deepen or plug back, and complete form C-102, well location and acreage dedication plat, and meet the following requirements, if applicable:

(1) an applicant for a permit to drill any well within the corporate limits of any city, town or village of this state shall give notice to the duly constituted governing body of such city, town or village or its duly authorized agent and certify on form C-101 that it gave such notice;

(2) an applicant for a permit to drill in any quarter-quarter section containing an existing well or wells operated by another operator shall concurrently file a plat or other acceptable document locating and identifying such well or wells, furnish a copy of the application to the other operator or operators in the quarter-quarter section and certify on form C-101 that it furnished such copies;

(3) an applicant for a permit to operate a well in a spacing or proration unit containing an existing well or wells operated by another operator shall also comply with Paragraph (2) of Subsection E of 19.15.3.104 NMAC.

**C.** The division director or his designee may deny a permit to drill, deepen or plug back if the applicant is not in compliance with Subsection A of 19.15.1.40 NMAC. In determining whether to grant or deny the permit, the division director or his designee shall consider such factors as whether the non-compliance with

Subsection A of 19.15.1.40 NMAC is caused by the operator not meeting the financial assurance requirements of 19.15.3.101 NMAC, being subject to a division or commission order finding the operator to be in violation of an order requiring corrective action, having a penalty assessment that has been unpaid for more than 70 days since the issuance of the order assessing the penalty or having more than the allowed number of wells out of compliance with 19.15.4.201 NMAC. If the non-compliance is caused by the operator having more than the allowed number of wells not in compliance with 19.15.4.201 NMAC, the division director or his designee shall consider the number of wells not in compliance, the length of time the wells have been out of compliance and the operator's efforts to bring the wells into compliance.

D. The division may impose conditions on an approved permit to drill, deepen or plug back.

E. The operator shall keep a copy of the approved form C-101 at the well site during drilling operations.

[1-1-50, 5-22-73...2-1-96; 19.15.3.102 NMAC - Rn, 19 NMAC 15.C.102, 11-15-01; A, 12/15/05]

**19.15.3.103 SIGN ON WELLS:**

A. All wells and related facilities regulated by the division shall be identified by a sign, which sign shall remain in place until the well is plugged and abandoned and the related facilities are closed.

B. For drilling wells, the sign shall be posted on the derrick or not more than 20 feet from the well.

C. The sign shall be of durable construction and the lettering shall be legible and large enough to be read under normal conditions at a distance of 50 feet.

D. The wells on each lease or property shall be numbered in non-repetitive, logical and distinctive sequence.

E. An operator will have 90 days from the effective date of an operator name change to change the operator name on the well sign unless an extension of time, for good cause shown along with a schedule for making the changes, is granted.

F. Each sign shall show the:

(1) number of well;

(2) name of property;

(3) name of operator;

(4) location by footage, quarter-quarter section, township and range (or Unit Letter can be substituted for the quarter-quarter section); and

(5) API number.

[1-1-50, 2-1-96, 6-30-97, 3-31-00; 19.15.3.103 NMAC - Rn, 19 NMAC 15.C.103, 11-15-01; A, 01-31-03]

**19.15.3.104 WELL SPACING AND LOCATION:**

A. Classification Of Wells: Wildcat And Development Wells

(1) Wildcat Well

(a) In San Juan, Rio Arriba, Sandoval, and McKinley counties a wildcat well is any well to be drilled the spacing unit of which is a distance of two miles or more from:

(i) the outer boundary of any defined pool that has produced oil or gas from the formation to which the well is projected to be drilled; and

(ii) any well that has produced oil or gas from the formation to which the proposed well is projected to be drilled.

(b) In all counties except San Juan, Rio Arriba, Sandoval, and McKinley, a wildcat well is any well to be drilled the spacing unit of which is a distance of one mile or more from:

(i) the outer boundary of any defined pool that has produced oil or gas from the formation to which the well is projected to be drilled; and

(ii) any well that has produced oil or gas from the formation to which the proposed well is projected.

(2) Development Well

(a) Any well that is not a wildcat well shall be classified as a development well for the nearest pool that has produced oil or gas from the formation to which the well is projected to be drilled. Such development well shall be spaced, drilled, operated, and produced in accordance with the rules in effect for that pool, provided the well is completed in that pool.

(b) Any well classified as a development well for a pool but completed in a producing formation not included in the vertical limits of that pool shall be operated and produced in accordance with the rules

in effect for the nearest pool that is producing from that formation within the two miles in San Juan, Rio Arriba, Sandoval, and McKinley counties or within one mile everywhere else. If there is no designated pool for that producing formation within the two miles in San Juan, Rio Arriba, Sandoval, and McKinley counties or within one mile everywhere else, the well shall be re-classified as a wildcat well.

B. Oil Well Acreage And Well Location Requirements

(1) Any wildcat well that is projected to be drilled as an oil well to a formation and in an area that in the opinion of the division may reasonably be presumed to be productive of oil rather than gas and each development well for a defined oil pool, unless otherwise provided in special pool orders, shall be located on a spacing unit consisting of approximately 40 contiguous surface acres substantially in the form of a square which is a legal subdivision of the U.S. public land surveys, which is a governmental quarter-quarter section or lot, and shall be located no closer than 330 feet to any boundary of such unit. Only those 40-acre spacing units committed to active secondary recovery projects shall be permitted more than four wells.

(2) If a well drilled as an oil well is completed as a gas well but does not conform to the applicable gas well location rules, the operator must apply for administrative approval for a non-standard location before the well can produce. The director may set any such application for hearing.

C. Gas Wells Acreage And Well Location Requirements. Any wildcat well that is projected to be drilled as a gas well to a formation and in an area that in the opinion of the division may reasonably be presumed to be productive of gas rather than oil and each development well for a defined gas pool, unless otherwise provided in special pool orders, shall be spaced and located as follows:

(1) 640-acre spacing applies to any deep gas well in Rio Arriba, San Juan, Sandoval or McKinley county that is projected to be drilled to a gas producing formation older than the Dakota formation or is a development well within a gas pool created and defined by the division after June 1, 1997 in a formation older than the Dakota formation, which formation or pool is located within the surface outcrop of the Pictured Cliffs formation (i.e., the San Juan Basin). Such well shall be located on a spacing unit consisting of 640 contiguous surface acres, more or less, substantially in the form of a square which is a section and legal subdivision of the U.S. public land surveys and shall be located no closer than: 1200 feet to any outer boundary of the spacing unit, 130 feet to any quarter section line, and 10 feet to any quarter-quarter section line or subdivision inner boundary.

(2) 320-acre spacing applies to any deep gas well in Lea, Chaves, Eddy or Roosevelt county, defined as a well that is projected to be drilled to a gas producing formation or is within a defined gas pool in the Wolfcamp or an older formation. Such well shall be located on a spacing unit consisting of 320 surface contiguous acres, more or less, comprising any two contiguous quarter sections of a single section that is a legal subdivision of the U.S. public land surveys provided that:

(a) the initial well on a 320-acre unit is located no closer than 660 feet to the outer boundary of the quarter section on which the well is located and no closer than 10 feet to any quarter-quarter section line or subdivision inner boundary; and

(b) only one infill well on a 320-acre unit shall be allowed provided that the well is located in the quarter section of the 320-acre unit not containing the initial well and is no closer than 660 feet to the outer boundary of the quarter section and no closer than 10 feet to any quarter-quarter section line or subdivision inner boundary.

(3) 160-acre spacing applies to any other gas well not covered above. Such well shall be located in a spacing unit consisting of 160 surface contiguous acres, more or less, substantially in the form of a square which is a quarter section and a legal subdivision of the U.S. public land surveys and shall be located no closer than 660 feet to any outer boundary of such unit and no closer than 10 feet to any quarter-quarter section or subdivision inner boundary.

D. Acreage Assignment

(1) Well Tests and Classification. It is the responsibility of the operator of any wildcat or development gas well to which more than 40 acres has been dedicated to conduct a potential test within 30 days following completion of the well and to file the test with the division within 10 days following completion of the test. (See Rule 401)

(a) The date of completion for a gas well is the date of the conclusion of active completion work on the well.

(b) If the division determines that a well should not be classified as a gas well, the division will reduce the acreage dedicated to the well to the standard acreage for an oil well.

(c) Failure of the operator to file the test within the specified time will also subject the well to such acreage reduction.

(2) Non-Standard Spacing Units. Any well that does not have the required amount of acreage dedicated to it for the pool or formation in which it is completed may not be produced until a standard spacing unit for the well has been formed and dedicated or until a non-standard spacing unit has been approved.

(a) Division district offices have the authority to approve non-standard spacing units without notice when the unorthodox size or shape is necessitated by a variation in the legal subdivision of the U. S. public land surveys and/or consists of an entire governmental section and the non-standard spacing unit is not less than 70% or more than 130% of a standard spacing unit. The operator must obtain division approval of division Form C-102 showing the proposed non-standard spacing unit and the acreage contained therein.

(b) The director may grant administrative approval to non-standard spacing units after notice and opportunity for hearing when an application has been filed and the unorthodox size or shape is necessitated by a variation in the legal subdivision of the U.S. public land surveys or the following facts exist:

(i) the non-standard spacing unit consists of: (A) a single quarter-quarter section or lot or (B) quarter-quarter sections or lots joined by a common side; and

(ii) the non-standard spacing unit lies wholly within: a single quarter section if the well is completed in a pool or formation for which 40, 80, or 160 acres is the standard spacing unit size; a single half section if the well is completed in a pool or formation for which 320 acres is the standard spacing unit size; or a single section if the well is completed in a pool or formation for which 640 acres is the standard spacing unit size.

(c) Applications for administrative approval of non-standard spacing units pursuant to Subsection D, Paragraph (2), Subparagraph (b) of 19.15.3.104 NMAC shall be submitted to the division's Santa Fe office and accompanied by: (i) a plat showing the spacing unit and an applicable standard spacing unit for that pool or formation, the proposed well dedications and all adjoining spacing units; (ii) a list of affected persons as defined in Rule 1207.A(2); and (iii) a statement discussing the reasons for the formation of the non-standard spacing unit.

(d) The applicant shall submit a statement attesting that the applicant, on or before the date the application was submitted to the division, sent notification to the affected persons by submitting a copy of the application, including a copy of the plat described in Subparagraph (c) above, by certified mail, return receipt requested, advising them that if they have an objection it must be filed in writing within 20 days from the date the division receives the application. The director may approve the application upon receipt of waivers from all the notified persons or if no person has filed an objection within the 20-day period.

(e) The director may set for hearing any application for administrative approval.

(3) Number of wells per spacing unit. Exceptions to the provisions of statewide rules or special pool orders concerning the number of wells allowed per spacing unit may be permitted by the director only after notice and opportunity for hearing. Notice shall be given to those affected persons defined in Rule 1207.A.(2).

E. Special rules for multiple operators within a spacing unit

(1) Allowable production. If an operator completes a well in an oil pool or prorated gas pool, located within a proration unit containing an existing well or wells producing from that pool and operated by a different operator, unless otherwise agreed by all operators of wells producing from that proration unit, the allowable production from such newly completed well shall not exceed the difference between the allowable production for such proration unit and the actual production from such pool of the existing well or wells within such proration unit. The division may authorize exceptions to this provision after hearing following appropriate notice.

(2) Notice requirements. Any operator who intends to operate a well in a spacing or proration unit containing an existing well or wells operated by another operator shall, prior to filing the application for permit to drill, deepen or plug back for such well, furnish written notification of its intent to the operator of each such existing well, and, if the unit includes state or federal minerals, to the state land office or United States bureau of land management, as applicable; provided that separate notification to the bureau of land management shall not be required if the application will be filed with that agency pursuant to 19.15.1.14 NMAC. Such notices shall be sent by certified mail, return receipt requested, and shall specify the location and depth of the proposed well. The applicant shall submit with its application for permit to drill, deepen or plug back either (a) a statement attesting that, at least twenty days before the date that the application was submitted to the division, it sent notices to the designated parties, by certified mail, return receipt requested, advising them that if they have an objection a written statement thereof must be delivered to the proposing operator within twenty days of the date such notice was mailed, and that it has received no such objection, or (b) written waivers from all persons required to be notified (approval of the application by the United States bureau of land management being deemed equivalent to waiver by that agency). In event of objection, the application may be approved only after hearing.

(3) Transfer of wells. If an operator transfers operation of less than all of its well located within a spacing or proration unit to another operator, and such spacing unit includes any state or federal minerals, the

operator shall, prior to filing form C-104A to effectuate such transfer, provide written notification to the state land office or United States bureau of land management, as applicable, of such transfer.

(4) Compulsory pooled units. No provision of 19.15.3.104 NMAC shall authorize the operation of any producing well within a unit described in an existing compulsory pooling order by any operator other than the operator designated in such order.

(5) Federal or state exploratory units. No provision of 19.15.3.104 NMAC shall authorize the operation of any producing well within any federal exploratory unit or state exploratory unit by an operator other than the designated operator of such unit except as provided in the rules of the United States bureau of land management or state land office applicable to such unit.

F. Unorthodox Locations

(1) Well locations for producing wells and/or injection wells that are unorthodox based on the requirements of Subsection B above and are necessary for an efficient production and injection pattern within a secondary recovery, tertiary recovery, or pressure maintenance project are hereby authorized, provided that the unorthodox location within the project is no closer than the required minimum distance to the outer boundary of the lease or unitized area, and no closer than 10 feet to any quarter-quarter section line or subdivision inner boundary. These locations shall only require such prior approvals as are necessary for an unorthodox location.

(2) The director may grant an exception to the well location requirements of Subsections B and C above or special pool orders after notice and opportunity for hearing when the exception is necessary to prevent waste or protect correlative rights.

(3) Applications for administrative approval pursuant to Subsection F, Paragraph (2) above shall be submitted to the division's Santa Fe office accompanied by (a) a plat showing the spacing unit, the proposed unorthodox well location and the adjoining spacing units and wells; (b) a list of affected persons as defined in Rule 1207.A(2); and (c) information evidencing the need for the exception. Notice shall be given as required in Rule 1207.A(2).

(4) The applicant shall submit a statement attesting that applicant, on or before the date that the application was submitted to the division, sent notification to the affected persons by submitting a copy of the application, including a copy of the plat described in Subsection F, Paragraph (3) above, by certified mail, return receipt requested, advising them that if they have an objection it must be filed in writing within 20 days from the date the division receives the application. The director may approve the unorthodox location upon receipt of waivers from all the affected persons or if no affected person has filed an objection within the 20-day period.

(5) The director may set for hearing any application for administrative approval of an unorthodox location.

(6) Whenever an unorthodox location is approved, the division may order any action necessary to offset any advantage of the unorthodox location.

G. Effect On Allowables

(1) If the drilling tract is within a prorated/allocated oil pool or is subsequently placed within such pool and the drilling tract consists of less than 39½ acres or more than 40½ acres, the top unit allowable for the well shall be increased or decreased in the proportion that the number of acres in the drilling tract bears to 40.

(2) If the drilling tract is within a prorated/allocated gas pool or is subsequently placed within such pool and the drilling tract consists of less than 158 acres or more than 162 acres in 160-acre pools, or less than 316 acres or more than 324 acres in 320-acre pools, or less than 632 acres or more than 648 acres in 640-acre pools, the top allowable for the well shall be decreased or increased in the proportion that the number of acres in the drilling tract bears to a standard spacing unit for the pool.

(3) In computing acreage under Paragraphs (1) and (2) above, less than ½ acre shall not be counted but ½ acre or more shall count as one acre.

(4) The provisions of Paragraphs (1) and (2) above shall apply only to wells completed after January 1, 1950.

H. Division-Initiated Exceptions - In order to prevent waste, the division may, after hearing, set different spacing requirements and require different acreage for drilling tracts in any defined oil or gas pool.

I. Pooling Or Communitization Of Small Oil Lots

(1) The division may approve the pooling or communitization of fractional oil lots of 20.49 acres or less with a contiguous oil spacing unit when the ownership is common and the tracts are part of the same lease with the same royalty interests if the following requirements are satisfied:

(a) applications for administrative approval shall be submitted to the division's Santa Fe office and accompanied by: (i) a plat showing the dimensions and acreage involved, the ownership of such acreage, the

location of all existing and proposed wells and all adjoining spacing units; (ii) a list of affected persons as defined in Rule 1207.A(2); and (iii) a statement discussing the reasons for the pooling or communitization;

(b) the applicant shall submit a statement attesting that the applicant, on or before the date the application was submitted to the division, sent notification to the affected persons by submitting a copy of the application, including a copy of the plat described in (a) above, by certified mail, return receipt requested, advising them that if they have an objection it must be filed in writing within 20 days from the date the division receives the application; the director may approve the application upon receipt of waivers from all the notified persons or if no person has filed an objection within the 20-day period;

(c) the director may set for hearing any application for administrative approval.

(2) The division may consider the common ownership and common lease requirements met if the applicant furnishes with the application a copy of an executed pooling agreement communitizing the tracts involved. [1-1-50...2-1-96; A, 6-30-97; A, 8-31-99; 19.15.3.104 NMAC - Rn, 19 NMAC 15.C.104, 11-15-01; A, 05/31/05]

**19.15.3.105 [RESERVED].**

[1-1-50, 9-1-89...2-1-96; 19.15.3.105 NMAC - Rn, 19 NMAC 15.C.105, 11-15-01; Repealed, 5-28-04]

**19.15.3.106 SEALING OFF STRATA:**

A. During the drilling of any oil well, injection well or any other service well, all oil, gas, and water strata above the producing and/or injection horizon shall be sealed or separated in order to prevent their contents from passing into other strata.

B. All fresh waters and waters of present or probable value for domestic, commercial, or stock purposes shall be confined to their respective strata and shall be adequately protected by methods approved by the division. Special precautions by methods satisfactory to the division shall be taken in drilling and abandoning wells to guard against any loss of artesian water from the strata in which it occurs, and the contamination of artesian water by objectionable water, oil, or gas.

C. All water shall be shut off and excluded from the various oil- and gas-bearing strata which are penetrated. Water shut-offs shall ordinarily be made by cementing casing.

[1-1-50, 3-1-91...2-1-96; 19.15.3.106 NMAC - Rn, 19 NMAC 15.C.106, 11-15-01]

**19.15.3.107 CASING AND TUBING REQUIREMENTS:**

A. Any well drilled for oil or natural gas shall be equipped with such surface and intermediate casing strings and cement as may be necessary to effectively seal off and isolate all water-, oil-, and gas-bearing strata and other strata encountered in the well down to the casing point. In addition thereto, any well completed for the production of oil or natural gas shall be equipped with a string of properly cemented production casing at sufficient depth to ensure protection of oil- and gas-bearing strata encountered in the well, including the one(s) to be produced.

B. Sufficient cement shall be used on surface casing to fill the annular space behind the casing to the top of the hole, provided however, that authorized field personnel of the division may, at their discretion, allow exceptions to the foregoing requirement when known conditions in a given area render compliance impracticable.

C. All cementing shall be by pump and plug method unless some other method is expressly authorized by the division.

D. All cementing shall be with conventional-type hard-setting cements to which such additives (lighteners, densifiers, extenders, accelerators, retarders, etc.) have been added to suit conditions in the well.

E. Authorized field personnel of the division may, when conditions warrant, allow exceptions to the above paragraph and permit the use of oil-base casing packing material in lieu of hard-setting cements on intermediate and production casing strings; provided however, that when such materials are used on the intermediate casing string, conventional-type hard-setting cements shall be placed throughout all oil- and gas-bearing zones and throughout at least the lowermost 300 feet of the intermediate casing string. When such materials are used on the production casing string, conventional-type hard-setting cements shall be placed throughout all oil- and gas-bearing zones and shall extend upward a minimum of 500 feet above the uppermost perforation or, in the case of an open-hole completion, 500 feet above the production casing shoe.

F. All casing strings shall be tested and proved satisfactory as provided in Subsection I. below.

G. After cementing, but before commencing tests required in Subsection I. below, all casing strings shall stand cemented in accordance with Option 1 or 2 below. Regardless of which option is taken, the casing shall remain stationary and under pressure for at least eight hours after the cement has been placed. Casing shall be "under pressure" if some acceptable means of holding pressure is used or if one or more float valves are employed to

hold the cement in place.

(1) **Option 1** Allow all casing strings to stand cemented a minimum of eighteen (18) hours prior to commencing tests. Operators using this option shall report on Form C-103 the actual time the cement was in place before initiating tests.

(2) **Option 2** (May be used in the counties of San Juan, Rio Arriba, McKinley, Sandoval, Lea, Eddy, Chaves, and Roosevelt only.) Allow all casing strings to stand cemented until the cement has reached a compressive strength of at least 500 pounds per square inch in the "zone of interest" before commencing tests, provided however, that no tests shall be commenced until the cement has been in place for at least eight (8) hours.

(a) The "zone of interest" for surface and intermediate casing strings shall be the bottom 20 percent of the casing string, but shall be no more than 1000 feet nor less than 300 feet of the bottom-part of the casing unless the casing is set at less than 300 feet. The "zone of interest" for production casing strings shall include the interval or intervals where immediate completion is contemplated.

(b) To determine that a minimum compressive strength of 500 pounds per square inch has been attained, operators shall use the typical performance data for the particular cement mix used in the well, at the minimum temperature indicated for the zone of interest by Figure 107-A, Temperature Gradient Curves. Typical performance data used shall be that data furnished by the cement manufacturer or by a competent materials testing agency, as determined in accordance with the latest edition of API Code RP 10 B "Recommended Practice for Testing Oil-Well Cements."

(See Temperature Gradient - Page 17A)

H. Operators using the compressive strength criterion (Option 2) shall report the following information on Form C-103:

(1) Volume of cement slurry (cubic feet) and brand name of cement and additives, percent additives used, and sequence of placement if more than one type cement slurry is used.

(2) Approximate temperature of cement slurry when mixed.

(3) Estimated minimum formation temperature in zone of interest.

(4) Estimate of cement strength at time of casing test.

(5) Actual time cement in place prior to starting test.

I. All casing strings except conductor pipe shall be tested after cementing and before commencing any other operations on the well. Form C-103 shall be filed for each casing string reporting the grade and weight of pipe used. In the case of combination strings utilizing pipe of varied grades or weights, the footage of each grade and weight used shall be reported. The results of the casing test, including actual pressure held on pipe and the pressure drop observed shall also be reported on the same Form C-103.

(1) Casing strings in wells drilled with rotary tools shall be pressure tested. Minimum casing test pressure shall be approximately one-third of the manufacturer's rated internal yield pressure except that the test pressure shall not be less than 600 pounds per square inch and need not be greater than 1500 pounds per square inch. In cases where combination strings are involved, the above test pressure shall apply to the lowest pressure rated casing used. Test pressures shall be applied for a period of 30 minutes. If a drop of more than 10 percent of the test pressure should occur, the casing shall be considered defective and corrective measures shall be applied.

(2) Casing strings in wells drilled with cable tools may be tested as outlined in Subsection I, Paragraph (1) above, or by bailing the well dry in which case the hole must remain satisfactorily dry for a period of at least one (1) hour before commencing any further operations on the well.

J. Well Tubing Requirements

(1) All flowing oil wells equipped with casing larger in size than 2 7/8-inch OD shall be tubed.

(2) All gas wells equipped with casing larger in size than 3 1/2-inch OD shall be tubed.

(3) Tubing shall be set as near the bottom as practical and tubing perforations shall not be more than 250 feet above top of pay zone.

(4) The supervisor of the appropriate division district office, upon application, may grant exceptions to these requirements, provided waste will not be caused.

(5) The supervisor may request that an application be reviewed by the Director. The operator shall submit information and give notice as requested by the Director. Unprotected applications may be approved after 20 days of receipt of the application and supporting information. If the application is protested, or the Director so decides, the application shall be set for hearing.

K. Repealed.

[1-1-50, 5-5-58, 6-26-59, 2-29-64, 2-1-96, 2-26-99; 19.15.3.107 NMAC - Rn, 19 NMAC 15.C.107, 11-15-01]

**19.15.3.108 DEFECTIVE CASING OR CEMENTING:** If any well appears to have a defective casing program or faultily cemented or corroded casing which will permit or may create underground waste or contamination of fresh waters, the operator shall give written notice to the division within five (5) working days and proceed with diligence to use the appropriate method and means to eliminate such hazard. If such hazard of waste or contamination of fresh water cannot be eliminated, the well shall be properly plugged and abandoned.  
[1-1-50...2-1-96; 19.15.3.108 NMAC - Rn, 19 NMAC 15.C.108, 11-15-01]

**19.15.3.109 BLOWOUT PREVENTION:** (See Section 114, Subsection B of 19.15.3 NMAC also)

A. Blowout preventers shall be installed and maintained in good working order on all drilling rigs operating in areas of known high pressures at or above the projected depth of the well and in all areas where pressures which will be encountered are unknown, and on all workover rigs working on wells in which high pressures are known to exist.

B. Blowout preventers shall be installed and maintained in good working order on all drilling rigs and workover rigs operating within the corporate limits of any city, town, or village, or within 1320 feet of habitation, school, or church, wherever located.

C. All operators, when filing Form C-101, Application for Permit to Drill, Deepen, or Plug Back, or Form C-103, Sundry Notices, for any operation requiring blowout prevention equipment in accordance with Subsections A and B above, shall submit a proposed blowout prevention program for the well. The program as submitted may be modified by the district supervisor if, in his judgement, such modification is necessary.  
[10-22-74...2-1-96; 19.15.3.109 NMAC - Rn, 19 NMAC 15.C.109, 11-15-01]

**19.15.3.110 PULLING OUTSIDE STRINGS OF CASING:** In pulling outside strings of casing from any oil or gas well, the space outside the casing left in the hole shall be kept and left full of mud-laden fluid or cement of adequate specific gravity to seal off all fresh and salt water strata and any strata bearing oil or gas not producing.  
[1-1-50...2-1-96; 19.15.3.110 NMAC - Rn, 19 NMAC 15.C.110, 11-15-01]

**19.15.3.111 DEVIATION TESTS AND DIRECTIONAL WELLS:**

A. Definitions - the following definitions shall apply to Section 111 of 19.15.3 NMAC only:

(1) Azimuth - the deviation in the horizontal plane of a wellbore expressed in terms of compass degrees.

(2) Deviated Well - any wellbore which is intentionally deviated from vertical but not with an intentional azimuth. Any deviated well is subject to Section 111, Subsection B of 19.15.3 NMAC.

(3) Directional Well - a wellbore which is intentionally deviated from vertical with an intentional azimuth. Any directional well is subject to Section 111, Subsection C of 19.15.3 NMAC.

(4) Kick-off Point - the point at which the wellbore is intentionally deviated from vertical.

(5) Lateral - any portion of a wellbore past the point where the wellbore has been intentionally departed from the vertical.

(6) Penetration Point - the point where the wellbore penetrates the top of the pool from which it is intended to produce.

(7) Producing Area - the area that lies within a window formed by plotting the measured distance from the North, South, East and West boundaries of a project area, inside of which a vertical wellbore can be drilled and produced in conformity with the setback requirements from the outer boundary of a standard spacing unit for the applicable pool(s).

(8) Producing Interval - that portion of the wellbore drilled inside the vertical limits of a pool, between its penetration point and its terminus.

(9) Project Area - an area designated on Form C-102 that is enclosed by the outer boundaries of a spacing unit, a combination of complete spacing units, or an approved secondary, secondary, tertiary or pressure maintenance project.

(10) Project Well - any well drilled, completed, produced or injected into as either a vertical well, deviated well or directional well.

(11) Spacing Unit - the acreage that is dedicated or a well in accordance with Rule 104. Included in this definition is a "unit of proration for oil or gas" as defined by the division and all non-standard such units previously approved by the division.

(12) Terminus - the farthest point attained along the wellbore.

(13) Unorthodox - any part of the producing interval which is located outside of the producing area.

(14) Vertical Well - a well that does not have an intentional departure or course deviation from the vertical.

(15) Wellbore - the interior surface of a cased or open hole through which drilling, production, or injection operations are conducted.

B. Deviated Wellbores

(1) Deviation Tests Required. Any vertical or deviated well which is drilled or deepened shall be tested at reasonably frequent intervals to determine the deviation from the vertical. Such tests shall be made at least once each 500 feet or at the first bit change succeeding 500 feet. A tabulation of all deviation tests run, sworn to and notarized, shall be filed with Form C-104, Request for Allowable and Authorization to Transport Oil and Natural Gas.

(2) Excessive Deviation. When the deviation averages more than five degrees in any 500-foot interval, the operator shall include the calculations of the maximum possible horizontal displacement of the hole. When the maximum possible horizontal displacement exceeds the distance to the nearest outer boundary line of the appropriate unit, the operator shall run a directional survey to establish the location of the producing interval(s).

(3) Unorthodox Locations. If the results of the directional survey indicate that the producing interval is more than 50 feet from the approved surface location and closer than the minimum setback requirements to the outer boundaries of the applicable unit, then the well shall be considered unorthodox. To obtain authority to produce such well, the operator shall file an application with the Division director, copy to the appropriate division district office, and shall otherwise follow the normal process outlined in Section 104, Subsection F, Paragraph (3) of 19.15.3 NMAC to obtain approval of the unorthodox location.

(4) Directional Survey Requirements. Upon request from the Division director, any vertical or deviated well shall be directionally surveyed. The appropriate division district office shall be notified of the approximate time any directional surveys are to be conducted. All directional surveys run on any well in any manner for any reason must be filed with the division upon completion of the well. The division shall not assign an allowable to the well until all such directional surveys have been filed.

C. Directional Wellbores

(1) Directional Drilling Within a Project Area. A permit to directionally drill a wellbore may be granted by the appropriate division district office if the producing interval is entirely within the producing area or at an unorthodox location previously approved by the division. Additionally, if the project area consists of a combination of drilling units and includes any State or Federal acreage, a copy of the OCD Form C-102 shall be sent to the State Land Office or the Bureau of Land Management.

(2) Unorthodox Wellbores. If all or part of the producing interval of any directional wellbore is projected to be outside of the producing area, the wellbore shall be considered unorthodox. To obtain approval for such wellbore, the applicant shall file a written application in duplicate with the Division director, copy to the appropriate division district office, and shall otherwise follow the normal process outlined in Section 104, Subsection F, Paragraph (3) of 19.15.3 NMAC.

(3) Allowables for Project Areas With Multiple Proration Units. The maximum allowable assigned to the project area within a prorated pool shall be based upon the number of standard spacing units (or approved non-standard spacing units) that are developed or traversed by the producing interval of the directional wellbore or wellbores. Such maximum allowable shall be applicable to all production from the project area, including any vertical wellbores on standard spacing units inside the project area.

(4) Directional Surveys Required. A directional survey shall be required on each well drilled under the provisions of this section. The appropriate division district office shall be notified of the approximate time all directional surveys are to be conducted. All directional surveys run on any well in any manner for any reason must be filed with the division upon completion of the well. The division shall not assign an allowable to the well until all such directional surveys have been filed. If the directional survey indicates that any part of the producing interval is outside of the producing area, or, in the case of an approved unorthodox location, less than the approved setback requirements from the outer boundary of the applicable unit, then the operator shall file an application with the Division director, copy to the appropriate division district office, and shall otherwise follow the normal process outlined in Section 104, Subsection F, Paragraph (3) of 19.15.3 NMAC to obtain approval of the unorthodox location.

(5) Re-entry of Vertical or Deviated Wellbores for Directional Drilling Projects. These wellbores shall be considered orthodox provided the surface location is orthodox and the location of producing interval is within the tolerance allowed for deviated wellbores under Section 111, Subsection B, Paragraph (3) of 19.15.3 NMAC.

D. Additional Matters

(1) Directional surveys required under the provisions of Section 111 of 19.15.3 NMAC shall have shot points no more than 200 feet apart and shall be run by competent surveying companies that are approved by the Division director. Exceptions to the minimum shot point spacing will be allowed provided the accuracy of the survey is still within acceptable limits.

(2) The Division director, may, at his discretion, set any application for administrative approval whereby the operator shall submit appropriate information and give notice as requested by the Division director. Unprotected applications may be approved administratively within 20 days of receipt of the application and supporting information. If the application is protested, or the Division director decides that a public hearing is appropriate, the application may be set for public hearing.

(3) Permission to deviate or directionally drill any wellbore for any reason or in any manner not provided for in Section 111 of 19.15.3 NMAC shall be granted only after notice and opportunity for hearing.

E. Reserved.

(1) Reserved.

(2) Reserved.

F. Reserved.

(1) Reserved.

(2) Reserved.

(3) Reserved.

[1-1-50; 8-28-62; 3-2-84; 7-26-95; 2-1-96; A, 7-31-97; 19.15.3.111 NMAC - Rn, 19 NMAC 15.C.111, 11-15-01]

**19.15.3.112 [MULTIPLE COMPLETIONS; BRADENHEAD GAS WELLS]**

A. Multiple Completions

(1) Filing. Operators intending to multiple complete must file Form C-101 and/or C-103 for approval before completing and C-104 after completing along with any information required by the form instructions.

(2) Operation and Testing

(a) Wells shall be completed and produced so that no commingling of hydrocarbons from separate pools occurs.

(b) The operator shall commence a segregation and/or packer leakage test within 20 days after the multiple completion. Segregation tests and/or packer leakage tests shall also be made any time the packer is disturbed. The operator shall also conduct any other tests and determinations required by the division. The appropriate district office shall be notified 48 hours in advance of tests so the district office may schedule personnel to witness the tests. Offset operators may witness such tests and shall advise the operator in writing if they desire to be notified of the tests. Test results shall be filed with the division within 20 days of test completion. In the event a segregation and/or packer leakage test indicates communication between separate pools, the operator shall immediately notify the division and commence corrective action on the well.

(c) Wells shall be equipped so that (i) reservoir pressure may be determined for each of the separate pools, and (ii) meters may be installed so that the gas and/or oil produced from each of the separate pools may be accurately measured.

(d) No multiple completion shall produce in a manner unnecessarily wasting reservoir energy.

(e) The division may require the proper plugging of any zone of a multiple-completed well if the plugging appears necessary to prevent waste, protect correlative rights or protect groundwater, public health or the environment.

B. Bradenhead Gas Wells

(1) The production of gas from a bradenhead gas well may be permitted only by order of the division upon hearing, except as noted by the provisions of Subsection C of 19.15.3.112 NMAC.

(2) The application for such hearings shall be submitted in triplicate and shall include an exhibit showing the location of all wells on applicant's lease and all offset wells on offset leases, together with a diagrammatic sketch showing the casing program, formation tops, estimated top of cement on each casing string run and any other pertinent data, including drill stem tests.

(3) The Division director shall have authority to grant an exception to the requirements of paragraph A. above without notice and hearing where application has been filed in due form, and when the lowermost producing zone involved in the completion is an oil or gas producing zone within the defined limits of an oil or gas pool and the producing zone to be produced through the bradenhead connection is a gas producing zone within the defined limits of a gas pool.

(4) Applicants shall furnish all operators who offset the lease upon which the subject well is located a copy of the application to the division, and applicant shall include with his application a written stipulation that all offset operators have been properly notified. The Division director shall wait at least 10 days before approving the production of gas from the bradenhead gas well, and shall approve such production only in the absence of objection from any offset operator. In the event an operator objects to the completion the Division director shall consider the matter only after proper notice and hearing.

(5) The division may waive the 10-day waiting period requirement if the applicant furnishes the division with the written consent to the production of gas from the bradenhead connection by all offset operators involved.

(6) Section 112-2 of 19.15.3 NMAC shall apply only to wells hereinafter completed as bradenhead gas wells.

(7) (1), (2), (3), (4) Repealed.

(8) (1); (1).(a); (1).(b); (2) Repealed.

(9) (1), (2) Repealed.

(10) (1).(a), (b), (c), (d), (e), (f), (g) Reserved.

[4-3-53; 7-3-58...2-1-82; 2-1-96; 19.15.3.112 NMAC - Rn, 19 NMAC 15.C.112-A and 112-B, 11-15-01]

**19.15.3.113 SHOOTING AND CHEMICAL TREATMENT OF WELLS:** If injury results to the producing formation, injection interval, casing or casing seat from shooting, fracturing, or treating a well and which injury may create underground waste or contamination of fresh water, the operator shall give written notice to the division within five (5) working days and proceed with diligence to use the appropriate method and means for rectifying such damage. If shooting, fracturing, or chemical treating results in irreparable injury to the well the division may require the operator to properly plug and abandon the well.

[1-1-50...2-1-96; 19.15.3.113 NMAC - Rn, 19 NMAC 15.C.113, 11-15-01]

**19.15.3.114 SAFETY REGULATIONS:**

A. All oil wells shall be cleaned into a pit or tank, not less than 40 feet from the derrick floor and 150 feet from any fire hazard. All flowing oil wells must be produced through an oil and gas separator of ample capacity and in good working order. No boiler or portable electric lighting generator shall be placed or remain nearer than 150 feet to any producing well or oil tank. Any rubbish or debris that might constitute a fire hazard shall be removed to a distance of at least 150 feet from the vicinity of wells and tanks. All waste shall be burned or disposed of in such manner as to avoid creating a fire hazard.

B. When coming out of the hole with drill pipe, drilling fluid shall be circulated until equalized and subsequently drilling fluid level shall be maintained at a height sufficient to control subsurface pressures. During course of drilling blowout preventers shall be tested at least once each 24-hour period.

[1-1-50...2-1-96; 19.15.3.114 NMAC - Rn, 19 NMAC 15.C.114, 11-15-01]

**19.15.3.115 WELL AND LEASE EQUIPMENT:**

A. Christmas tree fittings or wellhead connections shall be installed and maintained in first class condition so that all necessary pressure tests may easily be made on flowing wells. On oil wells the Christmas tree fittings shall have a test pressure rating at least equivalent to the calculated or known pressure in the reservoir from which production is expected. On gas wells the Christmas tree fittings shall have a test pressure equivalent to at least 150 percent of the calculated or known pressure in the reservoir from which production is expected.

B. Valves shall be installed and maintained in good working order to permit pressures to be obtained on both casing and tubing. Each flowing well shall be equipped to control properly the flowing of each well, and in case of an oil well, shall be produced into an oil and gas separator of a type generally used in the industry.

[1-1-50...2-1-96; 19.15.3.115 NMAC - Rn, 19 NMAC 15.C.115, 11-15-01]

**19.15.3.116 RELEASE NOTIFICATION AND CORRECTIVE ACTION:**

A. Notification

(1) The division shall be notified of any unauthorized release occurring during the drilling, producing, storing, disposing, injecting, transporting, servicing or processing of crude oil, natural gases, produced water, condensate or oil field waste including Regulated NORM, or other oil field related chemicals, contaminants or mixture thereof, in the State of New Mexico in accordance with the requirements of Section 116 of 19.15.3 NMAC.

(2) The division shall be notified in accordance with Section 116 of 19.15.3 NMAC with respect to

any release from any facility of oil or other water contaminant, in such quantity as may with reasonable probability be detrimental to water or cause an exceedance of the standards in Section 19, Subsection B, Paragraphs (1) and (2) or (3) of 19.15.1 NMAC.

B. Reporting Requirements. Notification of the above releases shall be made by the person operating or controlling either the release or the location of the release in accordance with the following requirements:

(1) A Major Release shall be reported by giving both immediate verbal notice and timely written notice pursuant to Subsection C, Paragraphs (1) and (2) of 19.15.3.116 NMAC. A Major Release is:

- (a) an unauthorized release of a volume, excluding natural gases, in excess of 25 barrels;
- (b) an unauthorized release of any volume which:
  - (i) results in a fire;
  - (ii) will reach a water course;
  - (iii) may with reasonable probability endanger public health; or
  - (iv) results in substantial damage to property or the environment;
- (c) an unauthorized release of natural gases in excess of 500 mcf; or
- (d) a release of any volume which may with reasonable probability be detrimental to water or cause an exceedance of the standards in Section 19, Subsection B, Paragraphs (1) and (2) or (3) of 19.15.1 NMAC.

(2) A Minor Release shall be reported by giving timely written notice pursuant to Subsection C, Paragraph (2) of 19.15.3.116 NMAC. A Minor Release is an unauthorized release of a volume, greater than 5 barrels but not more than 25 barrels; or greater than 50 mcf but less than 500 mcf of natural gases.

C. Contents Of Notification

(1) Immediate verbal notification required pursuant to Subsection B of 19.15.3.116 NMAC shall be reported within twenty-four (24) hours of discovery to the division district office for the area within which the release takes place. In addition, immediate verbal notification pursuant to Subsection B, Paragraph (1), Subparagraph (d) of 19.15.3.116 NMAC shall be reported to the division's Environmental Bureau Chief. This notification shall provide the information required on division Form C-141.

(2) Timely written notification is required to be reported pursuant to Subsection B of 19.15.3.116 NMAC within fifteen (15) days to the division district office for the area within which the release takes place by completing and filing division Form C-141. In addition, timely written notification required pursuant to Subsection B, Paragraph (1), Subparagraph (d) of 19.15.3.116 NMAC shall also be reported to the division's Environmental Bureau Chief within fifteen (15) days after the release is discovered. The written notification shall verify the prior verbal notification and provide any appropriate additions or corrections to the information contained in the prior verbal notification.

D. Corrective Action. The responsible person must complete division approved corrective action for releases which endanger public health or the environment. Releases will be addressed in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with Section 19 of 19.15.1 NMAC.

[1-1-50...5-22-73...2-1-96; A, 3-15-97; 19.15.3.116 NMAC - Rn, 19 NMAC 15.C.116, 11-15-01]

**19.15.3.117 WELL LOG, COMPLETION AND WORKOVER REPORTS:** Within 20 days after the completion of a well drilled for oil or gas, or the recompletion of a well into a different common source of supply, a completion report shall be filed with the division on Form C-105. For the purpose of Section 117 of 19.15.3 NMAC, any hole drilled or cored below fresh water or which penetrates oil- or gas-bearing formations or which is drilled by an "owner" as defined herein shall be presumed to be a well drilled for oil or gas.

[1-1-50...2-1-96; 19.15.3.117 NMAC - Rn, 19 NMAC 15.C.117, 11-15-01]

**19.15.3.118 HYDROGEN SULFIDE GAS (HYDROGEN SULFIDE):**

A. Applicability. This section applies to any person, operator or facility subject to the jurisdiction of the division, including, but not limited to, any person, operator or facility engaged in drilling, stimulating, injecting into, completing, working over or producing any oil, natural gas or carbon dioxide well or any person, operator or facility engaged in gathering, transporting, storing, processing or refining of crude oil, natural gas or carbon dioxide (referred to herein as "person, operator or facility" or "well, facility or operation"). This section shall not act to exempt or otherwise excuse surface waste management facilities permitted by the division pursuant to 19.15.9.711 NMAC from more stringent conditions on the handling of hydrogen sulfide required of such facilities by 19.15.9.711 NMAC or more stringent conditions in permits issued thereunder, nor shall such facilities be exempt or otherwise excused from the requirements set forth in this section by virtue of permitting under 19.15.9.711 NMAC.

B. Definitions (specific to this section).

- (1) ANSI. The acronym "ANSI" means the American national standards institute.
- (2) API. The acronym "API" means the American petroleum institute.
- (3) Area of Exposure. The phrase "area of exposure" means the area within a circle constructed with a point of escape at its center and the radius of exposure as its radius.
- (4) ASTM. The acronym "ASTM" means the American society for testing and materials.
- (5) Dispersion Technique. A "dispersion technique" is a mathematical representation of the physical and chemical transportation characteristics, dilution characteristics and transformation characteristics of hydrogen sulfide gas in the atmosphere.
- (6) Escape Rate. The "escape rate" is the maximum volume (Q) that is used to designate the possible rate of escape of a gaseous mixture containing hydrogen sulfide, as set forth herein.
  - (a) For existing gas facilities or operations, the escape rate shall be calculated using the maximum daily rate of the gaseous mixture produced or handled or the best estimate thereof. For an existing gas well, the escape rate shall be calculated using the current daily absolute open flow rate against atmospheric pressure or the best estimate of that rate.
  - (b) For new gas operations or facilities, the escape rate shall be calculated as the maximum anticipated flow rate through the system. For a new gas well, the escape rate shall be calculated using the maximum open-flow rate of offset wells in the pool or reservoir, or the pool or reservoir average of maximum open-flow rates.
  - (c) For existing oil wells, the escape rate shall be calculated by multiplying the producing gas/oil ratio by the maximum daily production rate or the best estimate thereof.
  - (d) For new oil wells, the escape rate shall be calculated by multiplying the producing gas/oil ratio by the maximum daily production rate of offset wells in the pool or reservoir, or the pool or reservoir average of the producing gas/oil ratio multiplied by the maximum daily production rate.
  - (e) For facilities or operations not mentioned, the escape rate shall be calculated using the actual flow of the gaseous mixture through the system or the best estimate thereof.
- (7) GPA. The acronym "GPA" means the gas processors association.
- (8) LEPC. The acronym "LEPC" means the local emergency planning committee established pursuant to the emergency planning and community right-to-know act, 42 U.S.C. Section 11001.
- (9) NACE. The acronym "NACE" refers to the national association of corrosion engineers.
- (10) PPM. The acronym "ppm" means "parts per million" by volume.
- (11) Potentially Hazardous Volume means the volume of hydrogen sulfide gas of such concentration that:
  - (a) the 100-ppm radius of exposure includes any public area;
  - (b) the 500-ppm radius of exposure includes any public road; or
  - (c) the 100-ppm radius of exposure exceeds 3,000 feet.
- (12) Public Area. A "public area" is any building or structure that is not associated with the well, facility or operation for which the radius of exposure is being calculated and that is used as a dwelling, office, place of business, church, school, hospital, or government building, or any portion of a park, city, town, village or designated school bus stop or other similar area where members of the public may reasonably be expected to be present.
- (13) Public Road. A "public road" is any federal, state, municipal or county road or highway.
- (14) Radius of Exposure. The radius of exposure is that radius constructed with the point of escape as its starting point and its length calculated using the following Pasquill-Gifford derived equation, or by such other method as may be approved by the division:
  - (a) For determining the 100-ppm radius of exposure:  $X = [(1.589)(\text{hydrogen sulfide concentration})(Q)]^{0.6258}$ , where "X" is the radius of exposure in feet, the "hydrogen sulfide concentration" is the decimal equivalent of the mole or volume fraction of hydrogen sulfide in the gaseous mixture, and "Q" is the escape rate expressed in cubic feet per day (corrected for standard conditions of 14.73 psia and 60 degrees F).
  - (b) For determining the 500-ppm radius of exposure:  $X = [(0.4546)(\text{hydrogen sulfide concentration})(Q)]^{0.6258}$ , where "X" is the radius of exposure in feet, the "hydrogen sulfide concentration" is the decimal equivalent of the mole or volume fraction of hydrogen sulfide in the gaseous mixture, and "Q" is the escape rate expressed in cubic feet per day (corrected for standard conditions of 14.73 psia and 60 degrees F).
  - (c) For a well being drilled, completed, recompleted, worked over or serviced in an area where insufficient data exists to calculate a radius of exposure but where hydrogen sulfide could reasonably be expected to be present in concentrations in excess of 100 ppm in the gaseous mixture, a 100-ppm radius of exposure equal to

3,000 feet shall be assumed.

C. Regulatory Threshold.

(1) Determination of Hydrogen Sulfide Concentration.

(a) Each person, operator or facility shall determine the hydrogen sulfide concentration in the gaseous mixture within each of its wells, facilities or operations either by testing (using a sample from each well, facility or operation), testing a representative sample, or using process knowledge in lieu of testing. If a representative sample or process knowledge is used, the concentration derived from the representative sample or process knowledge must be reasonably representative of the hydrogen sulfide concentration within the well, facility or operation.

(b) The tests used to make the determination referred to in the previous subparagraph shall be conducted in accordance with applicable ASTM or GPA standards or by another method approved by the division.

(c) If a test was conducted prior to the effective date of this section that otherwise meets the requirements of the previous subparagraphs, new testing shall not be required.

(d) If any change or alteration may materially increase the concentration of hydrogen sulfide in a well, facility or operation, a new determination shall be required in accordance with this section.

(2) Concentrations Determined to be Below 100 ppm. If the concentration of hydrogen sulfide in a given well, facility or operation is less than 100 ppm, no further actions shall be required pursuant to this section.

(3) Concentrations Determined to be Above 100 ppm.

(a) If the concentration of hydrogen sulfide in a given well, facility or operation is determined to be 100 ppm or greater, then the person, operator or facility must calculate the radius of exposure and comply with applicable requirements of this section.

(b) If calculation of the radius of exposure reveals that a potentially hazardous volume is present, the results of the determination of the hydrogen sulfide concentration and the calculation of the radius of exposure shall be provided to the division. For a well, facility or operation existing on the effective date of this section, the determination, calculation and submission required herein shall be accomplished within 180 days of the effective date of this section; for any well, facility or operation that commences operations after the effective date of this section, the determination, calculation and submission required herein shall be accomplished before operations begin.

(4) Recalculation. The person, operator or facility shall calculate the radius of exposure if the hydrogen sulfide concentration in a well, facility or operation increases to 100 ppm or greater. The person, operator or facility shall also recalculate the radius of exposure if the actual volume fraction of hydrogen sulfide increases by a factor of twenty-five percent in a well, facility or operation that previously had a hydrogen sulfide concentration of 100 ppm or greater. If calculation or recalculation of the radius of exposure reveals that a potentially hazardous volume is present, the results shall be provided to the division within sixty (60) days.

D. Hydrogen Sulfide Contingency Plan.

(1) When Required. If a well, facility or operation involves a potentially hazardous volume of hydrogen sulfide, a hydrogen sulfide contingency plan that will be used to alert and protect the public must be developed in accordance with the following paragraphs.

(2) Plan Contents.

(a) API Guidelines. The hydrogen sulfide contingency plan shall be developed with due consideration of paragraph 7.6 of the guidelines published by the API in its publication entitled "Recommended Practices for Oil and Gas Producing and Gas Processing Plant Operations Involving Hydrogen Sulfide," RP-55, most recent edition, or with due consideration to another standard approved by the division.

(b) Required Contents. The hydrogen sulfide contingency plan shall contain, but shall not be limited to, information on the following subjects, as appropriate to the well, facility or operation to which it applies:

(i) Emergency procedures. The hydrogen sulfide contingency plan shall contain information on emergency procedures to be followed in the event of a release and shall include, at a minimum, information concerning the responsibilities and duties of personnel during the emergency, an immediate action plan as described in the API document referenced in the previous subparagraph, and telephone numbers of emergency responders, public agencies, local government and other appropriate public authorities. The plan shall also include the locations of potentially affected public areas and public roads and shall describe proposed evacuation routes, locations of any road blocks and procedures for notifying the public, either through direct telephone notification using telephone number lists or by means of mass notification and reaction plans. The plan shall include information on the availability and location of necessary safety equipment and supplies.

(ii) Characteristics of hydrogen sulfide and sulfur dioxide. The hydrogen sulfide

contingency plan shall include a discussion of the characteristics of hydrogen sulfide and sulfur dioxide.

(iii) Maps and drawings. The hydrogen sulfide contingency plan shall include maps and drawings that depict the area of exposure and public areas and public roads within the area of exposure.

(iv) Training and Drills. The hydrogen sulfide contingency plan shall provide for training and drills, including training in the responsibilities and duties of essential personnel and periodic on-site or classroom drills or exercises that simulate a release, and shall describe how the training, drills and attendance will be documented. The hydrogen sulfide contingency plan shall also provide for training of residents as appropriate on the proper protective measures to be taken in the event of a release, and shall provide for briefing of public officials on issues such as evacuation or shelter-in-place plans.

(v) Coordination with State Emergency Plans. The hydrogen sulfide contingency plan shall describe how emergency response actions under the plan will be coordinated with the division and with the New Mexico state police consistent with the New Mexico hazardous materials emergency response plan (HMER).

(vi) Activation Levels. The hydrogen sulfide contingency plan shall include the activation level and a description of events that could lead to a release of hydrogen sulfide sufficient to create a concentration in excess of the activation level.

(3) Plan Activation. The hydrogen sulfide contingency plan shall be activated when a release creates a concentration of hydrogen sulfide greater than the activation level set forth in the hydrogen sulfide contingency plan. At a minimum, the plan must be activated whenever a release may create a concentration of hydrogen sulfide of more than 100 ppm in any public area, 500 ppm at any public road or 100 ppm 3,000 feet from the site of release.

(4) Submission.

(a) Where Submitted. The hydrogen sulfide contingency plan shall be submitted to the division.

(b) When Submitted. A hydrogen sulfide contingency plan for a well, facility or operation existing on the effective date of this section shall be submitted within one year of the effective date of this section. A hydrogen sulfide contingency plan for a new well, facility or operation shall be submitted before operations commence. The hydrogen sulfide contingency plan for a drilling, completion, workover or well servicing operation must be on file with the division before operations commence and may be submitted separately or along with the application for permit to drill (APD) or may be on file from a previous submission. A hydrogen sulfide contingency plan shall also be submitted within 180 days after the person, operator or facility becomes aware or should have become aware that a public area or public road is established that creates a potentially hazardous volume where none previously existed.

(c) Electronic Submission. Any filer who operates more than one hundred wells or who operates a crude oil pump station, compressor station, refinery or gas plant must submit each hydrogen sulfide contingency plan in electronic format. The hydrogen sulfide contingency plan may be submitted through electronic mail, through an Internet filing or by delivering electronic media to the division, so long as the electronic submission is compatible with the division's systems.

(5) Failure to Submit Plan. Failure to submit a hydrogen sulfide contingency plan when required may result in denial of an application for permit to drill, cancellation of an allowable for the subject well or other enforcement action appropriate to the well, facility or operation.

(6) Review, Amendment. The person, operator or facility shall review the hydrogen sulfide contingency plan any time a subject addressed in the plan materially changes and make appropriate amendments. If the division determines that a hydrogen sulfide contingency plan is inadequate to protect public safety, the division may require the person, operator or facility to add provisions to the plan or amend the plan as necessary to protect public safety.

(7) Retention and Inspection. The hydrogen sulfide contingency plan shall be reasonably accessible in the event of a release, maintained on file at all times, and available for inspection by the division.

(8) Annual Inventory of Contingency Plans. On an annual basis, each person, operator or facility required to prepare one or more hydrogen sulfide contingency plans pursuant to this section shall file with the appropriate local emergency planning committee and the state emergency response commission an inventory of the wells, facilities and operations for which plans are on file with the division and the name, address and telephone number of a point of contact.

(9) Plans Required by Other Jurisdictions. A hydrogen sulfide contingency plan required by the Bureau of Land Management or other jurisdiction that meets the requirements of this subsection may be submitted to the division in satisfaction of this subsection.

E. Signage, Markers. For each well, facility or operation involving a concentration of hydrogen

sulfide of 100 ppm or greater, signs and/or markers shall be installed and maintained. Each sign or marker shall conform with the current ANSI standard Z535.1-2002 ("Safety Color Code"), or some other standard approved by the division, shall be readily readable, and shall contain the words "poison gas" and other information sufficient to warn the public that a potential danger exists. Signs or markers shall be prominently posted at locations, including but not limited to entrance points and road crossings, sufficient to alert the public that a potential danger exists. Signs and/or markers that conform with this subsection shall be installed no later than one year from the effective date of this section.

F. Protection from Hydrogen Sulfide During Drilling, Completion, Workover, and Well Servicing Operations.

(1) API Standards. All drilling, completion, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater shall be conducted with due consideration to the guidelines published by the API entitled "Recommended Practice for Oil and Gas Well Servicing and Workover Operations Involving Hydrogen Sulfide," RP-68, and "Recommended Practices for Drilling and Well Servicing Operations Involving Wells Containing Hydrogen Sulfide," RP-49, most recent editions, or some other standard approved by the division.

(2) Detection and Monitoring Equipment. Drilling, completion, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater shall include hydrogen sulfide detection and monitoring equipment as follows:

(a) Each drilling and completion site shall have an accurate and precise hydrogen sulfide detection and monitoring system that will automatically activate visible and audible alarms when the ambient air concentration of hydrogen sulfide reaches a predetermined value set by the operator, not to exceed 20 ppm. There shall be a sensing point located at the shale shaker, rig floor and bell nipple for a drilling site and the cellar, rig floor and circulating tanks or shale shaker for a completion site.

(b) For workover and well servicing operations, one operational sensing point shall be located as close to the well bore as practical. Additional sensing points may be necessary for large or long-term operations.

(c) Hydrogen sulfide detection and monitoring equipment must be provided and must be made operational during drilling when drilling is within 500 feet of a zone anticipated to contain hydrogen sulfide and continuously thereafter through all subsequent drilling.

(3) Wind Indicators. All drilling, completion, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater shall include wind indicators. Equipment to indicate wind direction shall be present and visible at all times. At least two devices to indicate wind direction shall be installed at separate elevations and visible from all principal working areas at all times. When a sustained concentration of hydrogen sulfide is detected in excess of 20 ppm at any detection point, red flags shall be displayed.

(4) Flare System. For drilling and completion operations in an area where it is reasonably expected that a potentially hazardous volume of hydrogen sulfide will be encountered, the person, operator or facility shall install a flare system to safely gather and burn hydrogen-sulfide-bearing gas. Flare outlets shall be located at least 150 feet from the well bore. Flare lines shall be as straight as practical. The flare system shall be equipped with a suitable and safe means of ignition. Where noncombustible gas is to be flared, the system shall provide supplemental fuel to maintain ignition.

(5) Well Control Equipment. When the 100 ppm radius of exposure includes a public area, the following well control equipment shall be required:

(a) Drilling. A remote-controlled well control system shall be installed and operational at all times beginning when drilling is within 500 feet of the formation believed to contain hydrogen sulfide and continuously thereafter during drilling. The well control system must include, at a minimum, a pressure and hydrogen-sulfide-rated well control choke and kill system including manifold and blowout preventer that meets or exceeds the specifications API-16C and API-RP 53 or other specifications approved by the division. Mud-gas separators shall be used. These systems shall be tested and maintained pursuant to the specifications referenced, according to the requirements of this part, or otherwise as approved by the division.

(b) Completion, Workover and Well Servicing. A remote controlled pressure and hydrogen-sulfide-rated well control system that meets or exceeds API specifications or other specifications approved by the division shall be installed and shall be operational at all times during completion, workover and servicing of a well.

(6) Mud Program. All drilling, completion, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater shall use a hydrogen sulfide mud program capable of handling hydrogen sulfide conditions and well control, including de-gassing.

(7) Well Testing. Except with prior approval of the division, drill-stem testing of a zone that contains

hydrogen sulfide in a concentration of 100 ppm or greater shall be conducted only during daylight hours and formation fluids shall not be permitted to flow to the surface.

(8) If Hydrogen Sulfide Encountered During Operations. If hydrogen sulfide was not anticipated at the time the division issued a permit to drill but is encountered during drilling in a concentration of 100 ppm or greater, the operator must satisfy the requirements of this section before continuing drilling operations. The operator shall notify the division of the event and the mitigating steps that have been or are being taken as soon as possible, but no later than 24 hours following discovery. The division may grant verbal approval to continue drilling operations pending preparation of any required hydrogen sulfide contingency plan.

G. Protection from Hydrogen Sulfide at Crude Oil Pump Stations, Producing Wells, Tank Batteries and Associated Production Facilities, Pipelines, Refineries, Gas Plants and Compressor Stations.

(1) API Standards. Operations at crude oil pump stations and producing wells, tank batteries and associated production facilities, refineries, gas plants and compressor stations involving a concentration of hydrogen sulfide of 100 ppm or greater shall be conducted with due consideration to the guidelines published by the API in its publication entitled "Recommended Practices for Oil and Gas Producing and Gas Processing Plant Operations Involving Hydrogen Sulfide," RP-55, latest edition or some other standard approved by the division.

(2) Security. Well sites and other unattended, fixed surface facilities involving a concentration of hydrogen sulfide of 100 ppm or greater shall be protected from public access by fencing with locking gates when the location is within 1/4 mile of a public area. A surface pipeline shall not be considered a fixed surface facility for purposes of this paragraph.

(3) Wind Direction Indicators. All crude oil pump stations, producing wells, tank batteries and associated production facilities, pipelines, refineries, gas plants and compressor stations involving a concentration of hydrogen sulfide of 100 ppm or greater shall have equipment to indicate wind direction. The wind direction equipment shall be installed and visible from all principal working areas at all times.

(4) Control Equipment. When the 100 ppm radius of exposure includes a public area, the following additional measures are required:

(a) Safety devices, such as automatic shut-down devices, shall be installed and maintained in good operating condition to prevent the escape of hydrogen sulfide. Alternatively, safety procedures shall be established to achieve the same purpose.

(b) Any well shall possess a secondary means of immediate well control through the use of an appropriate christmas tree or downhole completion equipment. Such equipment shall allow downhole accessibility (reentry) under pressure for permanent well control.

(5) Tanks or vessels. Each stair or ladder leading to the top of any tank or vessel containing 300 ppm or more of hydrogen sulfide in the gaseous mixture shall be chained or marked to restrict entry.

(6) Compliance Schedule. Each existing crude oil pump station, producing well, tank battery and associated production facility, pipeline, refinery, gas plant and compressor station not currently meeting the requirements of this subsection shall be brought into compliance within one year of the effective date of this section.

H. Personnel Protection and Training. All persons responsible for the implementation of any hydrogen sulfide contingency plan shall be provided training in hydrogen sulfide hazards, detection, personal protection and contingency procedures.

I. Standards for Equipment That May Be Exposed to Hydrogen Sulfide. Whenever a well, facility or operation involves a potentially hazardous volume of hydrogen sulfide, equipment shall be selected with consideration for both the hydrogen sulfide working environment and anticipated stresses and NACE Standard MR0175 (latest edition) or some other standard approved by the division shall be used for selection of metallic equipment or, if applicable, adequate protection by chemical inhibition or other methods that control or limit the corrosive effects of hydrogen sulfide shall be used.

J. Exemptions. Any person, operator or facility may petition the director or the director's designee for an exemption to any requirement of this section. Any such petition shall provide specific information as to the circumstances that warrant approval of the exemption requested and how the public safety will be protected. The director or the director's designee, after considering all relevant factors, may approve an exemption if the circumstances warrant and so long as the public safety will be protected.

K. Notification of the Division. The person, operator or facility shall notify the division upon a release of hydrogen sulfide requiring activation of the hydrogen sulfide contingency plan as soon as possible, but no more than four hours after plan activation, recognizing that a prompt response should supercede notification. The person, operator or facility shall submit a full report of the incident to the division on Form C-141 no later than fifteen (15) days following the release.

History of 19.15.3 NMAC:

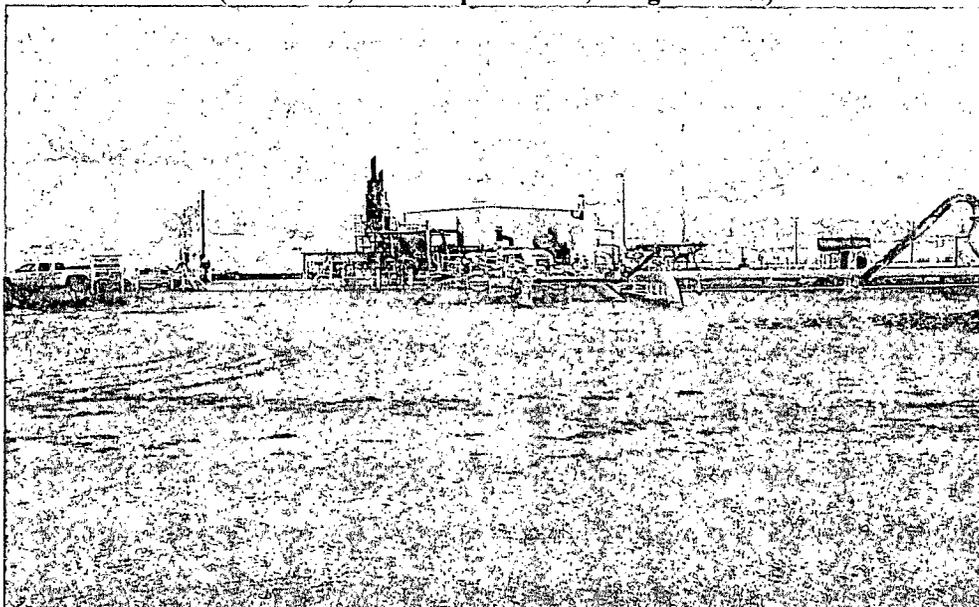
Pre-NMAC History:

Material in this part was derived from that previously filed with the commission of public records - state records center and archives as:

- Rule 101, Plugging Bond, filed 06-04-86;
- Rule 101, Plugging Bond, filed 01-06-88;
- Rule 101, Plugging Bond, filed 02-05-91;
- Rule 102, Notice of Intention to Drill, filed 01-08-82;
- Rule 102, Notice of Intention to Drill, filed 11-25-85;
- Rule 102, Notice of Intention to Drill, filed 02-05-91;
- Rule 103, Sign on Wells, filed 01-08-82;
- Rule 103, Sign on Wells, filed 02-05-91;
- Rule 104, Well Spacing: Acreage Requirements for Drilling Tracts, filed 01-08-82;
- Rule 104, Well Spacing: Acreage Requirements for Drilling Tracts, filed 02-05-91;
- Rule 105, Pit for Clay, Shale, and Drill Cutting, filed 01-08-82;
- Rule 105, Pit for Clay, Shale, and Drill Cutting, filed 08-17-89;
- Rule 105, Pit for Clay, Shale, and Drill Cutting, filed 02-05-91;
- Rule 106, Sealing Off Strata, filed 01-08-82;
- Rule 106, Sealing Off Strata, filed 10-11-89;
- Rule 106, Sealing Off Strata, filed 02-05-91;
- Rule 107, Casing and Tubing Requirements, filed 01-08-82;
- Rule 107, Casing and Tubing Requirements, filed 02-05-91;
- Rule 108, Defective Casing or Cementing, filed 01-08-82;
- Rule 108, Defective Casing or Cementing, filed 09-16-85;
- Rule 108, Defective Casing or Cementing, filed 02-05-91;
- Rule 109, Blowout Prevention, filed 01-27-82;
- Rule 109, Blowout Prevention, filed 02-05-91;
- Rule 110, Pulling Outside Strings of Casing, filed 01-27-82;
- Rule 110, Pulling Outside Strings of Casing, filed 02-05-91;
- Rule 111, Deviation Tests and Directional Drilling, filed 01-08-82;
- Rule 111, Deviation Tests and Directional Drilling, filed 09-16-85;
- Rule 111, Deviation Tests and Directional Drilling, filed 10-11-89;
- Rule 111, Deviation Tests and Directional Drilling, filed 02-05-91;
- Rule 111, Deviation Tests/Deviated Wells and Directional Drilling, filed 07-27-95;
- Rule 112-A, Multiple Completions, filed 01-08-82;
- Rule 112-A, Multiple Completions, filed 02-05-91;
- Rule 112-B, Brandenhead Gas Wells, filed 01-08-82;
- Rule 112-B, Brandenhead Gas Wells, filed 02-05-91;
- Rule 113, Shooting and Chemical Treatment of Wells, filed 01-08-82;
- Rule 113, Shooting and Chemical Treatment of Wells, filed 09-16-85.
- Rule 113, Shooting and Chemical Treatment of Wells, filed 02-05-91.
- Rule 114, Safety Regulations, filed 01-08-82;
- Rule 114, Safety Regulations, filed 02-05-91.
- Rule 115, Well and Lease Equipment, filed 01-08-82;
- Rule 115, Well and Lease Equipment, filed 02-05-91.
- Rule 116, Notification of Fire, Breaks, Leaks, Spills, and Blowouts, filed 01-08-82;
- Rule 116, Notification of Fire, Breaks, Leaks, Spills, and Blowouts, filed 02-05-91;
- Rule 117, Well Log, Completion and Workover Reports, filed 01-08-82;
- Rule 117, Well Log, Completion and Workover Reports, filed 10-11-89;
- Rule 117, Well Log, Completion and Workover Reports, filed 02-05-91;
- Rule 118, Hydrogen Sulfide Gas - Public Safety, filed 12-30-86;
- Rule 118, Hydrogen Sulfide Gas - Public Safety, filed 10-11-89;
- Rule 118, Hydrogen Sulfide Gas - Public Safety, filed 02-05-91.



**Application for New Mexico Oil Conservation Division Discharge Plan**  
**WEST EUNICE COMPRESSOR STATION**  
(Section 36, Township 21 South, Range 36 East)



**April 24, 2007**

*Prepared For:*

**New Mexico Oil Conservation Division  
1200 South Saint Francis Drive  
Santa Fe, New Mexico 87505**

*On Behalf of:*

**Southern Union Gas Services, Ltd.  
301 Commerce Street, Suite 700  
Fort Worth, Texas 76102  
Telephone: (817)-302-9400**

*Prepared By:*  
**Geolex, Inc.®**

**500 Marquette Avenue, NE, Suite 1350  
Albuquerque, New Mexico 87102  
Telephone: (505) 842-8000**

**GEOLEX**  
INCORPORATED

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Revised June 10, 2003

Submit Original  
Plus 1 Copy  
to Santa Fe  
1 Copy to Appropriate  
District Office

**DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS,  
REFINERIES, COMPRESSOR, GEOTHERMAL FACILITIES  
AND CRUDE OIL PUMP STATIONS**

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

New       Renewal       Modification

GW-270

1. Type: West Eunice Gas Compressor Station
2. Operator: Southern Union Gas Services, L.P.  
Address: P.O. Box 1226, Jal, New Mexico 88252  
Contact Person: Mr. Randall Dunn      Phone: (505)-395-2116
3. Location: SE 1/4 SE 1/4 Section 36 Township 21S Range 36E  
Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
6. Attach a description of all materials stored or used at the facility.
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
11. Attach a contingency plan for reporting and clean-up of spills or releases.
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
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: Mr. Bruce Williams Title: Vice President, Operations

Signature: Bruce M. Williams Date: 8-27-07

E-mail: Bruce.Williams@SUGS.com

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D:	Proposed Notice of Application, Locations and Newspaper for Publication

## 1.0 TYPE OF OPERATION

The West Eunice Compressor Station (West Eunice) is a natural gas compressor station. It uses three compressors to pressurize field gas, removes excess liquids, measures gas volumes, and transports the gas to pipelines.

## 2.0 OPERATOR AND LEGALLY RESPONSIBLE PARTY

The Operator is:

Southern Union Gas Services, Ltd. (SUGS)  
Contact: Mr. Randall Dunn  
P.O. Box 1226  
Jal, New Mexico 88252  
Telephone: (505)-395-2116

The Responsible Party is:

Southern Union Gas Services, Ltd.  
Contact: Mr. Bruce Williams  
301 Commerce St. Suite 700  
Fort Worth, Texas 76102  
Telephone: (817)-302-9421

## 3.0 LOCATION OF DISCHARGE/FACILITY

The West Eunice station is located in Unit P of Section 36, Township 21 South, Range 36 East in Lea County, New Mexico (32° 30.070' North, 103° 8.652' West). This location is at an elevation of 3450 feet; approximately 4 miles west of Eunice, New Mexico (see Figures 1 and 2).

## 4.0 LANDOWNER

The land is owned by Southern Union Gas Services, Ltd. and is administered by:

Southern Union Gas Services, Ltd.  
201 N. Main Street, Suite 3000  
Fort Worth, Texas 76102  
Contact: Mr. Bruce Williams  
Telephone: (817)-302-9421

## 5.0 SITE CHARACTERISTICS

### 5.1 GEOLOGICAL SETTING

The site lies in the Delaware Basin region of the Permian Basin, a thick and complex sequence of primarily marine carbonates which extends from southeastern New Mexico into west Texas. The stratigraphy of the Delaware Basin includes the basal Leonard series (Bone Springs Formation), the overlying Guadalupe series (Brushy Canyon, Cherry Canyon and Bell Canyon formations), and the uppermost Ochoan series, including the Castile and Salado evaporites and the clastic Rustler Formation. The Permian Series is overlain by the redbeds of the Triassic Dockum Formation, which is unconformably covered by the Tertiary Ogallala Formation. In the area near the West Eunice facility, the most recent Quaternary deposits are primarily aeolian dunes overlying the Ogallala.

#### 5.1.1 Site Area Geology

The West Eunice Compressor site is situated on a low-relief plain west of Eunice, New Mexico (see Figure 2). Local soils are tan to reddish silt and clay with minor sand and caliche. These deposits range in thickness from zero to over 200 feet, and overlie the Ogallala Formation, a locally important aquifer in the site area.

#### 5.1.2 Uppermost Aquifer

The only regularly used source of potable drinking water in this area is the Ogallala Formation, which overlie the redbeds of the Dockum Formation. Within the Dockum units, groundwater occurs in confined conditions, found in more permeable sandstone beds, interbedded with relatively impermeable siltstones and clay.

#### 5.1.3 Depth to Water, Direction of Groundwater Flow and Quality

Depth to water in the area of West Eunice is from 70 to 150 feet. According to maps published by Nicholson and Clebsch (1961), the flow of groundwater in the upper aquifer in the area of West Eunice is southerly to southeasterly at a gradient of 0.005 (approximately 25 feet per mile).

Available information on groundwater quality is limited in the immediate area of West Eunice. The nearest published information is from wells in Section 33, T21S, R37E (approximately 4 miles south of West Eunice). These wells are completed in the Ogallala and have a Total Dissolved Solids of 700 to 800 milligrams per liter (Nicholson and Clebsch, 1961; Table 8, p. 93).

#### 5.1.4 Nearest Potential Groundwater Receptors

As seen in Figure 2, there are two water wells listed by the New Mexico State Engineer's Office within one mile of West Eunice. These wells are crossgradient of West Eunice. There are no records of any water wells within one mile downgradient of West Eunice.

#### 5.2 SURFACE WATER

The West Eunice facility is located on a low-relief plane, and there are no perennial bodies of water downslope (east) within one mile of West Eunice (Figure 3). Due to the integral containment of all liquids and the no-discharge design of the facility, and the lack of adjacent surface water, there is no significant potential for releases to the waters of the State of New Mexico.

Although there are no available FEMA flood maps for this area, the lack of surface water nearby indicates that the facility is well outside any described 100-year floodplains.

## 6.0 FACILITY DESCRIPTION

West Eunice is a self-contained facility. All wastes, including stormwater which may come in contact with the units, are properly contained for off-site recycling or disposal. The design and operation of the facility was developed to ensure that that no solid or liquid industrial wastes or discharges are released to the water of the State of New Mexico.

A schematic plan of the facility is included as Figure 4. Field gas passes through the inlet scrubbers, vessels which allows liquids (hydrocarbon liquids and produced water) to settle and accumulate. These liquids are carried to storage tanks (tanks TK-1 and TK-2) by internal piping. These liquids are separated by gravity in the tanks, after which the petroleum liquids are removed by tank truck for recycling and the produced water is removed by tank truck for permitted disposal facilities (see Section 7).

From the inlet scrubbers, the gas is directed by piping to a second series of separators, the suction scrubbers, attached to the inlets of two compressors. The suction scrubbers are employed to remove any liquids which might have passed through the Inlet Scrubbers. The liquids from the Suction Scrubbers are piped to the same storage tanks as the liquids from the inlet scrubbers.

West Eunice uses three 3 compressors (Units #1, #2 and #3; Figure 4). Gas is first compressed to intermediate pressure by Unit #1, and then is compressed to the higher line pressure by Units #2 and 3#. After final compression, the gas is cooled by the gas coolers prior to routing to the delivery line. The compressor engines are cooled by liquid-cycle radiators, filled with a mixture of ethylene glycol antifreeze and water, and is sump-lubricated by conventional motor oil. Supplemental tanks of these fluids, which are automatically replenished as needed, are stored on site.

Compressed gas leaving the site is routed through a pig launcher, used to insert "pigs", a plug passed through the pipeline to remove waste solids and fluids which accumulate in the line (Figure 4). This cleaning process is used at irregular intervals, depending on the conditions of the field gas and the pipeline. Wastes generated from this "pigging" process are collected at other facilities along the pipeline.

## 7.0 MATERIALS STORED AND USED AT FACILITY

The materials used at the facility are listed in Table 7-1 below. Photographs of the tanks are shown in Figures 5 through 11. Although not regularly or permanently stored on the site, other miscellaneous materials are used at the facility for maintenance and pipeline service. These include detergents for equipment cleaning, similar detergents for pipeline cleaning during pigging. Applicable MSDS are included in Appendix A.

**Table 7-1: Materials Stored at West Eunice Compressor Station**

TYPE	ID	MATERIAL	FORM	VOLUME	LOCATION	CONTAINMENT
AGT Steel	TK-1	Scrubber Liquids	Liquid	500 bbl	SW Area of Facility	Dirt Berm
AGT Steel	TK-2	Scrubber Liquids	Liquid	500 bbl	SW Area of Facility	Dirt Berm, Common w/TK-1
AGT Poly	TK-3	PC-396-XL Cleaner	Liquid	325 gal	SW Area of Facility	Fiberglass Pan
AGT Poly	TK-4	PPP-300 Corrosion Inhibitor	Liquid	325 gal	SW Area of Facility	Fiberglass Pan
AGT Steel	TK-5	Antifreeze	Liquid	375 gal	SE Area of Facility	Cement Pad/Curbed
AGT Steel	TK-6	Engine Lube Oil	Liquid	550 gal	SE Area of Facility	Cement Pad/Curbed
AGT Steel	TK-7	Antifreeze	Liquid	1050 gal	NE Area of Facility	Cement Pad/Curbed
AGT Steel	TK-8	Methanol	Liquid	1000 gal	NE Area of Facility	Fiberglass Pan
AGT Steel	TK-9	Wastewater	Liquid	100 bbl	NE Area of Facility	Cement Pad/Curbed
AGT Steel	TK-10	Engine Lube Oil	Liquid	1000 gal	NE Area of Facility	Cement Pad/Curbed
AGT Steel	TK-11	Surfactant Inhibitor	Liquid	325	NE Area of Facility	Fiberglass Pan
Subgrade Poly	TK-12	Waste Oil	Liquid	325 gal	NE Area of Facility	1000 gal double walled RFG vault
AGT Steel	TK-13	Water	Liquid	6500 gal	NE Area of Facility	None

## 8.0 SOURCES AND QUANTITIES OF EFFLUENT AND WASTE SOLIDS

The sources and quantities of effluents and solid wastes generated from processes at the West Eunice Compressor Station are summarized in Table 8-1 below.

Exempt wastes are generated from the production and processing of petroleum hydrocarbons and gasses and are exempt from hazardous waste regulations under Subtitle C. Non-exempt wastes must be characterized, either by chemical analysis or knowledge of process, to determine their status under all applicable and appropriate hazardous waste regulations. The West Eunice Compressor facility's waste management system is designed to prevent the commingling of exempt and non-exempt wastes.

**Table 8-1: Waste Sources, Quantities and Regulatory at West Eunice Compressor Station**

SOURCE	TYPE OF WASTE	VOLUME	REGULATORY STATUS	STATUS DETERMINATION
Compressor	Used Engine Oil	100-200 gal/month	Non-Exempt	Non-Hazardous per 40 CFR 279.11
	Used Filters	4 per month	Non-Exempt	Non-Hazardous per 40 CFR 261.4
	Wash and storm water from Compressor pad	Washdown 75 to 100 gal/month; stormwater varies	Non-Exempt	Chemical Analysis, knowledge of process
	Sorbent/Rags	Varies	Non-Exempt	Non-Hazardous per 40 CFR 279.11
Scrubbers	Gas Liquids	Varies; 50 to 100 bbl/month	Exempt	EPA Subtitle C
Misc. Trash	Solid Wastes	Varies	Non-Exempt	Knowledge of process

The quality and constituents of the washwater and stormwater from the compressor pad may vary if the types or brands of materials used on the pad (lube oil, antifreeze, and soaps) are changed. For this reason, an initial TCLP analysis of the wastewater has been performed, as a grab sample from the pad sump. The Sampling and Analysis Standard Operating Procedures are included in Appendix B.

The most recent analysis, from a sample collected on March 26, 2007 is summarized below in Table 8-2. The complete laboratory analytical report for the March 26, 2007 sample analysis is included in Appendix C. If there are any significant changes in the materials used on the pad, an additional analysis will be performed; using the same collection and analytical methods, prior to the disposal of the wastewater, and the method(s) of disposal will be modified as necessary.

Table 8-2: Wastewater Analyses From West Eunice Compressor Station

Date Sampled	3/26/2007		
location	West Eunice Compressor Station		
Report #	7C27009		
Matrix	Waste water		
<b>Toxicity</b>	<b>Analytical mg/kg</b>	<b>Reg limit (TCLP) mg/kg</b>	<b>Determination</b>
Benzene	0.0641	0.5	Non-hazardous
Mercury	ND	0.2	Non-hazardous
Arsenic	ND	5.0	Non-hazardous
Barium	0.0196	100.0	Non-hazardous
Cadmium	ND	1.0	Non-hazardous
Chromium	0.0246	5.0	Non-hazardous
Lead	J(0.000688)	5.0	Non-hazardous
Selenium	0.0462	1.0	Non-hazardous
Silver	J(0.00171)	5.0	Non-hazardous
<b>Reactive</b>			
Cyanide	ND	250.0	Non-hazardous
pH	5.70 pH units	<2 or >12.5 pH units	Non-hazardous
Sulfide	ND	500.0	Non-hazardous
<b>Ignitability</b>	>85 deg. C	<60 deg C	Non-hazardous

## 9.0 LIQUID AND SOLID WASTES COLLECTION, STORAGE AND DISPOSAL

The collection, storage, removal and disposal of wastes generated at West Eunice are summarized in Table 9-1 below. As determined in Section 8.0 above, the facility does not generate any RCRA hazardous wastes; therefore all wastes are ultimately recycled or by disposed of, in licensed, permitted non-hazardous waste disposal or recycling facilities.

**Table 9-1: Collection, Storage, Removal and Disposal of Wastes at West Eunice Compressor Station**

TYPE OF WASTE	COLLECTION	STORAGE	REMOVED BY	DISPOSAL
Scrubber Liquids	Piped to TK-1 and TK-2	TK-1 (210 bbl) TK-2 (210 bbl)	Varies <sup>1</sup>	SUGS Jal #4 for separation and sales.
Used Oils	Drained from Compressor pad or drained from engine sump	TK-12 (100 gal)	Quail Petroleum Services	Available Permitted Recycler
Used Filters/Sorbents	Filters drained to container on pad; rags and sorbents to dumpster.	Dumpster	Quail Petroleum Services	Available Permitted Recycler
Wash Water	Piped to TK-3	TK-3 (100 bbl)	Varies <sup>1</sup>	Nearest Available Permitted Facility
Spent Antifreeze	Disposal Truck	Not stored on site	Quail Petroleum Services	Available Permitted Recycler
Solid Wastes	Dumpster	Dumpster	SUGS	Lea County Solid Waste Authority

1: Scrubber liquids are transported by either (depending on availability) Quality Transports, Chaparral Services, Riverside Trucking, FULCO Services, or Rapid Transports.

## 10.0 INSPECTION, MAINTENCE AND REPORTING

In accordance with SUGS policy, West Eunice and all other active compressor stations are inspected each working day (Monday-Friday) by an appropriately trained technician. This individual visually inspects the waste management systems, including the levels in all tanks and the presence of any liquids in any containment structures.

Based on the knowledge of the operations at West Eunice, regular visits are scheduled for removal of wastes. Any apparent problems noted in daily inspections are notified immediately to the SUGS environmental director, who then dispatches the necessary employees, equipment and contractors to address the problem.

The compressor station is also monitored by telemetry (powered by solar batteries) to the SUGS control facility. This telemetry transmits operating parameters including system pressure, temperature, inlet and outlet flows, and other information. This provides an early warning in the event that any equipment is out of its operating parameters, allowing an immediate inspection if warranted.

Due to the non-discharge design of the system, no groundwater monitoring is required or employed at West Eunice.

Current TCLP analyses of wastewaters from the compressor pad indicate that the water is non-hazardous (see Table 8-2, Appendix C). Compressor pad wastewater will be reanalyzed for TCLP parameters if significantly different materials (e.g., oils, antifreeze, soaps) are used on the pad to reestablish the water's status.

## 11.0 SPILL AND LEAK PREVENTION AND REPORTING

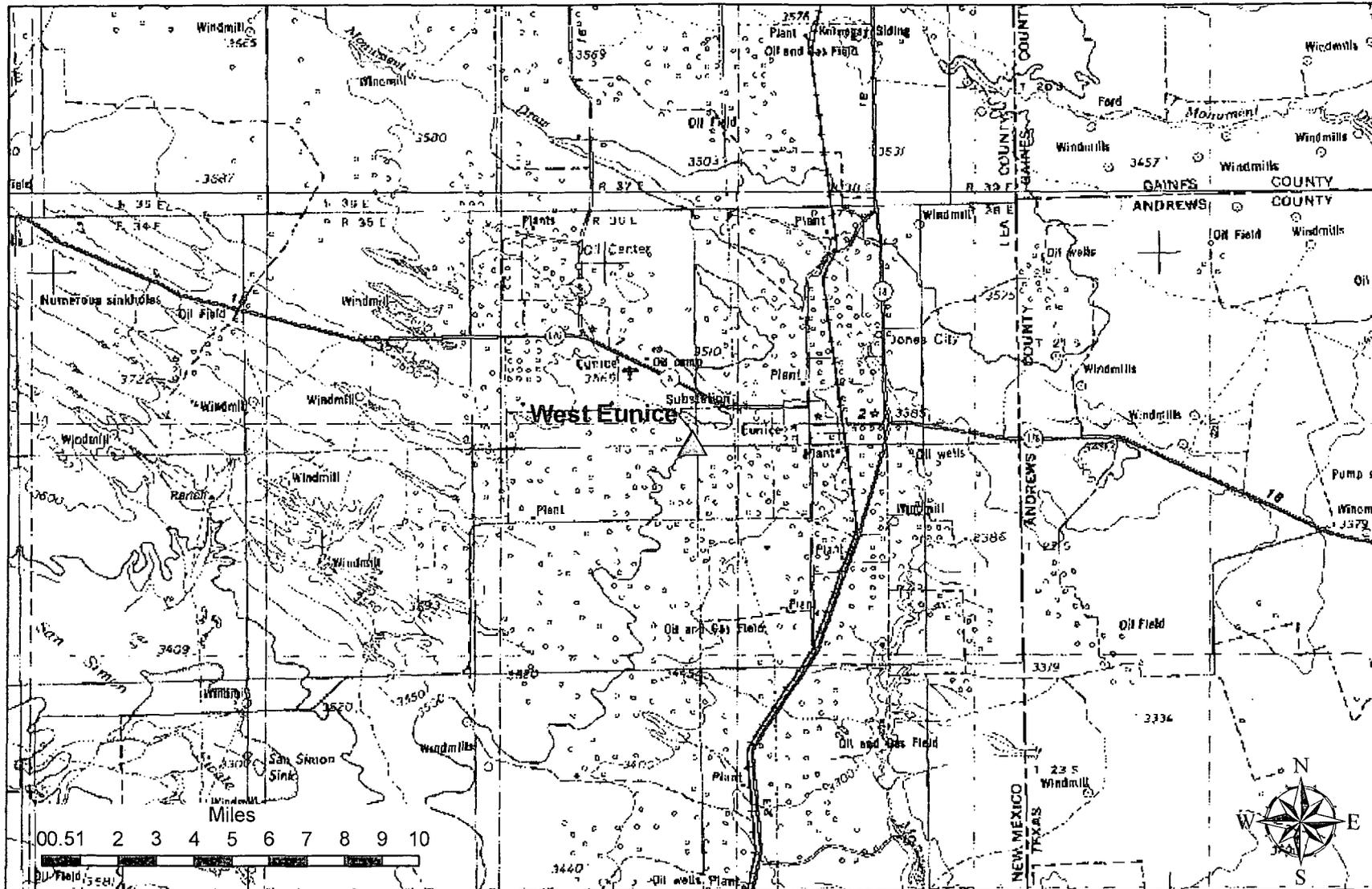
As described in Section 11.0 above, the facility is inspected on a daily basis. Any spills will be addressed in accordance with NMOCD Rule 116 and 20.6.2.1203 NMAC.

## 12.0 CLOSURE PLAN

Upon removal from service, the West Eunice facility will be closed by:

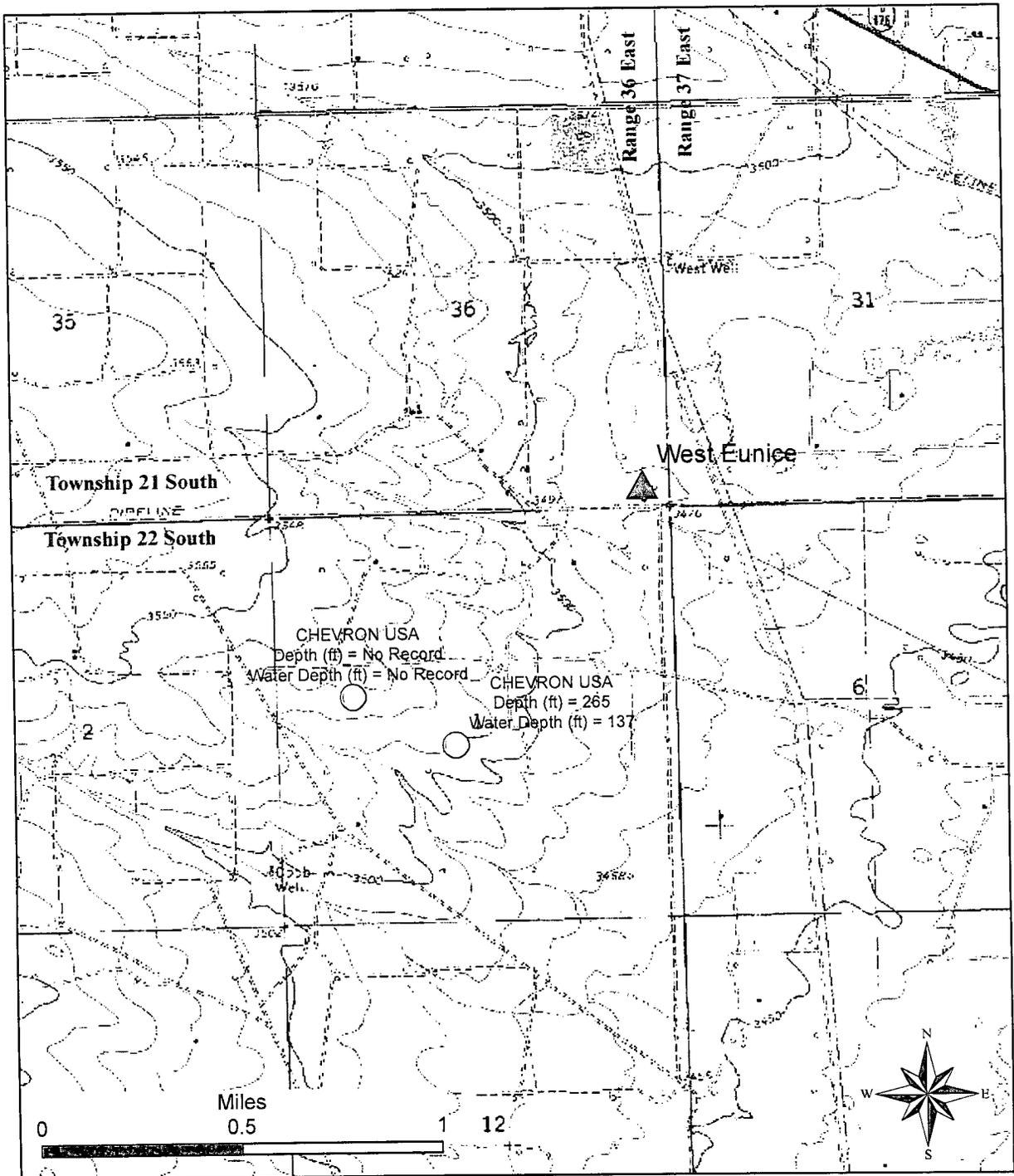
- Disconnect and close all pipelines, gas, electrical and other utilities,
- Dismantle and remove all equipment,
- Collect and analyze an appropriate number of soil samples to verify that no contaminated soils exist,
- Regrade and revegetate the site in accordance with any applicable bonds and/or other regulations.

A report will be developed documenting the closure, and will be provided to NMOCD upon request.



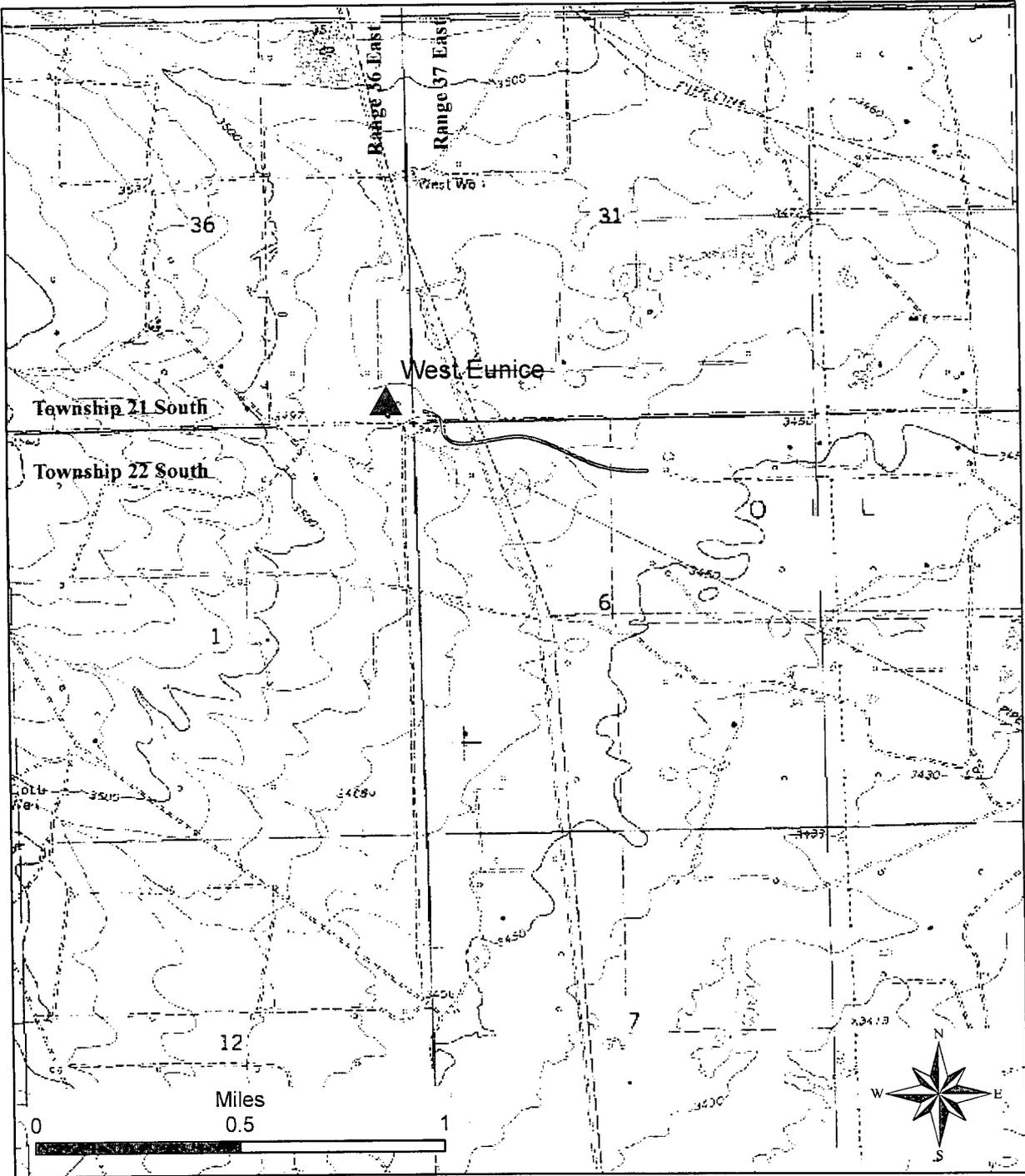
**Figure 1:**  
**Location of Southern Union Gas Services West Eunice Compressor Station**

△ West Eunice Compressor Station



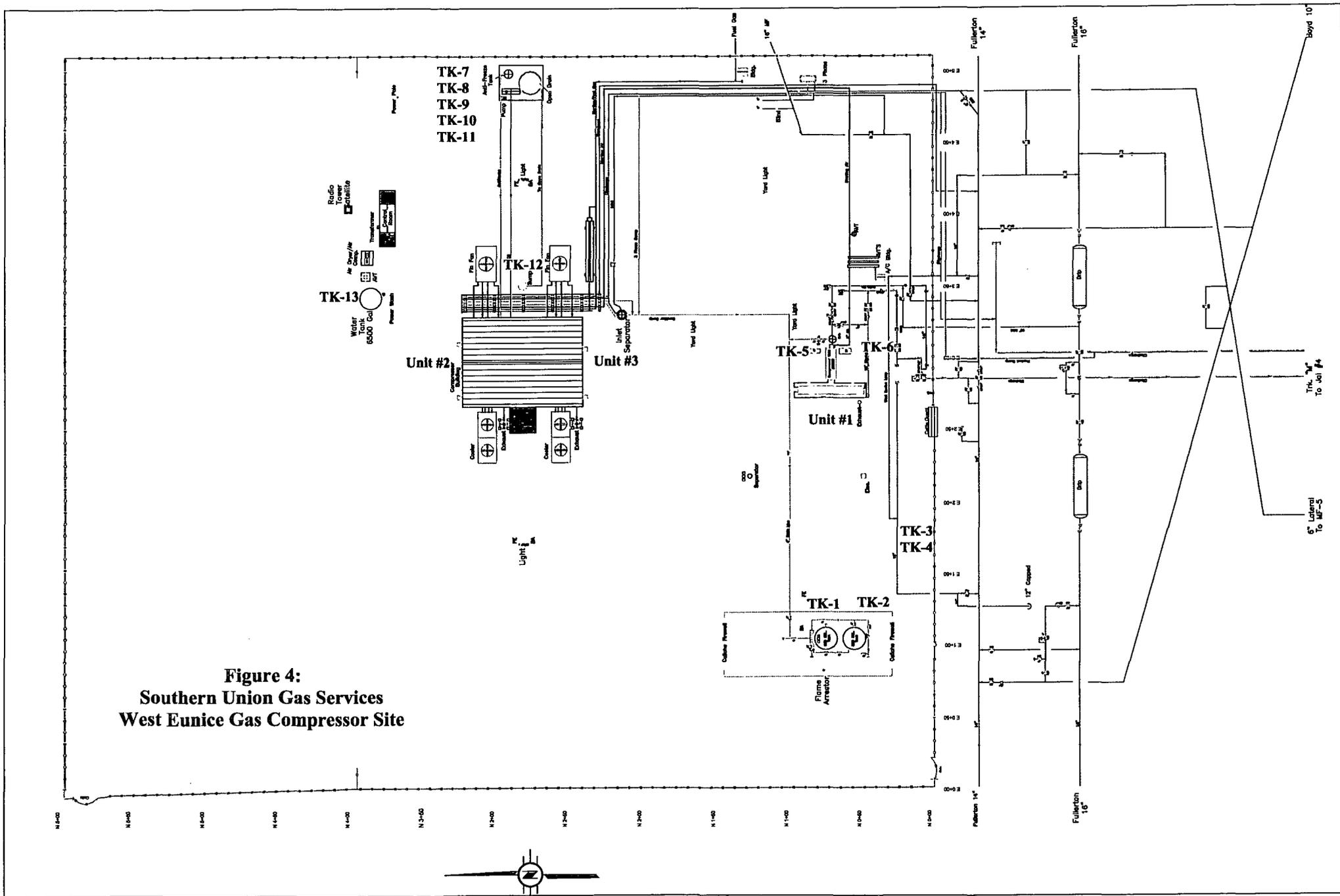
**Figure 2:**  
**Water Wells Adjacent to West Eunice Compressor Station**

- △ West Eunice Station
- Water Wells Listed in New Mexico State Engineer's Office Database

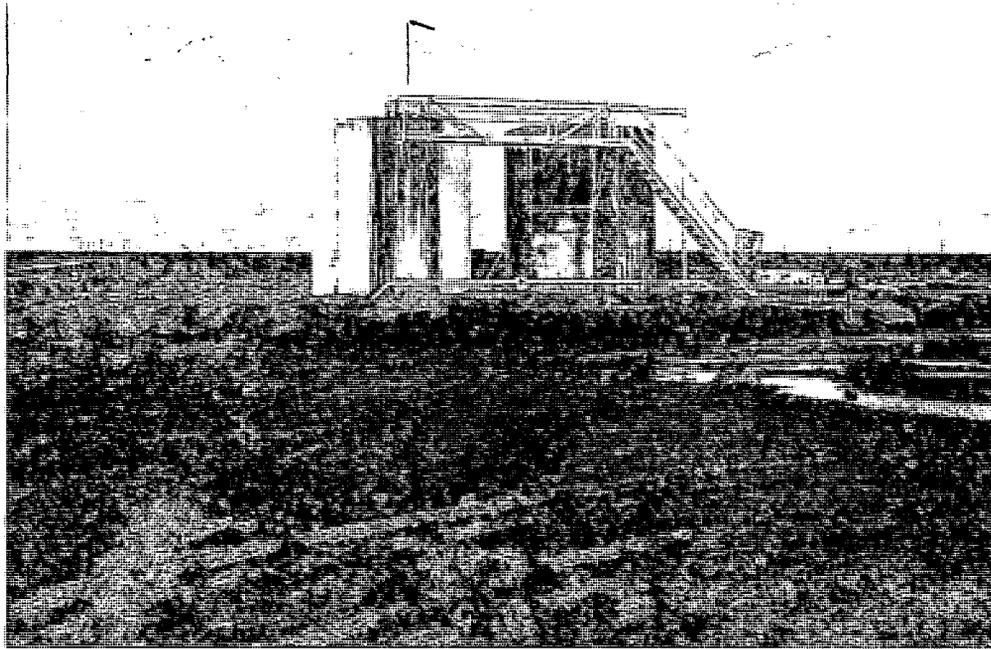


**Figure 3:**  
**Drainage Pathways From West Eunice Compressor Station**

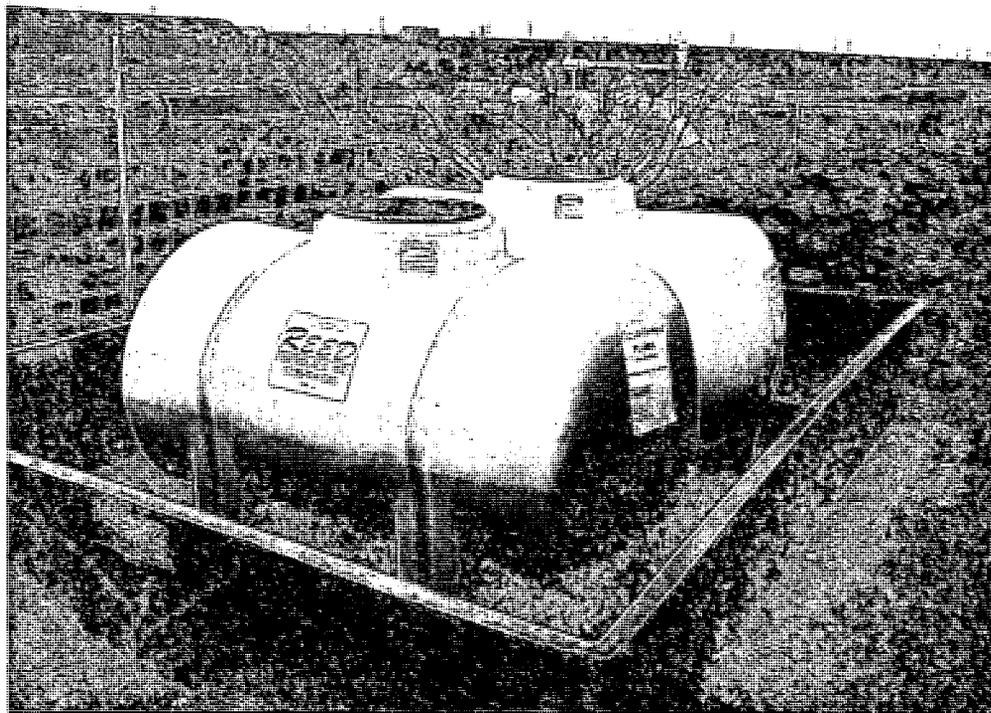
— Drainage Path  
▲ West Eunice Station



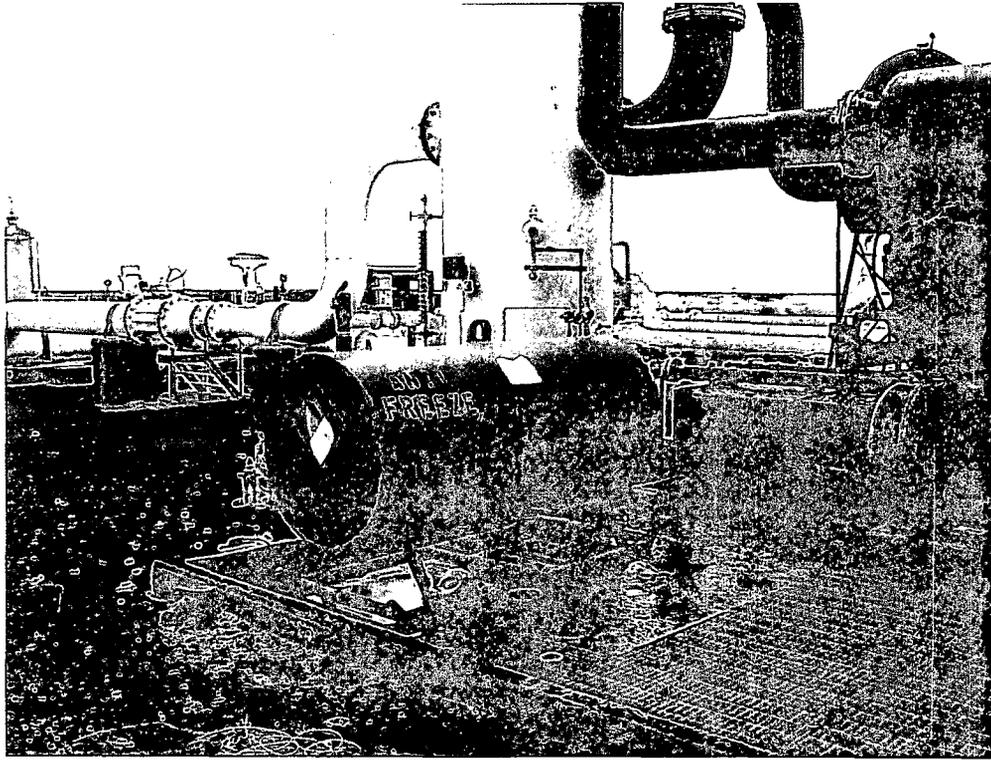
**Figure 4:**  
**Southern Union Gas Services**  
**West Eunice Gas Compressor Site**



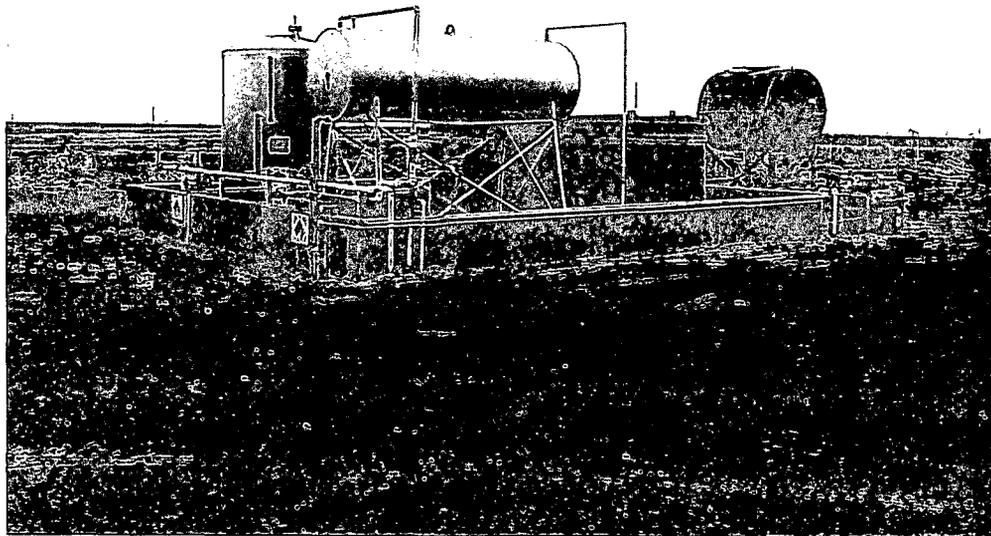
*Figure 5: 500 Barrel Condensate Tanks TK-1 and TK-2*



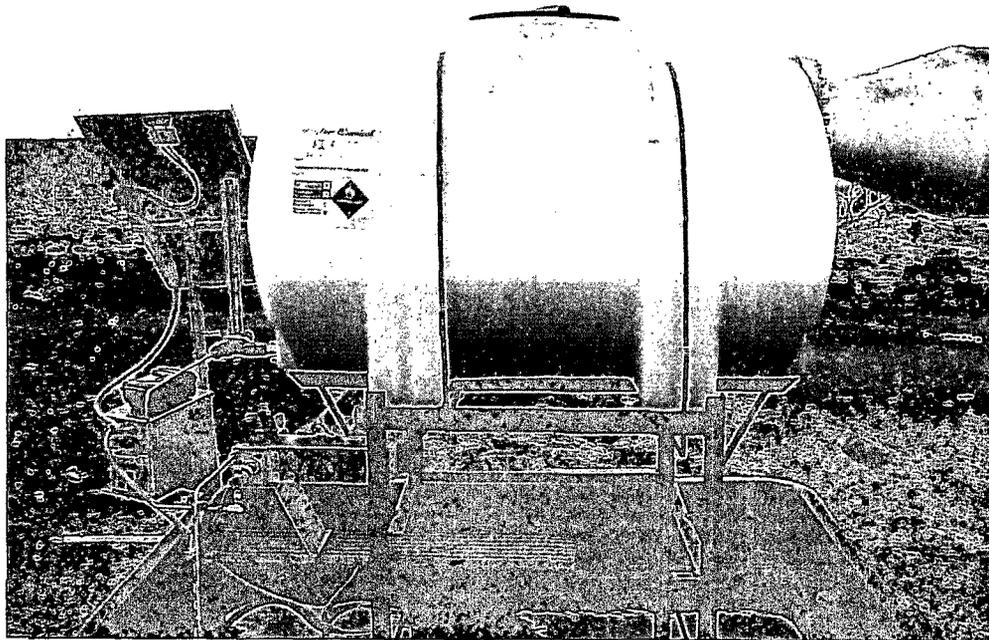
*Figure 6: 325 Gallon Cleaner and Corrosion inhibitor Tanks TK-3 and TK-4*



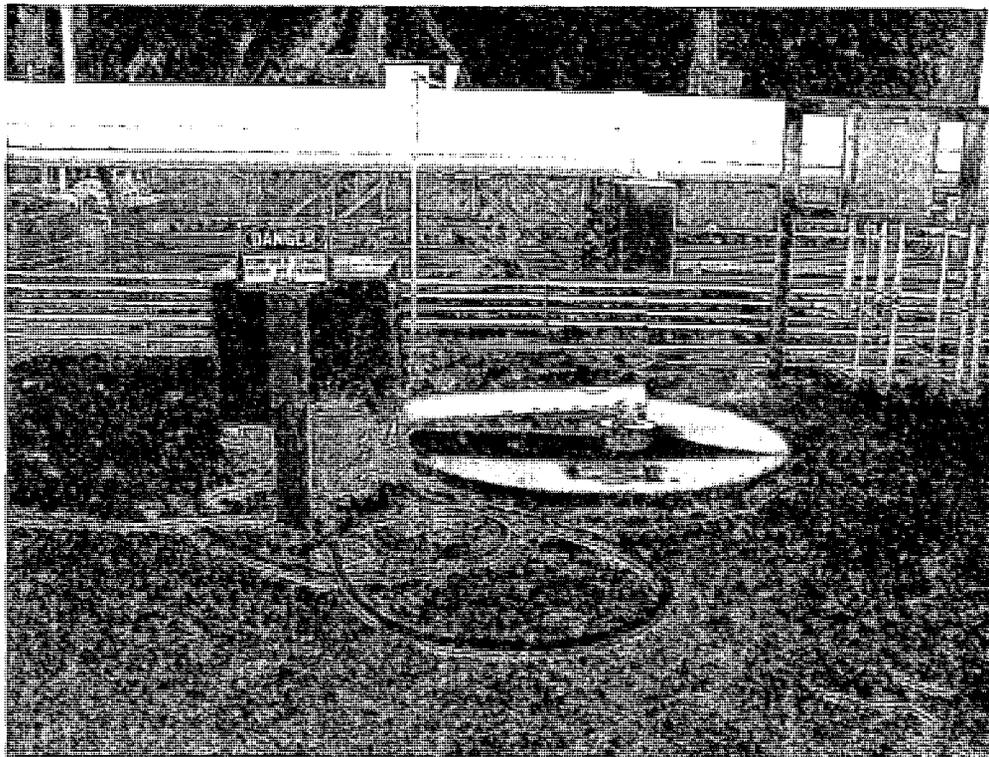
*Figure 7: Antifreeze (350 gal TK-5) and Lube Oil (550 gal TK-6) by Unit #1*



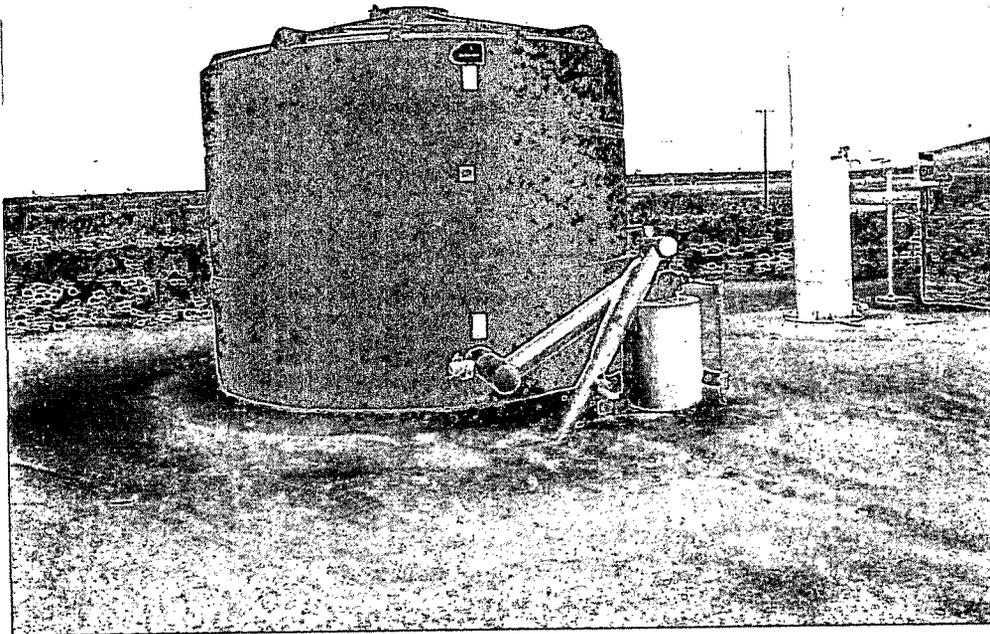
*Figure 8: Tanks TK-7 (Antifreeze), TK-8 (Methanol), TK-9 (Wastewater) and TK-10 (Lube Oil)*



*Figure 9: Surfactant Inhibitor Tank TK-11*



*Figure 10: Fibreglass Subgrade Containment for Waste Oil Tank TK-12*



*Figure 11: Water Tank TK-13*

APPENDIX A:  
MATERIAL SAFETY DATA SHEETS

Product Name: Natural gas

MSDS# E-4550-B

Date: 10/15/2004

## Praxair Material Safety Data Sheet

### 1. Chemical Product and Company Identification

<b>Product Name:</b> Natural gas	<b>Trade Name:</b> Natural gas
<b>Product Use:</b> Heating fuel.	
<b>Chemical Name:</b> Natural Gas, compressed	<b>Synonym:</b> Methane natural gas
<b>Chemical Formula:</b> Mixture of CH <sub>4</sub> , C <sub>2</sub> H <sub>6</sub> , C <sub>3</sub> H <sub>8</sub> , & C <sub>4</sub> H <sub>10</sub>	<b>Chemical Family:</b> Hydrocarbons
<b>Telephone:</b> <b>Emergencies:</b> * 1-800-363-0042	<b>Supplier /Manufacture:</b> Praxair Canada Inc. 1 City Centre Drive Suite 1200 Mississauga, ON L5B 1M2
	<b>Phone:</b> 905-803-1600
	<b>Fax:</b> 905-803-1682

*\*Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier or Praxair sales representative.*

### 2. Composition and Information on Ingredients

INGREDIENTS	% (VOL)	CAS NUMBER	LD <sub>50</sub> (Species & Routes)	LC <sub>50</sub> (Rat, 4 hrs.)	TLV-TWA (ACGIH)
Natural gas (predominantly methane)	100	8006-14-2	Not applicable.	Not available.	None established.

### 3. Hazards Identification

**Emergency Overview**

**DANGER!** Flammable, high-pressure gas. May form explosive mixture with air. Can cause rapid suffocation. May cause dizziness and drowsiness. Self-contained breathing apparatus may be required by rescue workers.

**ROUTES OF EXPOSURE:** Inhalation. Eye contact.

**THRESHOLD LIMIT VALUE:** TLV-TWA Data from 2004 Guide to Occupational Exposure Values (ACGIH). TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations.

**EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:**

**INHALATION:** Asphyxiant. Effects are due to lack of oxygen. Moderate concentrations may cause headaches, drowsiness, dizziness, excitation, excess salivation, vomiting and unconsciousness. Lack of oxygen can kill.

**SKIN CONTACT:** No harmful effects expected from vapour..

**SKIN ABSORPTION:** No evidence of adverse effects from available information.

**SWALLOWING:** An unlikely route of exposure. This product is a gas at normal temperature and pressure.

**EYE CONTACT:**

Vapour may cause irritation.

**EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE:**

None.

**OTHER EFFECTS OF OVEREXPOSURE:**

None known.

**MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:**

None known.

**SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:**

None.

**CARCINOGENICITY:**

Not listed as carcinogen by OSHA, NTP or IARC.

**4. First Aid Measures**

**INHALATION:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**SKIN CONTACT:**

Abrasions: clean with soap and water then bandage.

Burns: seek medical attention.

**SWALLOWING:**

Not applicable (gas).

**EYE CONTACT:**

Flush with water. If irritation persists, call a physician.

**NOTES TO PHYSICIAN:**

*There is no specific antidote. Treatment of over-exposure should be directed at the control of symptoms and the clinical condition.*

**5. Fire Fighting Measures**

<b>FLAMMABLE :</b> Yes.	<b>IF YES, UNDER WHAT CONDITIONS?</b>	Forms explosive mixtures with air and oxidizing agents.
-------------------------	---------------------------------------	---------------------------------------------------------

<b>FLASH POINT (test method)</b> Not applicable.	<b>AUTOIGNITION TEMPERATURE</b> 482°C (899.6°F)
--------------------------------------------------	-------------------------------------------------

<b>FLAMMABLE LIMITS IN AIR, % by volume:</b>	<b>LOWER:</b> 3.8	<b>UPPER:</b> 17
----------------------------------------------	-------------------	------------------

**EXTINGUISHING MEDIA:**

CO2, dry chemical, water spray or fog.

**SPECIAL FIRE FIGHTING PROCEDURES:**

**DANGER!** Evacuate all personnel from danger area. Immediately cool cylinders with water spray from maximum distance taking care not to extinguish flames. Remove ignition source if without risk. If flames are accidentally extinguished. Explosive re-ignition may occur; therefore, appropriate measures should be taken; e.g., total evacuation. Re-approach with extreme caution. Use self-contained breathing apparatus. Stop flow of gas if without risk while continuing cooling water spray. Remove all containers from area if without risk. Allow fire to burn out.

**UNUSUAL FIRE AND EXPLOSION HAZARD:**

Extremely flammable gas in presence of open flame and sparks. Slightly flammable in presence of heat.

**HAZARDOUS COMBUSTION PRODUCTS:**

These products are carbon oxides (CO, CO<sub>2</sub>).

**SENSITIVITY TO IMPACT:**

Avoid impact against container.

**SENSITIVITY TO STATIC DISCHARGE:**

Possible.

**6. Accidental Release Measures****STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**

**DANGER!** Flammable, high-pressure gas. Forms explosive mixtures with air. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if without risk. Reduce gas with fog or fine water spray. Shut off flow if without risk. Ventilate area or move cylinder to a well-ventilated area. Flammable gas may spread from leak. Before entering area, especially confined areas, check atmosphere with an appropriate device.

**WASTE DISPOSAL METHOD:**

Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard and product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, provincial, and local regulations. If necessary, call your local supplier for assistance.

**7. Handling and Storage****PRECAUTIONS TO BE TAKEN IN STORAGE:**

Store and use with adequate ventilation. Separate flammable cylinders from oxygen, chlorine, and other oxidizers by at least 6 m or use a barricade of non-combustible material. This barricade should be at least 1.5 m high and have a fire resistance rating of at least ½ hour. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Post "No Smoking or Open Flames" signs in storage and use areas. There must be no sources of ignition. All electrical equipment in storage areas must be explosion-proof. Storage areas must meet national electric codes for Class 1 hazardous areas. Store only where temperature will not exceed 52 C. Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

**PRECAUTIONS TO BE TAKEN IN HANDLING:**

Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier. For other precautions, see Section 16.

For additional information on storage and handling, refer to Compressed Gas Association (CGA) pamphlet P-1, *Safe Handling of Compressed Gases in Containers*, available from the CGA. Refer to Section 16 for the address and phone number along with a list of other available publications.

**OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE:**

**Flammable high-pressure gas.** Use only in a closed system. Use piping and equipment adequately designed to withstand pressures to be encountered. Use only spark-proof tools and explosion-proof equipment. Keep away from heat, sparks, and open flame. **May form explosive mixtures with air.** Ground all equipment. **Gas can cause rapid suffocation due to oxygen deficiency.** Store and use with adequate ventilation. Close valve after each use; keep closed even when empty. **Prevent reverse flow.** Reverse flow into cylinder may cause rupture. Use a check valve or other protective device in any line or piping from the cylinder. **When returning cylinder to supplier,** be sure valve is closed, then install valve outlet plug tightly. **Never work on a pressurized system.** If there is a leak, close the cylinder valve. Vent the system down in a safe and environmentally sound manner in compliance with all federal, provincial, and local laws; then repair the leak. **Never place a compressed gas cylinder where it may become part of an electrical circuit.**

**8. Exposure Controls/Personal Protection**

**VENTILATION/ENGINEERING CONTROLS:**

**LOCAL EXHAUST:** An explosion-proof local exhaust system is acceptable. See SPECIAL.

**MECHANICAL (general):** Inadequate. See SPECIAL.

**SPECIAL:** Use only in a closed system.

**OTHER:** None.

**PERSONAL PROTECTION:**

**RESPIRATORY PROTECTION:** Use respirable fume respirator or air supplied respirator when working in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select in accordance with the provincial regulations or guidelines. Selection should also be based on the current CSA standards Z94.4, "Selection, care and use of respirators". Respirators should be approved by NIOSH and MSHA.

**SKIN PROTECTION:** Wear work gloves when handling cylinders.

**EYE PROTECTION:** Wear safety glasses when handling cylinders.

Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

**OTHER PROTECTIVE EQUIPMENT:** Metatarsal shoes for cylinder handling. Protective clothing where needed. Cuffless trousers should be worn outside the shoes. Select in accordance with the current CSA standard Z195, "Protective Foot Wear", and any provincial regulations, local bylaws or guidelines.

**9. Physical and Chemical Properties**

<b>PHYSICAL STATE:</b> Gas. (Compressed Gas.)	<b>FREEZING POINT:</b> Not available.	<b>pH:</b> Not applicable.
<b>BOILING POINT:</b> -164°C (-263.2°F)	<b>VAPOUR PRESSURE:</b> Not applicable.	<b>MOLECULAR WEIGHT:</b> 17.66 g/mole
<b>SPECIFIC GRAVITY: LIQUID ( Water = 1)</b> Not applicable.	<b>SOLUBILITY IN WATER:</b> Very slightly soluble in cold water.	
<b>SPECIFIC GRAVITY: VAPOUR (air = 1)</b> 0.55	<b>EVAPORATION RATE (Butyl Acetate=1):</b> Not available.	<b>COEFFICIENT OF WATER/OIL DISTRIBUTION:</b> Not applicable.
<b>VAPOUR DENSITY:</b> 0.615	<b>% VOLATILES BY VOLUME:</b> 100% (v/v).	<b>ODOUR THRESHOLD:</b> 0.001 ppm
<b>APPEARANCE &amp; ODOUR:</b> Colourless. Odour: Faint, disagreeable. (Slight.)		

**10. Stability and Reactivity**

<b>STABILITY:</b>	The product is stable.
<b>CONDITIONS OF CHEMICAL INSTABILITY:</b>	Not available.
<b>INCOMPATIBILITY (materials to avoid):</b>	Oxidizing agents in the presence of ignition source.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	Thermal decomposition or burning may produce carbon monoxide/carbon dioxide and possible trace amounts of sulphur dioxide and oxides of nitrogen.
<b>HAZARDOUS POLYMERIZATION:</b>	Will not occur.
<b>CONDITIONS OF REACTIVITY:</b>	None known.

**11. Toxicological Information**

See section 3.

**12. Ecological Information**

No adverse ecological effects expected. This product does not contain any Class I or Class II ozone-depleting chemicals. The components of this mixture are not listed as marine pollutants by TDG Regulations.

**13. Disposal Considerations**

**WASTE DISPOSAL METHOD:** Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.

**14. Transport Information**

**TDG/IMO SHIPPING NAME:** Natural Gas, Compressed

<b>HAZARD CLASS:</b>	<b>IDENTIFICATION #:</b>	<b>PRODUCT RQ:</b>
C L A S S 2 . 1 : Flammable gas.	1971	100 L

**SHIPPING LABEL(s):** Flammable gas

**PLACARD (when required):** Flammable gas

**SPECIAL SHIPPING INFORMATION:**

Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, nonventilated compartment of vehicle can present serious safety hazards.

**15. Regulatory Information**

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, provincial, and local regulations.

Product Name: Natural gas

MSDS# E-4550-B

Date: 10/15/2004

WHMIS (Canada) CLASS A: Compressed gas.  
CLASS B-1: Flammable gas.

**International Regulations**

EINECS Not available.  
DSCL (EEC) This product is not classified according to the EU regulations.  
International Lists No products were found.

**16. Other Information**

**MIXTURES:**

When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist, or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

**HAZARD RATING SYSTEM:**

**HMIS RATINGS:**

HEALTH 0  
FLAMMABILITY 4  
PHYSICAL HAZARD 0

**STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA:**

THREADED: 0 - 3000 psig: CGA-350  
PIN-INDEXED YOKE: Not applicable.  
ULTRA-HIGH-INTEGRITY CONNECTION: Not applicable.

Use the proper CGA connections. **DO NOT USE ADAPTERS.** Additional limited-standard connections may apply. See CGA pamphlets V-1 and V-7 listed below.

Ask your supplier about free Praxair safety literature as referred to in this MSDS and on the label for this product. Further information about this product can be found in the following pamphlets published by the Compressed Gas Association, Inc. (CGA), 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923, Telephone (703) 788-2700, Fax (703) 961-1831, website: [www.cganet.com](http://www.cganet.com).

- AV-1 Safe Handling and Storage of Compressed Gas
- P-1 Safe Handling of Compressed Gases in Containers
- P-14 Accident Prevention in Oxygen-Rich, Oxygen-Deficient Atmospheres
- SB-2 Oxygen-Deficient Atmospheres
- V-1 Compressed Gas Cylinder Valve Inlet and Outlet Connections
- V-7 Standard Method of Determining Cylinder Valve Outlet Connections for Industrial Gas Mixtures
- Handbook of Compressed Gases, Fourth Edition

**PREPARATION INFORMATION:**

DATE: 10/15/2004  
DEPARTMENT: Safety and Environmental Services  
TELEPHONE: 905-803-1600

Product Name: Natural gas

MSDS# E-4550-B

Date: 10/15/2004

The opinions expressed herein are those of qualified experts within Praxair Canada Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair Canada Inc., it is the user's obligation to determine the conditions of safe use of the product.

Praxair Canada Inc. requests the users of this product to study this Material Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify its employees, agents and contractors of the information on this MSDS and any product hazards and safety information, (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees and customers for the product of the same product hazards and safety information.

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Praxair Canada Inc.  
1 City Centre Drive  
Suite 1200  
Mississauga, ON L5B 1M2

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# Material Safety Data Sheet

## NATURAL GAS CONDENSATE

April 28, 1995

PHILLIPS PETROLEUM COMPANY Bartlesville, Oklahoma 74004	PHONE NUMBERS Emergency: (918) 661-8118 General MSDS Information: (918) 661-8327 For Additional MSDSs: (918) 661-5952
------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------

### A. Product Identification

Synonyms: Drip; Hydrocarbon gas drip; Gas drip  
 Chemical Name: Natural gas condensate  
 Chemical Family: Mixture  
 Chemical Formula: Mixture  
 CAS Reg. No.: 68919-39-1  
 Product No.: Not Established

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product is in U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals; hence, it may be subject to applicable TSCA provisions and restrictions.

### B. Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
Hydrogen sulfide	7783-06-4	0-20	10 ppm	10 ppm
C2 Hydrocarbons (As ethane)	Various	0-5	NE	Simple
Asphyxiant				
C3 Hydrocarbons (As propane)	Various	0-15	1000 ppm	Simple
Asphyxiant				
C4 Hydrocarbons (As butane)	Various	0-45	800 ppm	800 ppm
C5 Hydrocarbons (As pentane)	Various	5-70	600 ppm	600 ppm
C6 Hydrocarbons (As n-hexane)	Various	25-95	50 ppm(1)	50 ppm(1)
may include: Cyclohexane	110-82-7	NE	300 ppm	300 ppm
C7 Hydrocarbons (As heptane)	Various	25-95	400 ppm	400 ppm
C8 Hydrocarbons (As octane)	Various	25-95	300 ppm	300 ppm
Aromatic Hydrocarbons	Various	0-10	NE	NE
may include: Benzene	71-43-2	NE	1 ppm(2)	10 ppm
Toluene	108-88-3	NE	100 ppm	100 ppm
Mixed xylene	1330-20-7	NE	100 ppm	100 ppm
Ethylbenzene	100-41-4	NE	100 ppm	100 ppm

(1) As n-Hexane. As Hexane isomers 500 ppm.  
 (2) Areas exempted by the Benzene Standard, 29 CFR 1910.1028, will have a 10 ppm 8 hour TWA.

## C. Personal Protection Information

Ventilation: Use adequate ventilation to control exposure below recommended levels.

Respiratory Protection: For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air supplied respirator. In case of spill or leak resulting in unknown concentrations, use NIOSH/MSHA approved supplied air respirator.

Eye Protection: Use chemical goggles.

Skin Protection: Use full-body, long-sleeved garments. Use polyvinyl alcohol or Buna-N gloves.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

---

## D. Handling and Storage Precautions

Do not get in eyes, on skin or on clothing. Do not breathe vapor, mist, fume or dust. May be harmful. Proper personal protective equipment must be used when handling this chemical. Launder contaminated clothing before reuse. Wash thoroughly after handling. Use only with adequate ventilation. Do not swallow. May be aspirated into lungs.

Store in a well-ventilated area. Store in tightly closed container. Keep away from heat, sparks, and flames. Bond and ground during transfer.

---

## E. Reactivity Data

Stability: Stable  
Conditions to Avoid: Not Applicable  
Incompatibility (Materials to Avoid): Oxygen and strong oxidizing materials

Hazardous Polymerization: Will Not Occur  
Conditions to Avoid: Not Applicable  
Hazardous Decomposition Products: Carbon oxides and various hydrocarbons formed when burned. Sulfur oxides may be formed if hydrogen sulfide is present.

---

## F. Health Hazard Data

### Recommended Exposure Limits:

See Section B.

### Acute Effects of Overexposure:

Eye: May cause irritation including pain, blurred vision,

redness, tearing and superficial corneal turbidity.

Skin: May cause slight irritation. Extreme exposure may produce discoloration, muscle weakness, breathing difficulties and other central nervous system effects.

Inhalation: Toxic by this route of exposure. May cause nausea, diarrhea, loss of appetite, dizziness, disorientation, headache, excitation, rapid respiration, drowsiness, labored breathing, anesthesia and other central nervous system effects. Hydrogen sulfide may cause lung paralysis and asphyxiation. Extreme overexposure may cause rapid unconsciousness and respiratory arrest.

Ingestion: May be mildly irritating to intestines. If swallowed, may be aspirated resulting in inflammation and possible fluid accumulation in the lungs.

**Subchronic and Chronic Effects of Overexposure:**

Benzene has been designated as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), and the Occupational Safety and Health Administration (OSHA). Benzene may produce blood changes which include reduced platelets, reduced red blood cells, reduced white blood cells, aplastic anemia, and acute nonlymphocytic leukemia. Benzene has produced fetal death in laboratory animals and caused chromosome changes in humans and mutation changes in cells of other organisms.

Chronic high level n-hexane exposure damages the nervous system initially producing a lack of feeling in the extremities and possibly progressing to a more severe nerve damage.

Inhalation of high levels (1000 and 5000 ppm) of n-hexane has produced testicular damage in rats. Mice exposed to the same dose levels showed no testicular effects.

**Other Health Effects:**

The odor of hydrogen sulfide may not be recognized after prolonged inhalation due to paralysis of the sense of smell. Effects from inhaling the fume may lead to chronic bronchitis, respiratory irritation, increased loss of pulmonary function, and tearing of the eyes.

Some isoparaffins have produced kidney damage in male rats only. No comparable kidney disease is known to occur in humans.

**Health Hazard Categories:**

	Animal	Human		Animal	Human
Known Carcinogen	<u>  X  </u>	<u>  X  </u>	Toxic	<u>  X  </u>	<u>    </u>
Suspect Carcinogen	<u>    </u>	<u>    </u>	Corrosive	<u>    </u>	<u>    </u>
Mutagen	<u>  X  </u>	<u>    </u>	Irritant	<u>    </u>	<u>    </u>
Teratogen	<u>    </u>	<u>    </u>	Target Organ Toxin	<u>  X  </u>	<u>  X  </u>
Allergic Sensitizer	<u>    </u>	<u>    </u>	Specify - Nerve Toxin; Liver and Kidney		
Highly Toxic	<u>    </u>	<u>    </u>	Toxin; Lung-Aspiration Hazard		

**First Aid and Emergency Procedures:**

Eye: Flush eyes with running water for at least fifteen minutes. If irritation or adverse symptoms develop, seek medical attention.

Skin: Wash skin with soap and water for at least fifteen minutes. If irritation or adverse symptoms develop, seek medical attention.

Inhalation: Immediately remove from exposure. If breathing is difficult, give oxygen. If breathing ceases, administer artificial respiration followed by oxygen. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Seek immediate medical attention.

Note to Physician: Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

---

## G. Physical Data

Appearance: Colorless to dark liquid  
Odor: Rotten egg odor if hydrogen sulfide is present.  
Boiling Point: Not Established  
Vapor Pressure: < 40 psia @ 70F (21C) (Estimated)  
Vapor Density (Air = 1): >1  
Solubility in Water: Negligible  
Specific Gravity (H<sub>2</sub>O = 1): 0.5-0.7 (Estimated)  
Percent Volatile by Volume: 100  
Evaporation Rate (Butyl Acetate = 1): >1  
Viscosity: < 40 SUS @ 68F (20C)

---

## H. Fire and Explosion Data

Flash Point (Method Used): <-100F (<-73C) (Estimated)  
Flammable Limits (% by Volume in Air): LEL - Not Established  
UEL - Not Established

Fire Extinguishing Media: Dry chemical, foam or carbon dioxide (CO<sub>2</sub>)

Special Fire Fighting Procedures: Evacuate area of all unnecessary personnel. Use NIOSH/MSHA approved self-contained breathing apparatus and other protective equipment and/or garments described in Section C if conditions warrant. Shut off source, if possible. Water fog or spray may be used to cool exposed equipment and containers. Allow fire to burn until gas flow is shut off, if possible.

Fire and Explosion Hazards: Carbon oxides and possibly sulfur oxides formed when burned. Highly flammable vapors which are heavier than air may accumulate in low areas and/or spread along ground away from handling site.

## I. Spill, Leak and Disposal Procedures

### Precautions Required if Material is Released or Spilled:

Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Shut off source, if possible. Protect from ignition. Ventilate area thoroughly.

### Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):

Incinerate or otherwise manage at a RCRA permitted waste management facility.

---

## J. DOT Transportation

### For Natural Gas Condensate with an IBP < 68F

Shipping Name: Hydrocarbon gases mixtures, liquefied, n.o.s.  
(contains Propanes and Butanes)

Hazard Class: 2.1 (Flammable gas)

ID Number: UN 1965

Packing Group: Not applicable

Marking: Hydrocarbon gases mixtures, liquefied,, n.o.s.  
(contains Propanes and Butanes), UN 1965, RQ\*

Label: Flammable gas

Placard: Flammable gas/1965

Hazardous Substance/RQ: Benzene/10#; Toluene/1000#; Cyclohexane/1000#;  
Xylene/1000#; Ethylbenzene/1000#

Shipping Description: Hydrocarbon gases mixtures, liquefied, n.o.s.  
(contains Propanes and Butanes), 2.1  
(Flammable gas), UN 1965, RQ\*

Packaging References: 49 CFR 173.304, 173.306, 173.314, 173.315

\*Enter the letters "RQ" and the name of the hazardous substance as shown only if the hazardous substance is present in a quantity, in one package, which equals or exceeds the reportable quantity (RQ) shown for the hazardous substance.

### For Natural Gas Condensate with an IBP > 68F

Shipping Name: Natural gasoline

Hazard Class: 3 (Flammable liquid)

ID Number: UN 1257

Packing Group: I (if IBP < 95F) or II (if IBP > 95F)

Marking: Natural gasoline, Un 1257, RQ\*

Label: Flammable liquid

Placard: Flammable liquid/1257

Hazardous Substance/RQ: Benzene/10#; Toluene/1000#; Cyclohexane/1000#;  
Xylene/1000#; Ethylbenzene/1000#

Shipping Description: Natural gasoline, 3 (Flammable liquid),  
UN 1257, PG I or II, RQ\*

Packaging References: 49 CFR 173.150, 173.201, 173.202, 173.242, 173.243

\*Enter the letters "RQ" and the name of the hazardous substance as shown only if the hazardous substance is present in a quantity, in one package, which equals or exceeds the reportable quantity (RQ) shown for the hazardous substance.

---

## K. RCRA Classification - Unadulterated Product as a Waste

Ignitable (D001)

Prior to disposal, consult your environmental contact to determine if TCLP (Toxicity Characteristic Leaching Procedure, EPA Test Method 1311) is required. Reference 40 CFR Part 261.

## L. Protection Required for Work on Contaminated Equipment

Contact immediate supervisor for specific instructions before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

## M. Hazard Classification

This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

<input type="checkbox"/> Combustible Liquid	<input type="checkbox"/> Flammable Aerosol	<input type="checkbox"/> Oxidizer
<input type="checkbox"/> Compressed Gas	<input type="checkbox"/> Explosive	<input type="checkbox"/> Pyrophoric
<input type="checkbox"/> Flammable Gas	<input checked="" type="checkbox"/> Health Hazard (Section F)	<input type="checkbox"/> Unstable
<input checked="" type="checkbox"/> Flammable Liquid	<input type="checkbox"/> Organic Peroxide	<input type="checkbox"/> Water Reactive
<input type="checkbox"/> Flammable Solid		

Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

## N. Additional Comments

SARA 313

This product contains the following chemical or chemicals 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. (See Section B).

Hexane  
Benzene  
Toluene  
Mixed xylene  
Ethylbenzene  
Cyclohexane

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## MATERIAL SAFETY DATA SHEET

### SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT

**Product Name:** ESSOLUBE XDI 5W-30 PROPANE/CNG ENGINE OIL  
**Product Description:** Base Oil and Additives  
**Product Code:** 15036  
**Intended Use:** Engine oil

#### COMPANY IDENTIFICATION

**Supplier:** Canada Imperial Oil Limited, An Affiliate of Exxon Mobil Corporation  
P.O. Box 4029, Station A  
Calgary, ALBERTA. T2P 3M9 Canada

<b>24 Hour Health Emergency</b>	519-339-2145
<b>Transportation Emergency Phone</b>	519-339-2145
<b>Supplier General Contact</b>	1-800-567-3776

### SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

### SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

#### POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

<b>NFPA Hazard ID:</b>	Health: 0	Flammability: 1	Reactivity: 0
<b>HMIS Hazard ID:</b>	Health: 0	Flammability: 1	Reactivity: 0

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

### SECTION 4 FIRST AID MEASURES

#### INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

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## SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

## EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

## INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

## SECTION 5 FIRE FIGHTING MEASURES

### EXTINGUISHING MEDIA

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight Streams of Water

### FIRE FIGHTING

**Fire Fighting Instructions:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Sulfur oxides, Incomplete combustion products, Oxides of carbon, Aldehydes, Smoke, Fume

### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** 200C (392F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0

**Autoignition Temperature:** 315°C (599°F)

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

### SPILL MANAGEMENT

**Land Spill:** Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other

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shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

## ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7 HANDLING AND STORAGE

### HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard.

**Static Accumulator:** This material is a static accumulator.

### STORAGE

Do not store in open or unlabelled containers.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure limits/standards for materials that can be formed when handling this product:** When mists / aerosols can occur, the following are recommended: 5 mg/m<sup>3</sup> - ACGIH TLV, 10 mg/m<sup>3</sup> - ACGIH STEL, 5 mg/m<sup>3</sup> - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

### ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:  
No special requirements under ordinary conditions of use and with adequate ventilation.

### PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

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For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

### GENERAL INFORMATION

**Physical State:** Liquid  
**Form:** Clear  
**Color:** Amber  
**Odor:** Characteristic  
**Odor Threshold:** N/D

### IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

**Relative Density (at 15 C):** 0.86  
**Flash Point [Method]:** 200C (392F) [ ASTM D-92]  
**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0  
**Autoignition Temperature:** 315°C (599°F)  
**Boiling Point / Range:** 340C (644F) - 600C (1112F)  
**Vapor Density (Air = 1):** > 2 at 101 kPa  
**Vapor Pressure:** [N/D at 20 °C ] | < 1 kPa (7.5 mm Hg) at 38C  
**Evaporation Rate (n-butyl acetate = 1):** < 0.1  
**pH:** N/A  
**Log Pow (n-Octanol/Water Partition Coefficient):** > 3.5  
**Solubility in Water:** Negligible  
**Viscosity:** >20 cSt (20 mm2/sec ) at 40 C | 10.7 cSt (10.7 mm2/sec) at 100C  
**Oxidizing Properties:** See Sections 3, 15, 16.

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## OTHER INFORMATION

Freezing Point: N/D

Melting Point: N/A

Pour Point: -30°C (-22°F)

DMSO Extract (mineral oil only), IP-346: < 3 %wt

## SECTION 10 STABILITY AND REACTIVITY

**STABILITY:** Material is stable under normal conditions.

**CONDITIONS TO AVOID:** Excessive heat. High energy sources of ignition.

**MATERIALS TO AVOID:** Strong oxidizers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

**HAZARDOUS POLYMERIZATION:** Will not occur.

## SECTION 11 TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
<b>Inhalation</b>	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
<b>Ingestion</b>	
Toxicity (Rat): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
<b>Skin</b>	
Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
<b>Eye</b>	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

### CHRONIC/OTHER EFFECTS

#### For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.

Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

#### Contains:

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Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC  
2 = NTP SUS

3 = IARC 1  
4 = IARC 2A

5 = IARC 2B  
6 = OSHA CARC

## SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

### ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

### MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

### PERSISTENCE AND DEGRADABILITY

#### Biodegradation:

Base oil component -- Expected to be inherently biodegradable

### BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

## SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

### DISPOSAL RECOMMENDATIONS

Dispose of waste at an appropriate treatment & disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration.

### REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous

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waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

**Empty Container Warning** PRECAUTIONARY LABEL TEXT: Empty containers may retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

**SECTION 14 TRANSPORT INFORMATION**

**LAND (DOT)** : Not Regulated for Land Transport

**LAND (TDG)** : Not Regulated for Land Transport

**SEA (IMDG)** : Not Regulated for Sea Transport according to IMDG-Code

**AIR (IATA)** : Not Regulated for Air Transport

**SECTION 15 REGULATORY INFORMATION**

**OSHA HAZARD COMMUNICATION STANDARD:** When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

**NATIONAL CHEMICAL INVENTORY LISTING:** DSL, TSCA

**EPCRA:** This material contains no extremely hazardous substances.

**SARA (311/312) REPORTABLE HAZARD CATEGORIES:** None.

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below:

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	5, 9, 18
ZINC ALKYL DITHIOPHOSPHATE	68649-42-3	15

--REGULATORY LISTS SEARCHED--

- |               |              |                   |             |
|---------------|--------------|-------------------|-------------|
| 1 = ACGIH ALL | 6 = TSCA 5a2 | 11 = CA P65 REPRO | 16 = MN RTK |
| 2 = ACGIH A1  | 7 = TSCA 5e  | 12 = CA RTK       | 17 = NJ RTK |
| 3 = ACGIH A2  | 8 = TSCA 6   | 13 = IL RTK       | 18 = PA RTK |



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4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

**SECTION 16 OTHER INFORMATION**

N/D = Not determined, N/A = Not applicable

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

No revision information is available.

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MHC: 0, 0, 0, 0, 0, 0

PPEC: A

DGN: 5013285 (1002629)

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USED OIL

**MATERIAL SAFETY INFORMATION SHEET**



**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME:** USED OIL

**SYNONYMS:** Waste oil; Used lubricating oil; Oil and water mixture

**PRODUCT PART NUMBER(S):** Not applicable.

**PRODUCT USE:** Oil or water mixture for re-refining or reprocessing.  
If this product is used in combination with other products, refer to the Material Safety Data Sheets for those products.

These numbers are for emergency use only. If you desire non-emergency product information, please call a phone number listed below.

**24-HOUR EMERGENCY PHONE NUMBERS**

**MEDICAL:**

**1-800-752-7869**

**TRANSPORTATION (SPILL):**

**1-800-468-1760**

**MANUFACTURER/ SUPPLIER:** Safety-Kleen Systems, Inc.  
5400 Legacy Drive  
Cluster II, Building 3  
Plano, Texas 75024  
USA  
**1-800-669-5740**  
**www.Safety-Kleen.com**

**TECHNICAL INFORMATION:** 1-800-669-5740 Press 1 then 1 then Extension 7500

**MSDS FORM NUMBER:** 81451

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**PREPARED BY:** Product MSDS Coordinator

**APPROVED BY:** MSDS Task Force

**USED OIL  
MATERIAL SAFETY INFORMATION SHEET**

**SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS**

WT%	NAME	SYNONYM	CAS NO.	OSHA PEL		ACGIH TLV®		LD <sup>a</sup>	LC <sup>b</sup>
				TWA	STEL	TWA	STEL		
80 to 100	Lubricating oils, used	Used oil	70514-12-4	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 20*	Water/solids	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 10*	Hydrocarbon solvents. May include gasoline, diesel fuel, jet fuel, mineral spirits, etc.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 1.5*	Metals. May include lead, iron, zinc, copper, chromium, arsenic, nickel, and others: each below 1.0 WT%.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 1.0*	Polynuclear aromatics. May include naphthalene, fluoranthene, phenanthrene, pyrene, and others: each below 0.3 WT%.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.
0 to 0.5*	Chlorinated solvents.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.	N. Av.

N.Av. = Not Available

\*Even though the concentration range does not fall under the ranges prescribed by WHMIS, this is the actual range which varies with each batch of the product.

<sup>a</sup>Oral-Rat LD<sub>50</sub> (mg/kg)

<sup>b</sup>Inhalation-Rat LC<sub>50</sub>

**SECTION 3: HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

**APPEARANCE**

Liquid, black and viscous (thick), petroleum odor.

**WARNING!**

**PHYSICAL HAZARDS**

Combustible liquid.

**HEALTH HAZARDS**

May be harmful if inhaled.

May be harmful if absorbed through skin.

May be harmful or fatal if swallowed.

May irritate the respiratory tract (nose, throat, and lungs), eyes, and skin.

Suspect cancer hazard. Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Contains material which can cause birth defects.

Contains material which can cause lung, liver, kidney, skin, and/or central nervous system damage.

**ENVIRONMENTAL HAZARDS**

Product may be toxic to fish, plants, wildlife, and/or domestic animals.

# USED OIL MATERIAL SAFETY INFORMATION SHEET

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## POTENTIAL HEALTH EFFECTS

Effects may vary depending on material composition. Typical effects may include:

**INHALATION (BREATHING):** High concentrations of vapor or mist may be harmful if inhaled. High concentrations of vapor or mist may irritate the respiratory tract (nose, throat, and lungs). High concentrations of vapor or mist may cause nausea, vomiting, headaches, dizziness, loss of coordination, numbness, and other central nervous system effects. Massive acute overexposure may cause rapid central nervous system depression, sudden collapse, coma, and/or death.

**EYES:** May cause irritation.

**SKIN:** May cause irritation. Product may be absorbed through the skin and cause harm as noted under **INHALATION (BREATHING)**.

**INGESTION (SWALLOWING):** May be harmful or fatal if swallowed. May cause throat irritation, nausea, vomiting, and central nervous system effects as noted under **INHALATION (BREATHING)**. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Individuals with pre-existing cardiovascular, liver, kidney, respiratory tract (nose, throat, and lungs), central nervous system, eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

**CHRONIC:** Prolonged or repeated inhalation may cause oil pneumonia, lung tissue inflammation, fibrous tissue formation, and/or toxic effects as noted under **INHALATION (BREATHING)**. Prolonged or repeated eye contact may cause inflammation of the membrane lining the eyelids and covering the eyeball (conjunctivitis). Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis).

**CANCER INFORMATION:** This product contains mineral oils, untreated or mildly treated, which can cause cancer. This product may contain hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics which can cause cancer. Risk of cancer depends on duration and level of exposure. For more information, see **SECTION 11: CARCINOGENICITY**.

## POTENTIAL ENVIRONMENTAL EFFECTS

Product may be toxic to fish, plants, wildlife, and/or domestic animals. Also see **SECTION 12: ECOLOGICAL INFORMATION**.

**USED OIL  
MATERIAL SAFETY INFORMATION SHEET**

**SECTION 4: FIRST AID MEASURES**

- INHALATION:  
(BREATHING)** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.
- EYES:** If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.
- SKIN:** Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists.
- INGESTION:  
(SWALLOWING)** Do NOT induce vomiting. Immediately get medical attention. Call 1-800-752-7869 for additional information.  
If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything to an unconscious person by mouth.
- NOTE TO  
PHYSICIANS:** Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-752-7869 for additional information.

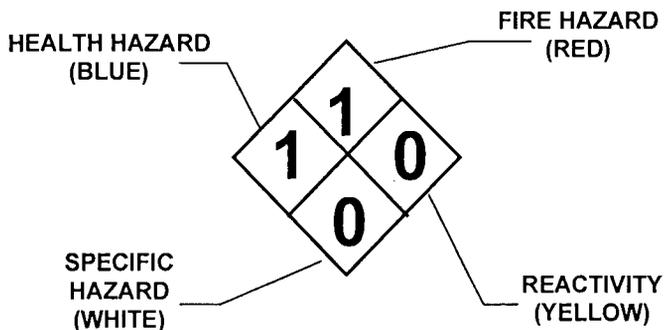
**SECTION 5: FIRE FIGHTING MEASURES**

- FLASH POINT:** >200°F (93°C) (minimum) Pensky-Martens Closed Cup
- FLAMMABLE LIMITS IN AIR:** Not available.
- AUTOIGNITION  
TEMPERATURE:** Not available.
- HAZARDOUS COMBUSTION  
PRODUCTS:** Decomposition and combustion materials may be toxic. Burning may produce phosgene gas, nitrogen oxides, carbon monoxide, and unidentified organic compounds.
- CONDITIONS OF  
FLAMMABILITY:** Heat, sparks, or flame. Product may burn but does not ignite readily.
- EXTINGUISHING MEDIA:** Use carbon dioxide, regular foam, dry chemical, water spray, or water fog.

# USED OIL MATERIAL SAFETY INFORMATION SHEET

## NFPA 704 HAZARD IDENTIFICATION:

This information is intended solely for the use by individuals trained in this system.



## FIRE FIGHTING INSTRUCTIONS:

Keep storage containers cool with water spray. A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

## FIRE AND EXPLOSION HAZARDS:

Heated containers may rupture. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact. Product may be sensitive to static discharge, which could result in fire or explosion.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface waters and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal.

Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal.

There may be specific federal regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see **SECTION 15: REGULATORY INFORMATION**.

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**SECTION 7: HANDLING AND STORAGE**

**HANDLING:** Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring product, storage tanks, tanker trucks, and rail tank cars should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, and shoes. Do not smoke while using this product.

**SHIPPING AND STORING:** Keep container tightly closed when not in use and during transport. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous. See **SECTION 14: TRANSPORT INFORMATION** for Packing Group information.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** Use general ventilation, process enclosures, local exhaust ventilation, or other engineering controls to control air-borne levels. Where explosive mixtures may be present, equipment safe for such locations should be used.

**PERSONAL PROTECTIVE EQUIPMENT**

**RESPIRATORY PROTECTION:** A respiratory protection program which meets USA's OSHA General Industry Standard 29 CFR 1910.134 or Canada's CSA Standard Z94.4-M1982 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult a qualified Industrial Hygienist or Safety Professional for respirator selection guidance.

**EYE PROTECTION:** Wearing chemical goggles is recommended. Contact lens may be worn with eye protection.

**SKIN PROTECTION:** Where prolonged or repeated skin contact is likely, wear neoprene, nitrile (4 mil minimum), PVC (polyvinyl chloride), or equivalent protective gloves; wearing natural rubber or equivalent gloves is not recommended.

When product is heated and skin contact is likely, wear heat-insulating gloves, boots, and other protective clothing.

To avoid prolonged or repeated contact with product where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

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**PERSONAL HYGIENE:** Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse. Discard affected clothing, shoes, and/or protective equipment if they cannot be thoroughly cleaned. Discard leather articles, such as shoes, saturated with the product.

**OTHER PROTECTIVE EQUIPMENT:** Where spills and splashes are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL STATE, APPEARANCE, AND ODOR:** Liquid, black and viscous (thick), petroleum odor.

**ODOR THRESHOLD:** Not available.

**MOLECULAR WEIGHT:** Not applicable.

**SPECIFIC GRAVITY:** 0.8 to 1.0 at 60°F (15.6°C) (water = 1)

**DENSITY:** 6.7 to 8.3 LB/US gal (800 to 1000 g/l) (approximately)

**VAPOR DENSITY:** greater than 1 (air = 1) (based on kerosene)

**VAPOR PRESSURE:** Not available.

**BOILING POINT:** Not available.

**FREEZING/MELTING POINT:** Not available.

**pH:** Not applicable.

**EVAPORATION RATE:** less than 1 (butyl acetate = 1)

**SOLUBILITY IN WATER:** Slight.

**FLASH POINT:** >200°F (93°C) (minimum) Pensky-Martens Closed Cup

**FLAMMABLE LIMITS IN AIR:** Not available.

**AUTOIGNITION TEMPERATURE:** Not available.

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**SECTION 10: STABILITY AND REACTIVITY**

- STABILITY:** Stable under normal temperatures and pressures. Avoid heat, sparks, or flame.
- INCOMPATIBILITY:** Avoid acids, alkalis, oxidizing agents, reducing agents, reactive halogens, or reactive metals.
- REACTIVITY:** Polymerization is not known to occur under normal temperatures and pressures. Not reactive with water.
- HAZARDOUS DECOMPOSITION PRODUCTS:** None under normal temperatures and pressures. Also see **SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.**

**SECTION 11: TOXICOLOGICAL INFORMATION**

- SENSITIZATION:** Based on best current information, there may be known human sensitization associated with this product.
- MUTAGENICITY:** Based on best current information, there may be mutagenicity associated with this product.
- CARCINOGENICITY:** Mineral oils, untreated or mildly treated are listed by IARC as a known carcinogen. Mineral oils, untreated or mildly treated are classified by NTP as having limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.
- There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are listed by OSHA as known carcinogens. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are listed by IARC as known, probable, or possible carcinogens. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are classified by NTP as known carcinogens or as having limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals. There may be hydrocarbon and chlorinated solvents; metals, and polynuclear aromatics present in this product which are recognized by ACGIH as confirmed or suspected human carcinogens.
- Also see **SECTION 3: CANCER INFORMATION.**

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**REPRODUCTIVE TOXICITY:** Based on best current information, there may be reproductive toxicity associated with this product.

**TERATOGENICITY:** Based on best current information, there may be teratogenicity associated with this product.

**TOXICOLOGICALLY SYNERGISTIC PRODUCT(S):** Based on best current information, there may be toxicologically synergistic products associated with this product.

**SECTION 12: ECOLOGICAL INFORMATION**

**ECOTOXICITY:** Not available.

**OCTANOL/WATER PARTITION COEFFICIENT:** Not available.

**VOLATILE ORGANIC COMPOUNDS:** Not available.  
As per 40 CFR Part 51.100(s).

**SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

**SECTION 14: TRANSPORT INFORMATION**

**DOT:** Not regulated.

**TDG:** Not regulated.

**EMERGENCY RESPONSE GUIDE NUMBER:** Not applicable.  
Reference *North American Emergency Response Guidebook*

**SECTION 15: REGULATORY INFORMATION**

**USA REGULATIONS SARA SECTIONS 302 AND 304:** Based on the ingredient(s) listed in **SECTION 2**, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

**SARA SECTIONS:** This product poses the following physical and health hazards as

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**311 AND 312:** defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):  
Immediate (Acute) Health Hazard  
Delayed (Chronic) Health Hazard

**SARA SECTION 313:** This product may contain "toxic" chemicals subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

**CERCLA:** This product may contain "hazardous substances" listed pursuant to Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4.

**TSCA:** Not available.

**CALIFORNIA:** This product is not for sale or use in the State of California.

**CANADIAN REGULATIONS**

**WHMIS:** Not regulated

**CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):**

Not available.

**SECTION 16: OTHER INFORMATION**

**REVISION INFORMATION:** Update to Section 2.

**LABEL/OTHER INFORMATION:** Not available.

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User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the product as supplied to the user.



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MSDS Number: E5125 \*\*\*\*\* Effective Date: 11/09/06 \*\*\*\*\* Supercedes: 03/15/04

<b>MSDS</b> Material Safety Data Sheet	24 Hour Emergency Telephone: 800-943-2121 CHEMTEC: 1-800-424-9300
	Internal Telephone In Canada CANTEC: 615-666-4444
From: Mallinckrodt Baker, Inc. 223 Red School Lane Phillipsburg, NJ 08865	Outside U.S. and Canada Chemtec: 703-527-0867
Mallinckrodt CHEMICALS	JTBaker
NOTE: CHEMTEC, CANTEC, and CHEMTEC Emergency Center emergency numbers will be least only in the event of chemical emergencies involving a spill, leak, fire, explosion or release of any chemical.	
All non-emergency questions should be directed to Customer Service (1-800-582-2637) for assistance.	

## ETHYLENE GLYCOL

## 1. Product Identification

Synonyms: 1,2-Ethandiol; glycol; 1,2-Dihydroxyethane; Ethylene Alcohol; Ethylene Dihydrate  
 CAS No.: 107-21-1  
 Molecular Weight: 62.07  
 Chemical Formula: CH<sub>2</sub>OHCH<sub>2</sub>OH  
 Product Codes:  
 J.T. Baker: 5387, 5845, 9140, 9298, 9300, 9346, 9356, L715  
 Mallinckrodt: 5001, 5037

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Ethylene Glycol	107-21-1	99 - 100%	Yes

## 3. Hazards Identification

## Emergency Overview

**WARNING: HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.**

SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate (Life)  
 Flammability Rating: 1 - Slight  
 Reactivity Rating: 1 - Slight  
 Contact Rating: 3 - Severe (Life)  
 Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES  
 Storage Color Code: Green (General Storage)

## Potential Health Effects

## Inhalation:

Vapor inhalation is generally not a problem unless heated or misted. Exposure to vapors over an extended time period has caused throat irritation and headache. May cause nausea, vomiting, dizziness and drowsiness. Pulmonary edema and central nervous system depression may also develop. When heated or misted, has produced rapid, involuntary eye movement and coma.

## Ingestion:

Initial symptoms in massive dosage parallel alcohol intoxication, progressing to CNS depression, vomiting, headache, rapid respiratory and heart rate, lowered blood pressure, stupor, collapse, and unconsciousness with convulsions. Death from respiratory arrest or cardiovascular collapse may follow. Lethal dose in humans: 100 ml (3-4 ounces).

## Skin Contact:

Minor skin irritation and penetration may occur.

## Eye Contact:

Splashes may cause irritation, pain, eye damage.

## Chronic Exposure:

Repeated small exposures by any route can cause severe kidney problems. Brain damage may also occur. Skin allergy can develop. May damage the developing fetus.

## Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders, eye problems, or impaired liver, kidney, or respiratory function may be more susceptible to the effects of this substance.

## 4. First Aid Measures

## Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

## Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

## Skin Contact:

Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

## Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## Note to Physician:

Give sodium bicarbonate intravenously to treat acidosis. Urinalysis may show low specific gravity, proteinuria, pyuria, cylindruria, hematuria, calcium oxide, and hippuric acid crystals. Ethanol can be used in antidotal treatment but monitor blood glucose when administering ethanol because it can cause hypoglycemia. Consider infusion of a diuretic such as mannitol to help prevent or control brain edema and hemodialysis to remove ethylene glycol from circulation.

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## 5. Fire Fighting Measures

### Fire:

Flash point: 111C (232F) CC  
Autoignition temperature: 398C (748F)  
Flammable limits in air % by volume:  
lcl: 3.2; ucl: 15.3

Slight to moderate fire hazard when exposed to heat or flame.

### Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Containers may explode when involved in a fire.

### Fire Extinguishing Media:

Dry chemical, foam or carbon dioxide. Water or foam may cause frothing. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

### Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Toxic gases and vapors may be released if involved in a fire.

---

## 6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Separate from acids and oxidizing materials. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

---

## 8. Exposure Controls/Personal Protection

### Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):  
50 ppm Ceiling

-ACGIH Threshold Limit Value (TLV):  
50 ppm Ceiling (vapor)

### Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded, a half-face respirator with an organic vapor cartridge and particulate filter (NIOSH type P95 or R95 filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an organic vapor cartridge and particulate filter (NIOSH P100 or R100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. Please note that N series filters are not recommended for this material. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### Skin Protection:

Wear protective gloves and clean body-covering clothing.

### Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

---

## 9. Physical and Chemical Properties

### Appearance:

Clear oily liquid.

### Odor:

Odorless.

### Solubility:

Miscible in water.

### Specific Gravity:

1.1 @20C/4C

### pH:

No information found.

### % Volatiles by volume @ 21C (70F):

100

### Boiling Point:

197.6C (388F)

### Melting Point:

-13C (9F)

### Vapor Density (Air=1):

2.14

### Vapor Pressure (mm Hg):

0.06 @ 20C (68F)

### Evaporation Rate (BuAc=1):

No information found.

## 10. Stability and Reactivity

### Stability:

Stable under ordinary conditions of use and storage.

### Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide may form when heated to decomposition. May produce acrid smoke and irritating fumes when heated to decomposition.

### Hazardous Polymerization:

Will not occur.

### Incompatibilities:

Strong oxidizing agents. Reacts violently with chlorosulfonic acid, oleum, sulfuric acid, perchloric acid. Causes ignition at room temperature with chromium trioxide, potassium permanganate and sodium peroxide; causes ignition at 212F(100C) with ammonium dichromate, silver chlorate, sodium chloride and uranyl nitrate.

### Conditions to Avoid:

Heat, flames, ignition sources, water (absorbs readily) and incompatibles.

## 11. Toxicological Information

### Toxicological Data:

Oral rat LD50: 4700 mg/kg; skin rabbit LD50: 9530 mg/kg.

Irritation - skin rabbit: 555mg(open), mild; eye rabbit: 500mg/24H, mild.

Investigated as a tumorigen, mutagen, reproductive effector.

### Reproductive Toxicity:

Has shown teratogenic effects in laboratory animals.

-----\Cancer Lists\-----			
Ingredient	--NTP Carcinogen--		IARC Category
	Known	Anticipated	
Ethylene Glycol (107-21-1)	No	No	None

## 12. Ecological Information

### Environmental Fate:

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is not expected to evaporate significantly. When released into water, this material is expected to readily biodegrade. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material is not expected to significantly bioaccumulate. This material has a log octanol-water partition coefficient of less than 3.0. When released into water, this material is not expected to evaporate significantly. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days.

### Environmental Toxicity:

The LC50/96-hour values for fish are over 100 mg/l.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
Ethylene Glycol (107-21-1)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	--Canada--		
		DSL	NDSL	Phil.
Ethylene Glycol (107-21-1)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-SARA 313-	
	RQ	TPQ	List	Chemical Catg.
Ethylene Glycol (107-21-1)	No	No	Yes	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA-	-TSCA-
		261.33	8(d)
Ethylene Glycol (107-21-1)	5000	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
 SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No  
 Reactivity: No (Pure / Liquid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

### WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 1 Flammability: 1 Reactivity: 0

Label Hazard Warning:

WARNING! HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

Label Precautions:

- Do not breathe vapor or mist.
- Use only with adequate ventilation.
- Keep container closed.
- Avoid contact with eyes, skin and clothing.
- Wash thoroughly after handling.

Label First Aid:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. Call a physician if irritation develops or persists. If swallowed, give water or milk to drink and induce vomiting. Never give anything by mouth to an unconscious person. In all cases call a physician.

Product Use:

Laboratory Reagent.

Revision Information:

No Information Found.

Disclaimer:

\*\*\*\*\*  
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 \*\*\*\*\*

Prepared by: Environmental Health & Safety  
Phone Number: (314) 654-1600 (U.S.A.)

**USED ANTIFREEZE  
MATERIAL SAFETY INFORMATION SHEET FOR USA AND  
CANADA**



**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME:** USED ANTIFREEZE

**SYNONYMS:** 1,2-Ethanediol; 1,2-Ethylene glycol; 2-Hydroxyethanol; Ethylene alcohol

**PRODUCT CODE:** Prefix 95P

**PRODUCT USE:** Used automotive coolant.  
If this product is used in combination with other products, refer to the Material Safety Data Sheet for those products.

	<b>24-HOUR EMERGENCY PHONE NUMBERS</b>	
	<b>MEDICAL:</b>	<b>TRANSPORTATION (SPILL):</b>
<b>These numbers are for emergency use only. If you desire non-emergency product information, please call a phone number listed below.</b>	<b>1-800-752-7869</b>	<b>1-800-468-1760</b>

**SUPPLIER:** Safety-Kleen  
5400 Legacy Drive  
Cluster II, Building 3  
Plano, Texas 75024  
USA  
**1-800-669-5740**

**TECHNICAL INFORMATION:** 1-800-669-5740 Press 1 then Enter 7500

**MSDS FORM NUMBER:** 82912

**ISSUE:** February 20, 2003

**ORIGINAL ISSUE:** February 20, 2003

**SUPERSEDES:** Not applicable.

**PREPARED BY:** Product MSDS Coordinator

**APPROVED BY:** MSDS Task Force

**USED ANTIFREEZE**  
**MATERIAL SAFETY INFORMATION SHEET FOR USA AND CANADA**

**SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS**

WT%	NAME	SYNONYM	CAS NO.	OSHA PEL**		ACGIH TLV®		LD <sup>a</sup>	LC <sup>b</sup>
				TWA	STEL	TWA	STEL		
30-87	Water	N.Av.	7732-18-5	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.
2-68	Ethylene glycol	1,2-Ethandiol; 1,2-Dihydroxyethane	107-21-1	N.Av.	N.Av.	N.Av.	N.Av.	4700 mg/kg (9530 µL/kg) <sup>c</sup>	10876 mg/kg
4-44	1,2-Propylene glycol	N.Av.	57-55-6	N.Av. <sup>d</sup>	N.Av.	N.Av.	N.Av.	20 gm/kg (20800 mg/kg) <sup>c</sup>	N.Av.
1-2	Diethylene glycol	2,2'-oxybis-ethanol	111-46-6	N.Av. <sup>e</sup>	N.Av.	N.Av.	N.Av.	12565 mg/kg (11890 mg/kg) <sup>c</sup>	N.Av.

\*\*OSHA Final PEL value (enforceable). Some States have adopted more stringent values.

N.Av. = Not Available

<sup>b</sup>Inhalation-Rat LC<sub>50</sub>

<sup>2</sup>Oral-Rat LD<sub>50</sub>

<sup>c</sup>Skin-Rabbit LD<sub>50</sub>

<sup>d</sup>AIHA recommended TWA 50 ppm

<sup>e</sup>AIHA recommended TWA 10mg/m<sup>3</sup>

**SECTION 3: HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

**APPEARANCE**  
 Liquid, green, sweet odor. Syrupy.

**DANGER!**

**HEALTH HAZARDS**  
 May be harmful if inhaled.  
 May be fatal if swallowed.  
 May irritate the respiratory tract (nose, throat, and lungs), eyes, and skin. Contains material which may cause birth defects. Contains material which may cause lung, kidney, liver, central nervous system, and eye damage.

**POTENTIAL HEALTH EFFECTS**

**INHALATION (BREATHING):** This product is not likely to present an inhalation hazard at normal temperatures and pressures. However, when aerosolizing, misting, or heating this product, high concentrations of generated vapor or mist may irritate the respiratory tract (nose, throat, and lungs). High concentrations of vapor or mist may be harmful if inhaled. High concentrations of vapor or mist may cause liver, lung, and kidney damage. High concentrations of vapor or mist may cause nausea, vomiting, headaches, dizziness, loss of coordination, numbness, and other central nervous system effects. Massive acute overexposure may cause rapid central nervous system depression, sudden collapse, coma, and/or death.

**EYES:** May cause irritation. May cause inflammation of the iris, ciliary body, and the membrane lining the eyelids and covering the eyeball (conjunctivitis). May cause corneal damage.

**USED ANTIFREEZE**  
**MATERIAL SAFETY INFORMATION SHEET FOR USA AND CANADA**

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**SKIN:** May cause irritation. Not likely to be absorbed through the skin in harmful amounts.

**INGESTION (SWALLOWING):** May be fatal if swallowed. The estimated lethal dose is 100 ml (3.4 ounces). May damage lung, liver, and kidneys. May cause throat irritation, nausea, vomiting, central nervous system effects as noted under **INHALATION (BREATHING)**, unconsciousness, coma, and death. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Individuals with pre-existing liver, kidney, respiratory tract (nose, throat, and lungs), central nervous system, eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

**CHRONIC:** Prolonged or repeated inhalation may cause toxic effects as noted under **INHALATION (BREATHING)**. Prolonged or repeated eye contact may cause blindness. Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis). Prolonged or repeated exposure may have reproductive toxicity, teratogenic, or mutagenic effects.

**CANCER INFORMATION:** No known carcinogenicity. For more information, see **SECTION 11: CARCINOGENICITY**.

**POTENTIAL ENVIRONMENTAL EFFECTS**  
Not available. Also see **SECTION 12: ECOLOGICAL INFORMATION**.

<b>SECTION 4: FIRST AID MEASURES</b>
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**INHALATION (BREATHING):** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.

**EYES:** If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.

**SKIN:** Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists.

**INGESTION (SWALLOWING):** Do NOT induce vomiting. Immediately get medical attention. Call 1-800-752-7869 for additional information. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything to an unconscious person by mouth.

# USED ANTIFREEZE

## MATERIAL SAFETY INFORMATION SHEET FOR USA AND CANADA

### NOTE TO PHYSICIANS:

Treat symptomatically and supportively. Administration of gastric lavage, if warranted, should be performed by qualified medical personnel. Treatment may vary with condition of victim and specifics of incident. Call 1-800-752-7869 for additional information.

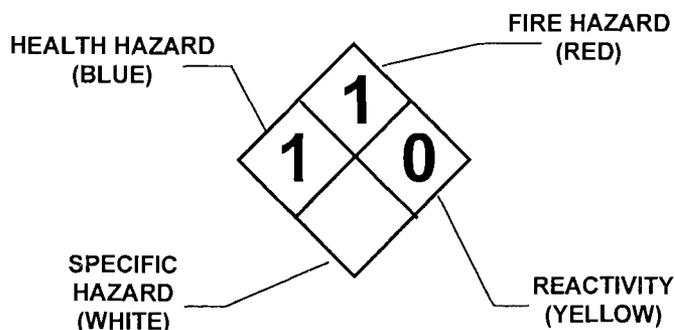
Ethylene glycol is metabolized by alcohol dehydrogenase to various metabolites including glycoaldehyde, glycolic acid, and oxalic acid. The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, central nervous system depression, and kidney damage. The currently recommended medical management of ethylene glycol poisoning includes elimination of ethylene glycol and metabolites, correction of metabolic acidosis, and prevention of kidney injury. As a competitive substrate for alcohol dehydrogenase, ethanol is antidotal when given in the early stages of intoxication because it blocks the formation of nephrotoxic metabolites. A more effective intravenous antidote is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenase, which effectively blocks the formation of toxic metabolites. Pulmonary edema with hypoxia has been described in a number of patients following ethylene glycol poisoning. Respiratory support with mechanical ventilation and positive end expiratory pressure may be required. There may be cranial nerve involvement in the later stages of toxicity from swallowing ethylene glycol. Effects have been reported presenting bilateral facial paralysis, diminished hearing, and dysphagia.

### SECTION 5: FIRE FIGHTING MEASURES

<b>FLASH POINT:</b>	>200°F (>93.3°C)	
<b>FLAMMABLE LIMITS IN AIR:</b>	<b>LOWER:</b> 3.2 VOL% (ethylene glycol)	<b>UPPER:</b> 15.3 VOL% (ethylene glycol)
<b>AUTOIGNITION TEMPERATURE:</b>	748°F (398°C) (ethylene glycol)	
<b>HAZARDOUS COMBUSTION PRODUCTS:</b>	Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide and unidentified organic compounds.	
<b>CONDITIONS OF FLAMMABILITY:</b>	Heat, sparks, or flame. Products may burn, but do not ignite readily.	
<b>EXTINGUISHING MEDIA:</b>	Carbon dioxide, alcohol-resistant foam, dry chemical, water spray, or water fog. Water or foam may cause frothing.	
<b>NFPA 704 HAZARD IDENTIFICATION:</b>	This information is intended solely for the use by individuals trained in this system.	

# USED ANTIFREEZE

## MATERIAL SAFETY INFORMATION SHEET FOR USA AND CANADA



### FIRE FIGHTING INSTRUCTIONS:

Keep storage containers cool with water spray. A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

### FIRE AND EXPLOSION HAZARDS:

Vapors will spread along the ground and collect in low or confined areas. Heated containers may rupture or be thrown into the air. "Empty" containers may retain residue and can be dangerous. Product is not sensitive to mechanical impact or static discharge.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean tool into a sealable container for disposal.

Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal.

## SECTION 7: HANDLING AND STORAGE

**HANDLING:** Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean tools and explosion-proof equipment. When transferring large volumes of product, metal containers, including trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, and shoes.

**SHIPPING AND STORING:** Keep container tightly closed when not in use and during transport. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources or ignition. Empty product containers may retain product residue and can be

**USED ANTIFREEZE**  
**MATERIAL SAFETY INFORMATION SHEET FOR USA AND CANADA**

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dangerous. See **SECTION 14: TRANSPORTATION INFORMATION** for Packing Group information.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT**

**RESPIRATORY PROTECTION:** Use NIOSH-certified, full-face, air-purifying respirators with P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1920.134; or in Canada with CSA Standard Z94.4.

**EYE PROTECTION:** Where eye contact is likely, wear chemical goggles; contact lens use is not recommended.

**SKIN PROTECTION:** Where skin contact is likely, wear Polyvinyl Chloride (PVC), neoprene, butyl rubber, nitrile, or equivalent protective gloves; use of polyvinyl alcohol (PVA) or equivalent gloves is not recommended. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

**PERSONAL HYGIENE:** Use good personal hygiene. Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse. Discard affected clothing, shoes, and/or protective equipment if they cannot be thoroughly cleaned. Discard leather articles, such as shoes, saturated with this product.

**OTHER PROTECTIVE EQUIPMENT:** Where spills and splashes are likely, facilities storing or using this product should be equipped with an emergency eyewash and shower, both equipped with clean water, in the immediate work area.

**USED ANTIFREEZE**  
**MATERIAL SAFETY INFORMATION SHEET FOR USA AND CANADA**

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL STATE, APPEARANCE, AND ODOR:** Liquid, green, sweet odor. Syrupy.  
**ODOR THRESHOLD:** Not available.

**MOLECULAR WEIGHT:** 106.

**SPECIFIC GRAVITY:** >1 (water = 1)

**DENSITY:** Not available.

**VAPOR DENSITY:** >1 (air = 1)

**VAPOR PRESSURE:** <0.1 mmHg at 68°F (20°C)

**BOILING POINT:** >300°F (148.9°C)

**FREEZING/MELTING POINT:** Not available.

**pH:** 6-10

**EVAPORATION RATE:** Not available.

**SOLUBILITY IN WATER:** Complete

**FLASH POINT:** >200°F (>93.3°C)

**FLAMMABLE LIMITS IN AIR:** **LOWER:** 3.2 VOL% (ethylene glycol) **UPPER:** 15.3 VOL% (ethylene glycol)

**AUTOIGNITION TEMPERATURE:** 748°F (398°C) (ethylene glycol)

**SECTION 10: STABILITY AND REACTIVITY**

**STABILITY:** Stable under normal temperatures and pressures. Avoid heat, sparks, or flame.

**INCOMPATIBILITY:** Avoid acids, alkalies, oxidizing agents, or reactive metals.

**REACTIVITY:** Polymerization is not known to occur under normal temperature and pressures. Not reactive with water.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None under normal temperatures and pressures. See also **SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.**

**USED ANTIFREEZE**  
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**SECTION 11: TOXICOLOGICAL INFORMATION**

**SENSITIZATION:** Ethylene glycol has demonstrated human effects of skin sensitization.  
 Based on best current information, the other components listed in **SECTION 2** are not sensitizers.

**MUTAGENICITY:** Ethylene glycol and diethylene glycol have demonstrated human effects of mutagenicity.

**CARCINOGENICITY:** Based on best current information, there is no known carcinogenicity as categorized by ACGIH A1 or A2 substances; as categorized by IARC Group 1, Group 2A, or Group 2B agents; or as listed by NTP as either known carcinogens or substances for which there is limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.

**REPRODUCTIVE TOXICITY:** Ethylene glycol and diethylene glycol have demonstrated animal effects of reproductive toxicity.

**TERATOGENICITY:** Ethylene glycol and diethylene glycol have demonstrated animal effects of teratogenicity.

**TOXICOLOGICALLY SYNERGISTIC PRODUCT(S):** Based on best current information, there are no known toxicologically synergistic products associated with this product.

**SECTION 12: ECOLOGICAL INFORMATION**

<b>ECOTOXICITY:</b>	<p><b>Ethylene glycol (107-21-1)</b></p> <table border="0"> <thead> <tr> <th style="text-align: left;">Test &amp; Species</th> <th style="text-align: left;">Conditions</th> </tr> </thead> <tbody> <tr> <td>96 Hr LC50 rainbow trout</td> <td>41000 mg/L</td> </tr> <tr> <td>96 Hr LC50 bluegill</td> <td>27500 mg/L</td> </tr> <tr> <td>96 Hr LC50 goldfish</td> <td>27500 mg/L</td> </tr> </tbody> </table> <p><b>1,2-Propylene glycol (57-55-6)</b></p> <table border="0"> <tbody> <tr> <td>24 Hr LC50 goldfish</td> <td>5000 mg/L</td> </tr> <tr> <td>48 Hr LC50 guppy</td> <td>10000 mg/L</td> </tr> </tbody> </table> <p><b>Diethylene glycol (111-46-6)</b></p> <table border="0"> <tbody> <tr> <td>96 Hr LC50 fathead minnow</td> <td>75200 mg/L</td> <td>flow-through</td> </tr> </tbody> </table>	Test & Species	Conditions	96 Hr LC50 rainbow trout	41000 mg/L	96 Hr LC50 bluegill	27500 mg/L	96 Hr LC50 goldfish	27500 mg/L	24 Hr LC50 goldfish	5000 mg/L	48 Hr LC50 guppy	10000 mg/L	96 Hr LC50 fathead minnow	75200 mg/L	flow-through
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**USED ANTIFREEZE**  
**MATERIAL SAFETY INFORMATION SHEET FOR USA AND CANADA**

**OCTANOL/WATER** Not available.  
**PARTITION COEFFICIENT:**  
**VOLATILE ORGANIC** Not available.  
**COMPOUNDS:**

**SECTION 13: DISPOSAL CONSIDERATIONS**

**DISPOSAL:** Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

**USEPA WASTE CODES(S):** This product, if discarded, is not expected to be a characteristic or listed hazardous waste. Processing, use, or contamination by the user may change the waste code(s) applicable to the disposal of this product.

**SECTION 14: TRANSPORT INFORMATION**

**DOT:** **Shipping Name:** Not regulated as a hazardous material for transportation.

**TDG:** **Shipping Name:** Not regulated as a dangerous good for transportation.

**EMERGENCY RESPONSE** Not applicable.  
**GUIDE NUMBER:** Reference *North American Emergency Response Guidebook*

**SECTION 15: REGULATORY INFORMATION**

**USA REGULATIONS**

**SARA SECTIONS 302 AND 304:** Based on the ingredient(s) listed in **SECTION 2**, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

**SARA SECTIONS 311 AND 312:** This product poses the following health hazard(s) as defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):  
Immediate (Acute) Health Hazard  
Delayed (Chronic) Health Hazard

**SARA SECTION 313:** The following component is subject to the requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

**USED ANTIFREEZE**  
**MATERIAL SAFETY INFORMATION SHEET FOR USA AND CANADA**

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**Ethylene glycol (107-21-1)** 1.0 percent de minimis concentration

**CERCLA:** Based on the ingredient(s) listed in SECTION 2, this product contains the following "hazardous substance(s)" listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4 with the following reportable quantities (RQ):

**Ethylene glycol (107-21-1)** 5000 lb final RQ; 2270 kg final RQ

**TSCA:** All the components of this product are listed on, or are automatically included as "naturally occurring chemical substances" on, or are exempted from the requirement to be listed on, the TSCA Inventory.

**CALIFORNIA:** This product does not contain detectable amounts of any chemical known to the State of California to cause cancer.

This product does not contain detectable amounts of any chemical known to the State of California to cause birth defects or other reproductive harm.

**CANADIAN REGULATIONS**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR.

**WHMIS:** Class D2A - Contains component that may cause cancer.  
Class D2B - Irritating to eyes and skin.

**CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):** All the components of this product are listed on, or are automatically included as "substance occurring in nature" on, or are exempted from the requirements to be listed on, the Canadian Domestic Substances List (DSL).

**SECTION 16. OTHER INFORMATION**

**REVISION INFORMATION:** New product.

**LABEL/OTHER INFORMATION:** Not available.

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User assumes all risks incident to the use of this(these) product(s). To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet apply to the product(s) as supplied to the user.

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# Material Safety Data Sheet

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### Chevron HDAX® NG Screw Compressor Oil

**Product Number(s):** CPS255204, CPS255205, CPS259135

**Synonyms:** Chevron HDAX® NG Screw Compressor Oil ISO 100, Chevron HDAX® NG Screw Compressor Oil ISO 150, Chevron HDAX® NG Screw Compressor Oil ISO 68

#### Company Identification

ChevronTexaco Global Lubricants  
A Division of Texaco Products Inc.  
6975-A Pacific Circle  
Mississauga, ONT L5T 2H3  
Canada  
www.chevronlubricants.com

#### Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

#### Health Emergency

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

#### Product Information

email : lubemsds@Chevron.com  
Product Information: (800) LUBE TEK  
MSDS Requests: (800) 414-6737

## SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	80 - 100 %weight

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

## SECTION 3 HAZARDS IDENTIFICATION

#### IMMEDIATE HEALTH EFFECTS

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

**Ingestion:** Not expected to be harmful if swallowed.

**Inhalation:** Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

**SECTION 4 FIRST AID MEASURES**

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

**Note to Physicians:** In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

**SECTION 5 FIRE FIGHTING MEASURES**

Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

**FLAMMABLE PROPERTIES:**

**Flashpoint:** (Cleveland Open Cup) 210 °C (410 °F) (Min)

**Autoignition:** No Data Available

**Flammability (Explosive) Limits (% by volume in air):** Lower: Not Applicable Upper: Not Applicable

**EXTINGUISHING MEDIA:** Use water, fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

**PROTECTION OF FIRE FIGHTERS:**

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities as appropriate or required.

**SECTION 7 HANDLING AND STORAGE**

**Precautionary Measures:** DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of

Static, Lightning, and Stray Currents'.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

**SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

**GENERAL CONSIDERATIONS:**

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Special note: Do not use in breathing air apparatus or medical equipment.

**ENGINEERING CONTROLS:**

Use in a well-ventilated area.

**PERSONAL PROTECTIVE EQUIPMENT**

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

**Respiratory Protection:** No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

**Occupational Exposure Limits:**

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and Care of Respirators.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Attention: the data below are typical values and do not constitute a specification.**

**Color:** Amber

**Physical State:** Liquid

**Odor:** Petroleum odor

**pH:** Not Applicable

**Vapor Pressure:** <0.01 mmHg @ 37.8 °C (100 °F)

**Vapor Density (Air = 1):** >1

**Boiling Point:** >315°C (599°F)

**Solubility:** Soluble in hydrocarbons; insoluble in water

**Freezing Point:** Not Applicable

**Specific Gravity:** 0.87 - 0.88 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)

**Viscosity:** 61.2 cSt @ 40°C (104°F) (Min)

**Odor Threshold:** No Data Available

**Coefficient of Water/Oil Distribution:** No Data Available

**TC Shipping Description:** NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER TDG REGULATIONS

**IMO/IMDG Shipping Description:** PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

**ICAO/IATA Shipping Description:** PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

**DOT Shipping Description:** PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

**Additional Information:** NOT HAZARDOUS BY U.S. DOT. ADR/RID HAZARD CLASS NOT APPLICABLE.

#### SECTION 15 REGULATORY INFORMATION

##### REGULATORY LISTS SEARCHED:

01-1=IARC Group 1  
01-2A=IARC Group 2A  
01-2B=IARC Group 2B  
35=WHMIS IDL

No components of this material were found on the regulatory lists above.

##### CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: PICCS (Philippines).

##### WHMIS CLASSIFICATION:

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. (See Hazardous Products Act (HPA), R.S.C. 1985, c.H-3,s.2).

##### MSDS PREPARATION:

This Material Safety Data Sheet has been prepared by the Toxicology and Health Risk Assessment Unit, ERTC, P.O. Box 1627, Richmond, CA 94804, (888)676-6183.

**Revision Date:** 03/08/2006

#### SECTION 16 OTHER INFORMATION

**HMIS RATINGS:** Health: 1 Flammability: 1 Reactivity: 0

##### LABEL RECOMMENDATION:

Label Category : INDUSTRIAL OIL 1

**REVISION STATEMENT:** This revision updates the following sections of this Material Safety Data Sheet:  
2,8,14,15,16

##### ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

**SECTION 10 STABILITY AND REACTIVITY**

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Incompatibility With Other Materials:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Hazardous Decomposition Products:** None known (None expected)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

**Sensitivity to Mechanical Impact:** No.

**SECTION 11 TOXICOLOGICAL INFORMATION****IMMEDIATE HEALTH EFFECTS**

**Eye Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** No product toxicology data available.

**Acute Dermal Toxicity:** LD50: >5g/kg (rabbit). The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** LD50: >5 g/kg (rat) The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components. For additional information on the acute toxicity of the components, call the technical information center.

**ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as: carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

**SECTION 12 ECOLOGICAL INFORMATION****ECOTOXICITY**

The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

**ENVIRONMENTAL FATE**

This material is not expected to be readily biodegradable.

**SECTION 13 DISPOSAL CONSIDERATIONS**

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.S.M.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

**SECTION 14 TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

**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 this information 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 modifications 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.**

# Material Safety Data Sheet

## Methyl Alcohol, Reagent ACS, 99.8% (GC)

ACC# 95294

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Methyl Alcohol, Reagent ACS, 99.8% (GC)**Catalog Numbers:** AC423950000, AC423950010, AC423950020, AC423955000, AC9541632, AC423952**Synonyms:** Carbinol; Methanol; Methyl hydroxide; Monohydroxymethane; Pyroxylic spirit; Wood alcohol; Wood naptha; Wood spirit; Monohydroxymethane; Methyl hydrate.**Company Identification:**

Acros Organics N.V.  
One Reagent Lane  
Fair Lawn, NJ 07410

**For information in North America, call:** 800-ACROS-01**For emergencies in the US, call CHEMTREC:** 800-424-9300

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
67-56-1	Methyl alcohol	99+	200-659-6

**Hazard Symbols:** T F**Risk Phrases:** 11 23/24/25 39/23/24/25

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: clear, colorless. Flash Point: 11 deg C. Poison! Cannot be made non-poisonous. Causes eye and skin irritation. May be absorbed through intact skin.

This substance has caused adverse reproductive and fetal effects in animals.

**Danger! Flammable liquid and vapor.** Harmful if inhaled. May be fatal or cause blindness if swallowed. May cause central nervous system depression. May cause digestive tract irritation with nausea, vomiting, and diarrhea. Causes respiratory tract irritation. May cause liver, kidney and heart damage.

**Target Organs:** Kidneys, heart, central nervous system, liver, eyes.

**Potential Health Effects**

**Eye:** Produces irritation, characterized by a burning sensation, redness, tearing,

inflammation, and possible corneal injury. May cause painful sensitization to light.

**Skin:** Causes moderate skin irritation. May be absorbed through the skin in harmful amounts. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis.

**Ingestion:** May be fatal or cause blindness if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause cardiopulmonary system effects.

**Inhalation:** Harmful if inhaled. May cause adverse central nervous system effects including headache, convulsions, and possible death. May cause visual impairment and possible permanent blindness. Causes irritation of the mucous membrane.

**Chronic:** Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. Chronic exposure may cause reproductive disorders and teratogenic effects. Laboratory experiments have resulted in mutagenic effects. Prolonged exposure may cause liver, kidney, and heart damage.

#### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Induce vomiting by giving one teaspoon of Syrup of Ipecac.

**Inhalation:** Get medical aid immediately. Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** Effects may be delayed. Ethanol may inhibit methanol metabolism.

#### Section 5 - Fire Fighting Measures

**General Information:** Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly

toxic gases may be generated by thermal decomposition or combustion. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May be ignited by heat, sparks, and flame.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water.

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Scoop up with a nonsparking tool, then place into a suitable container for disposal. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as saw dust. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Keep containers tightly closed. Do not store in aluminum or lead containers.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities

storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use only under a chemical fume hood.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Methyl alcohol	200 ppm TWA; 250 ppm STEL; skin - potential for cutaneous absorption	200 ppm TWA; 260 mg/m <sup>3</sup> TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** Methyl alcohol: 200 ppm TWA; 260 mg/m<sup>3</sup> TWA; 250 ppm STEL; 325 mg/m<sup>3</sup> STEL

### Personal Protective Equipment

**Eyes:** Wear chemical goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR

□1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** clear, colorless

**Odor:** alcohol-like - weak odor

**pH:** Not available.

**Vapor Pressure:** 128 mm Hg @ 20 deg C

**Vapor Density:** 1.11 (Air=1)

**Evaporation Rate:**5.2 (Ether=1)

**Viscosity:** 0.55 cP 20 deg C

**Boiling Point:** 64.7 deg C @ 760.00mm Hg

**Freezing/Melting Point:**-98 deg C

**Autoignition Temperature:** 464 deg C ( 867.20 deg F)

**Flash Point:** 11 deg C ( 51.80 deg F)

**Decomposition Temperature:**Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 3; Reactivity: 0

**Explosion Limits, Lower:**6.0 vol %

**Upper:** 36.00 vol %

**Solubility:** miscible

**Specific Gravity/Density:**.7910g/cm<sup>3</sup>

**Molecular Formula:**CH<sub>4</sub>O

**Molecular Weight:**32.04

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** High temperatures, incompatible materials, ignition sources, oxidizers.

**Incompatibilities with Other Materials:** Acids (mineral, non-oxidizing, e.g. hydrochloric acid, hydrofluoric acid, muriatic acid, phosphoric acid), acids (mineral, oxidizing, e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic, e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), isocyanates (e.g. methyl isocyanate), nitrides (e.g. potassium nitride, sodium nitride), peroxides and hydroperoxides (organic, e.g. acetyl peroxide, benzoyl peroxide, butyl peroxide, methyl ethyl ketone peroxide), epoxides (e.g. butyl glycidyl ether), Oxidants (such as barium perchlorate, bromine, chlorine, hydrogen peroxide, lead perchlorate, perchloric acid, sodium hypochlorite), Active metals (such as potassium and magnesium), acetyl bromide, alkyl aluminum salts, beryllium dihydride, carbontetrachloride, carbon tetrachloride + metals, chloroform + heat, chloroform + sodium hydroxide, cyanuric chloride, diethyl zinc, nitric acid, potassium-tert-butoxide, chloroform + hydroxide, water reactive substances (e.g. acetic anhydride, alkyl aluminum chloride, calcium carbide, ethyl dichlorosilane).

**Hazardous Decomposition Products:** Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, formaldehyde.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 67-56-1: PC1400000

**LD50/LC50:**

CAS# 67-56-1:

Draize test, rabbit, eye: 40 mg Moderate;

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, skin: 20 mg/24H Moderate;

Inhalation, rat: LC50 = 64000 ppm/4H;

Oral, mouse: LD50 = 7300 mg/kg;

Oral, rabbit: LD50 = 14200 mg/kg;

Oral, rat: LD50 = 5628 mg/kg;

Skin, rabbit: LD50 = 15800 mg/kg;

**Carcinogenicity:**

CAS# 67-56-1: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**Epidemiology:** Methanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Specific developmental abnormalities include cardiovascular, musculoskeletal, and urogenital systems.

**Teratogenicity:** Effects on Newborn: Behavioral, Oral, rat: TDLo=7500 mg/kg (female 17-19 days after conception). Effects on Embryo or Fetus: Fetotoxicity, Inhalation, rat: TCLo=10000 ppm/7H (female 7-15 days after conception). Specific Developmental Abnormalities: Cardiovascular, Musculoskeletal, Urogenital, Inhalation, rat: TCLo=20000 ppm/7H (7-14 days after conception).

**Reproductive Effects:** Paternal Effects: Spermatogenesis: Intraperitoneal, mouse TDLo=5 g/kg ( male 5 days pre-mating). Fertility: Oral, rat: TDLo = 35295 mg/kg (female 1-15 days after conception). Paternal Effects: Testes, Epididymis, Sperm duct: Oral, rat: TDLo = 200 ppm/20H (male 78 weeks pre-mating).

**Neurotoxicity:** No information available.

**Mutagenicity:** DNA inhibition: Human Lymphocyte = 300 mmol/L. DNA damage: Oral, rat = 10 umol/kg. Mutation in microorganisms: Mouse Lymphocyte = 7900 mg/L. Cytogenetic analysis: Oral, mouse = 1 gm/kg.

**Other Studies:** Standard Draize Test(Skin, rabbit) = 20 mg/24H (Moderate) Standard Draize Test: Administration into the eye (rabbit) = 40 mg (Moderate). Standard Draize test: Administration into the eye (rabbit) = 100 mg/24H (Moderate).

## Section 12 - Ecological Information

**Ecotoxicity:** Fish: Fathead Minnow: 29.4 g/L; 96 Hr; LC50 (unspecified) Goldfish: 250 ppm; 11 Hr; resulted in death Rainbow trout: 8000 mg/L; 48 Hr; LC50 (unspecified) Rainbow trout: LC50 = 13-68 mg/L; 96 Hr.; 12 degrees C Fathead Minnow: LC50 = 29400 mg/L; 96 Hr.; 25 degrees C, pH 7.63 Rainbow trout: LC50 = 8000 mg/L; 48 Hr.; Unspecified via: Phytobacterium phosphoreum: EC50 = 51,000-320,000 mg/L; 30 minutes; Microtox test No data available.

**Environmental:** Dangerous to aquatic life in high concentrations. Aquatic toxicity rating: TLm 96>1000 ppm. May be dangerous if it enters water intakes. Methyl alcohol is expected to biodegrade in soil and water very rapidly. This product will show high soil mobility and will be degraded from the ambient atmosphere by the reaction with photochemically produced hydroxyl radicals with an estimated half-life of 17.8 days. Bioconcentration factor for fish (golden ide) < 10. Based on a log Kow of -0.77, the BCF value for methanol can be estimated to be 0.2.

**Physical:** No information available.

**Other:** None.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** CAS# 67-56-1: waste number U154; (Ignitable waste).

### Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
<b>Shipping Name:</b>	METHANOL				METHANOL
<b>Hazard Class:</b>	3				3(6.1)
<b>UN Number:</b>	UN1230				UN1230
<b>Packing Group:</b>	II				II
<b>Additional Info:</b>					FLASHPOINT 11 C

### Section 15 - Regulatory Information

#### US FEDERAL

##### TSCA

CAS# 67-56-1 is listed on the TSCA inventory.

##### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

##### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

##### Section 12b

None of the chemicals are listed under TSCA Section 12b.

##### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

##### SARA

##### Section 302 (RQ)

CAS# 67-56-1: final RQ = 5000 pounds (2270 kg)

##### Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

##### SARA Codes

CAS # 67-56-1: acute, flammable.

##### Section 313

This material contains Methyl alcohol (CAS# 67-56-1, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

##### Clean Air Act:

CAS# 67-56-1 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

##### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants

under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 67-56-1 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are

listed. **European/International Regulations**

**European Labeling in Accordance with EC Directives****Hazard Symbols:**

T F

**Risk Phrases:**

R 11 Highly flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 39/23/24/25 Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

**Safety Phrases:**

S 16 Keep away from sources of ignition - No smoking.

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 7 Keep container tightly closed.

**WGK (Water Danger/Protection)**

CAS# 67-56-1: 1

**Canada**

CAS# 67-56-1 is listed on Canada's DSL List. CAS# 67-56-1 is listed on Canada's DSL List.

This product has a WHMIS classification of B2, D1A, D2B.

CAS# 67-56-1 is listed on Canada's Ingredient Disclosure List.

**Exposure Limits**

CAS# 67-56-1: OEL-ARAB Republic of Egypt:TWA 200 ppm (260 mg/m<sup>3</sup>);Skin OEL-AUSTRALIA:TWA 200 ppm (260 mg/m<sup>3</sup>);STEL 250 ppm;Skin OEL-BELGIUM:TWA 200 ppm (262 mg/m<sup>3</sup>);STEL 250 ppm;Skin OEL-CZECHOSLOVAKIA:TWA 10

0 mg/m<sup>3</sup>;STEL 500 mg/m<sup>3</sup> OEL-DENMARK:TWA 200 ppm (260 mg/m<sup>3</sup>);Skin OEL-FINLAND:TWA 200 ppm (260 mg/m<sup>3</sup>);STEL 250 ppm;Skin OEL-FRANCE:TWA 200 ppm (260 mg/m<sup>3</sup>);STEL 1000 ppm (1300 mg/m<sup>3</sup>) OEL-GERMANY:TWA 200 ppm (2

60 mg/m<sup>3</sup>);Skin OEL-HUNGARY:TWA 50 mg/m<sup>3</sup>;STEL 100 mg/m<sup>3</sup>;Skin JAN9 OEL  
-JAPAN:TWA 200 ppm (260 mg/m<sup>3</sup>);Skin OEL-THE NETHERLANDS:TWA 200 ppm  
(  
260 mg/m<sup>3</sup>);Skin OEL-THE PHILIPPINES:TWA 200 ppm (260 mg/m<sup>3</sup>) OEL-POLA  
ND:TWA 100 mg/m<sup>3</sup> OEL-RUSSIA:TWA 200 ppm;STEL 5 mg/m<sup>3</sup>;Skin OEL-  
SWEDEN  
:TWA 200 ppm (250 mg/m<sup>3</sup>);STEL 250 ppm (350 mg/m<sup>3</sup>);Skin OEL-SWITZERLAN  
D:TWA 200 ppm (260 mg/m<sup>3</sup>);STEL 400 ppm;Skin OEL-THAILAND:TWA 200 ppm  
(260 mg/m<sup>3</sup>) OEL-TURKEY:TWA 200 ppm (260 mg/m<sup>3</sup>) OEL-UNITED  
KINGDOM:TW  
A 200 ppm (260 mg/m<sup>3</sup>);STEL 250 ppm;Skin OEL IN BULGARIA, COLOMBIA, JO  
RDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM ch  
eck ACGI TLV

### Section 16 - Additional Information

**MSDS Creation Date:** 7/21/1999

**Revision #4 Date:** 3/14/2001

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*

APPENDIX B:  
STANDARD OPERATING PROCEDURE  
FOR WASTEWATER SAMPLING  
AT COMPRESSOR STATIONS

## APPENDIX B

### SOUTHERN UNION GAS SERVICES STANDARD OPERATING PROCEDURE

#### WASTEWATER SAMPLING AND ANALYSIS FOR SE NM GAS COMPRESSOR STATIONS

##### 1.0 Scope

This procedure is designed to direct the sampling and analytical methods used to determine the applicable RCRA characteristics of wastewater (wash water and/or storm water) collected at Southern Union Gas Services (SUGS) compressor stations located in SE New Mexico. These procedures are to be used when changes in materials and/or processes at compressor stations are modified to any degree which might significantly alter the chemical or physical characteristics of wastewaters generated at the facility.

##### 2.0 Equipment

Sampling of wastewater will require:

1. Sample containers (preserved, from laboratory)
2. Chain of Custody forms
3. Shipping Cooler
4. Shipping labels
5. Packing Tape
6. Ice or "blue ice"
7. Poly or latex gloves
8. Small plastic sheet or tarp
9. Site-specific safety equipment (e.g., hard hat, coveralls, safety glasses)
10. Paper towels
11. Ziplock bags
12. Hand washer or towelettes
13. Trash bags
14. Notebook
15. Camera

##### 3.0 Laboratory

The selected laboratory is:

Environmental Laboratory of Texas  
12600 W. I-20 E  
Odessa, Texas 79765  
(432) 563-1800

Contact the laboratory at least 24 hours before the sampling date and arrange to have shipped the appropriate sample containers (pre-preserved), chain of custody forms, sample labels, and shipping labels shipped to the appropriate location.

#### 4.0 Analytes, Containers and Preservatives

The analytes and their containers, preservatives, and handling are summarized in Table 1 below.

Toxicity	Regulatory Limit (TCLP) mg/kg	Analytical Method	Container	Preservation	Holding Time
Benzene	0.5	8240A (GC/MS)	2x 40 ml VOA	Cool to 4 <sup>o</sup> C.	14 Days
Mercury	0.2	7471 (Cold Vapor)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>o</sup> C.	6 Months
Arsenic	5.0	7060 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>o</sup> C.	6 Months
Barium	100.0	7080 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>o</sup> C.	6 Months
Cadmium	1.0	7130 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>o</sup> C.	6 Months
Chromium	5.0	7190 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>o</sup> C.	6 Months
Lead	5.0	7420 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>o</sup> C.	6 Months
Selenium	1.0	7740 (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>o</sup> C.	6 Months
Silver	5.0	7760A (AA)	1 L HDPE	Nitric Acid to pH < 2, Cool to 4 <sup>o</sup> C.	6 Months
<b>Reactive</b>					
Cyanide	250.0	9010A	1 L HDPE	Cool to 4 <sup>o</sup> C.	14 Days
pH	<2 or >12.5 pH units	9040	250 ml HDPE	Cool to 4 <sup>o</sup> C.	24 Hours
Sulfide	500.0	9031	250 ml HDPE	Cool to 4 <sup>o</sup> C.	6 Months
<b>Ignitability</b>	<60 deg C	1010	250 ml Glass	Cool to 4 <sup>o</sup> C.	6 Months

VOA - Volatile Organic Analysis vial

HDPE - High Density Polyethylene

Two identical samples are collected for Benzene in the two 40 milliliter VOAs. One 1-liter HDPE container is used for all of the metals (mercury, arsenic, barium, cadmium, chromium, lead, selenium and silver). Individual containers are used for cyanide, pH and sulfide.

## 5.0 Methods

After obtaining the sample materials from the laboratory and the field equipment listed in Section 2.0, schedule the site visit and proceed to the facility.

Upon reaching the site, document the location, date, time, personnel involved and the purpose of the sampling visit. Also note any environmental conditions (weather, condition of equipment, adjacent activities) which might influence the sampling. Photograph the site and areas where samples will be taken.

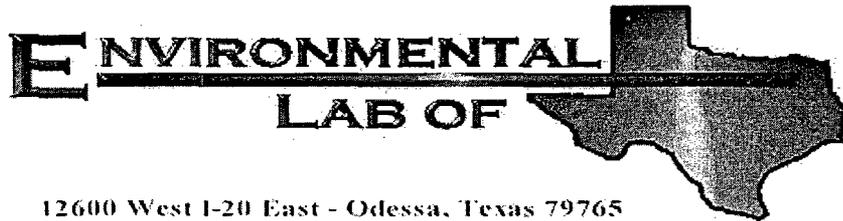
Unpack and review the completeness and condition of the sampling equipment.

After selecting the points for sample collection, proceed as follows:

1. Put on a clean pair of gloves
2. Spread the plastic sheet on a flat, level surface near the sampling point and lay out the cooler and containers
3. Fill out the appropriate labels, and place them in a location secure from weather
4. If two phases (e.g., oil and water) are present, collect separate containers (VOAs) of each phase for each organic analysis sample.
5. Begin by filling the VOAs, making sure that the vials are completely full and that no air bubbles are present.
6. Then collect the other parameters, filling them to within ¼" of the top and securely closing the containers.
7. Clean the containers with paper towels and apply the labels
8. Place the labeled containers in zipped bags and place in the cooler with bagged ice or "blue ice"
9. Clean up the area to remove paper trash and towels, etc.
10. Remove your gloves, wash your hands, and put the gloves in the trash bag
11. Complete the information required on the Chain of Custody form, sign the form, and remove the sampler's copy.
12. Place the Chain of Custody form in a sealed plastic bag and place it in the cooler
13. Fill and attach the shipping label, and secure the cooler with packing tape
14. Keep the cooler in your custody until it is shipped to the laboratory
15. Contact the laboratory to notify them that the samples are en route, and request that you be notified when the samples are received. Arrange for e-mail notification directly from the shipper (i.e., Federal Express) to the laboratory contact and the sampler.
16. After returning from the sampling site, appropriately file your notes, photographs and Chain of Custody forms.
17. Copy all notes, photographs and chain of custody forms and attach to results when received and forward to:

Mr. Tony Savoie  
Southern Union Gas Services, LLP  
160 Commerce Street  
Jal NM 88252

APPENDIX C:  
ANALYTICAL DATA AND DOCUMENTATION



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Tony Savoie

Southern Union Gas Services- Jal

P.O. Box 1226

Jal, NM 88252

Project: West Eunice Compressor

Project Number: None Given

Location: West of Eunice

Lab Order Number: 6E25013

Report Date: 06/05/06

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326  
**Reported:**  
06/05/06 14:36

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Waste Water Tank	6E25013-01	Sludge	05/24/06 09:10	05/25/06 12:48

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326  
Reported:  
06/05/06 14:36

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Waste Water Tank (6E25013-01) Sludge</b>									
Reactive Cyanide	ND	0.0900	mg/kg	1	EE63024	05/30/06	05/30/06	SW846 9010B	
Ignitability by Flashpoint	>100		°C	"	EE63026	"	"	ASTM D93-80	
pH	6.14	0.10	pH Units	"	EE63109	05/30/06	05/30/06	EPA 9045B	
Reactive Sulfide	0.200	0.0500	mg/kg	"	EE63025	05/30/06	05/30/06	SW846 9030B	

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326  
**Reported:**  
06/05/06 14:36

**TCLP Metals 1311 by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Reporting		Units	Dilution	Batch	Extracted	Prepared	Analyzed	Method	Notes
	Result	Limit								
<b>Waste Water Tank (6E25013-01) Sludge</b>										
Mercury	ND	0.000250	mg/L	1	EE63011	TCLP5/26/06	05/30/06	05/30/06	EPA 7470A	
Chromium	0.143	0.00975	"	10	EE63020	TCLP 5/26/06	05/26/06	05/30/06	EPA 6020A	
Arsenic	0.0301	0.0170	"	"	"	"	"	"	"	
Selenium	J [0.0139]	0.0300	"	"	"	"	"	"	"	J
Silver	ND	0.00405	"	"	"	"	"	"	"	
Cadmium	J [0.00497]	0.00692	"	"	"	"	"	"	"	J
Barium	0.00832	0.00489	"	"	"	"	"	"	"	
Lead	ND	0.00296	"	"	"	"	"	"	"	

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326  
**Reported:**  
06/05/06 14:36

**TCLP Volatile Organic Compounds by EPA Method 1311/8260B**  
**Environmental Lab of Texas**

Analyte	Reporting		Units	Dilution	Batch	Extracted	Prepared	Analyzed	Method	Notes
	Result	Limit								
<b>Waste Water Tank (6E25013-01) Sludge</b>										
Benzene	26.1	25.0	ug/l	25	EF60211	05/29/06 TCLP	06/02/06	06/02/06	EPA 8260B	
Toluene	ND	25.0	"	"	"	"	"	"	"	
Ethylbenzene	ND	25.0	"	"	"	"	"	"	"	
Xylene (p/m)	ND	25.0	"	"	"	"	"	"	"	
Xylene (o)	ND	25.0	"	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		110 %		68-129	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		92.0 %		72-132	"	"	"	"	"	
Surrogate: Toluene-d8		92.8 %		74-118	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		78.8 %		65-140	"	"	"	"	"	

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
06/05/06 14:36

**General Chemistry Parameters by EPA / Standard Methods - Quality Control  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE63024 - 9010B SW846</b>										
<b>Blank (EE63024-BLK1)</b> Prepared & Analyzed: 05/30/06										
Reactive Cyanide	ND	0.0900	mg/kg							
<b>LCS (EE63024-BS1)</b> Prepared & Analyzed: 05/30/06										
Reactive Cyanide	0.156	0.0900	mg/kg	0.167		93.4	50-150			
<b>Calibration Check (EE63024-CCV1)</b> Prepared & Analyzed: 05/30/06										
Reactive Cyanide	0.0940		mg/kg	0.100		94.0	80-120			
<b>Matrix Spike (EE63024-MS1)</b> Source: 6E24012-01 Prepared & Analyzed: 05/30/06										
Reactive Cyanide	0.0760	0.0900	mg/kg	0.0833	0.00	91.2	50-150			
<b>Matrix Spike Dup (EE63024-MSD1)</b> Source: 6E24012-01 Prepared & Analyzed: 05/30/06										
Reactive Cyanide	0.0780	0.0900	mg/kg	0.0833	0.00	93.6	50-150	2.60	20	
<b>Batch EE63025 - 9030B SW846</b>										
<b>Blank (EE63025-BLK1)</b> Prepared & Analyzed: 05/30/06										
Reactive Sulfide	ND	0.0500	mg/kg							
<b>LCS (EE63025-BS1)</b> Prepared & Analyzed: 05/30/06										
Reactive Sulfide	0.381	0.0500	mg/kg	0.399		95.5	50-150			
<b>Calibration Check (EE63025-CCV1)</b> Prepared & Analyzed: 05/30/06										
Reactive Sulfide	0.0490		mg/kg	0.0500		98.0	80-120			
<b>Matrix Spike (EE63025-MS1)</b> Source: 6E24012-01 Prepared & Analyzed: 05/30/06										
Reactive Sulfide	3.00		mg/kg	2.50	0.900	84.0	50-150			

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
06/05/06 14:36

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE63025 - 9030B SW846**

<b>Matrix Spike Dup (EE63025-MSD1)</b>		<b>Source: 6E24012-01</b>		<b>Prepared &amp; Analyzed: 05/30/06</b>						
Reactive Sulfide	2.94		mg/kg	2.50	0.900	81.6	50-150	2.02	20	

**Batch EE63026 - General Preparation (WetChem)**

<b>Duplicate (EE63026-DUP1)</b>		<b>Source: 6E24012-01</b>		<b>Prepared &amp; Analyzed: 05/30/06</b>						
Ignitability by Flashpoint	>100		°C		0.00				20	

<b>Reference (EE63026-SRM1)</b>		<b>Prepared &amp; Analyzed: 05/30/06</b>								
Ignitability by Flashpoint	26.5		°C	27.2		97.4	96-102			

**Batch EE63109 - Water Extraction**

<b>Calibration Check (EE63109-CCV1)</b>		<b>Prepared &amp; Analyzed: 05/30/06</b>								
pH	7.02		pH Units	7.00		100	97.5-102.5			

<b>Duplicate (EE63109-DUP1)</b>		<b>Source: 6E25013-01</b>		<b>Prepared &amp; Analyzed: 05/30/06</b>						
pH	6.12	0.10	pH Units		6.14			0.326	2.5	

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
06/05/06 14:36

**TCLP Metals 1311 by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE63011 - EPA 1311/7470A**

**Blank (EE63011-BLK1)** Prepared & Analyzed: 05/30/06

Mercury	ND	0.000250	mg/L							
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**LCS (EE63011-BS1)** Prepared & Analyzed: 05/30/06

Mercury	0.00108	0.000250	mg/L	0.00100		108	85-115			
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**LCS Dup (EE63011-BS1)** Prepared & Analyzed: 05/30/06

Mercury	0.00100	0.000250	mg/L	0.00100		100	85-115	7.69	20	
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**Calibration Check (EE63011-CCV1)** Prepared & Analyzed: 05/30/06

Mercury	0.000920		mg/L	0.00100		92.0	90-110			
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**Matrix Spike (EE63011-MS1)** Source: 6E25013-01 Prepared & Analyzed: 05/30/06

Mercury	0.0000800	0.000250	mg/L	0.00100	ND	8.00	75-125			PS-1, J
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**Post Spike (EE63011-PS1)** Source: 6E25013-01 Prepared & Analyzed: 05/30/06

Mercury	0.00106	0.000250	mg/L	0.00100	ND	106	85-115			
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**Batch EE63020 - EPA 1311/3005**

**Blank (EE63020-BLK1)** Prepared: 05/26/06 Analyzed: 05/30/06

Chromium	ND	0.000975	mg/L							
Arsenic	ND	0.00170	"							
Selenium	ND	0.00300	"							
Silver	ND	0.000405	"							
Cadmium	ND	0.000692	"							
Barium	ND	0.000489	"							
Lead	ND	0.000296	"							

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326  
Reported:  
06/05/06 14:36

**TCLP Metals 1311 by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE63020 - EPA 1311/3005**

<b>LCS (EE63020-BS1)</b>		Prepared: 05/26/06 Analyzed: 05/30/06								
Chromium	0.195	0.000975	mg/L	0.200		97.5	85-115			
Arsenic	0.746	0.00170	"	0.800		93.2	85-115			
Selenium	0.437	0.00300	"	0.400		109	85-115			
Silver	0.104	0.000405	"	0.100		104	85-115			
Cadmium	0.208	0.000692	"	0.200		104	85-115			
Barium	0.215	0.000489	"	0.200		108	85-115			
Lead	1.07	0.000296	"	1.10		97.3	85-115			

<b>LCS Dup (EE63020-BSD1)</b>		Prepared: 05/26/06 Analyzed: 05/30/06								
Chromium	0.198	0.000975	mg/L	0.200		99.0	85-115	1.53	20	
Arsenic	0.745	0.00170	"	0.800		93.1	85-115	0.134	20	
Selenium	0.436	0.00300	"	0.400		109	85-115	0.229	20	
Silver	0.103	0.000405	"	0.100		103	85-115	0.966	20	
Cadmium	0.207	0.000692	"	0.200		104	85-115	0.482	20	
Barium	0.215	0.000489	"	0.200		108	85-115	0.00	20	
Lead	1.07	0.000296	"	1.10		97.3	85-115	0.00	20	

<b>Calibration Check (EE63020-CCV1)</b>		Prepared: 05/26/06 Analyzed: 05/30/06								
Chromium	0.0516		mg/L	0.0500		103	90-110			
Arsenic	0.0495		"	0.0500		99.0	90-110			
Selenium	0.0504		"	0.0500		101	90-110			
Silver	0.0502		"	0.0500		100	90-110			
Cadmium	0.0499		"	0.0500		99.8	90-110			
Barium	0.0493		"	0.0500		98.6	90-110			
Lead	0.0504		"	0.0500		101	90-110			

<b>Matrix Spike (EE63020-MS1)</b>		Source: 6E25013-01		Prepared: 05/26/06 Analyzed: 05/30/06						
Chromium	0.343	0.00975	mg/L	0.200	0.143	100	75-125			
Arsenic	0.985	0.0170	"	0.800	0.0301	119	75-125			
Selenium	0.571	0.0300	"	0.400	0.0139	139	75-125			MS-3
Silver	0.0903	0.00405	"	0.100	ND	90.3	75-125			
Cadmium	0.208	0.00692	"	0.200	0.00497	102	75-125			
Barium	0.208	0.00489	"	0.200	0.00832	99.8	75-125			
Lead	1.00	0.00296	"	1.10	ND	90.9	75-125			

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326  
**Reported:**  
06/05/06 14:36

**TCLP Metals 1311 by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE63020 - EPA 1311/3005**

<b>Matrix Spike Dup (EE63020-MSD1)</b>		<b>Source: 6E25013-01</b>		<b>Prepared: 05/26/06</b>		<b>Analyzed: 05/30/06</b>				
Chromium	0.340	0.00975	mg/L	0.200	0.143	98.5	75-125	0.878	20	
Arsenic	0.971	0.0170	"	0.800	0.0301	118	75-125	1.43	20	
Selenium	0.575	0.0300	"	0.400	0.0139	140	75-125	0.698	20	MS-3
Silver	0.0897	0.00405	"	0.100	ND	89.7	75-125	0.667	20	
Cadmium	0.207	0.00692	"	0.200	0.00497	101	75-125	0.482	20	
Barium	0.205	0.00489	"	0.200	0.00832	98.3	75-125	1.45	20	
Lead	1.03	0.00296	"	1.10	ND	93.6	75-125	2.96	20	

<b>Post Spike (EE63020-PS1)</b>		<b>Source: 6E25013-01</b>		<b>Prepared: 05/26/06</b>		<b>Analyzed: 05/30/06</b>				
Selenium	22.9	0.150	mg/L	20.0	0.0139	114	75-125			

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
06/05/06 14:36

**TCLP Volatile Organic Compounds by EPA Method 1311/8260B - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EF60211 - EPA 1311/ZHE**

**Blank (EF60211-BLK1)**

Prepared & Analyzed: 06/02/06

Benzene	ND	1.00	ug/l							
Toluene	ND	1.00	"							
Ethylbenzene	ND	1.00	"							
Xylene (p/m)	ND	1.00	"							
Xylene (o)	ND	1.00	"							
Surrogate: Dibromofluoromethane	54.2		ug/kg	50.0		108	68-129			
Surrogate: 1,2-Dichloroethane-d4	45.0		"	50.0		90.0	72-132			
Surrogate: Toluene-d8	46.3		"	50.0		92.6	74-118			
Surrogate: 4-Bromofluorobenzene	40.0		"	50.0		80.0	65-140			

**LCS (EF60211-BS1)**

Prepared & Analyzed: 06/02/06

Benzene	22.4	1.00	ug/l	25.0		89.6	70-130			
Toluene	23.7	1.00	"	25.0		94.8	70-130			
Ethylbenzene	26.7	1.00	"	25.0		107	70-130			
Xylene (p/m)	48.7	1.00	"	50.0		97.4	70-130			
Xylene (o)	25.6	1.00	"	25.0		102	70-130			
Surrogate: Dibromofluoromethane	48.4		ug/kg	50.0		96.8	68-129			
Surrogate: 1,2-Dichloroethane-d4	42.4		"	50.0		84.8	72-132			
Surrogate: Toluene-d8	42.7		"	50.0		85.4	74-118			
Surrogate: 4-Bromofluorobenzene	39.6		"	50.0		79.2	65-140			

**LCS Dup (EF60211-BSD1)**

Prepared: 06/02/06 Analyzed: 06/03/06

Benzene	22.2	1.00	ug/l	25.0		88.8	70-130	0.897	20	
Toluene	23.5	1.00	"	25.0		94.0	70-130	0.847	20	
Ethylbenzene	26.3	1.00	"	25.0		105	70-130	1.89	20	
Xylene (p/m)	48.1	1.00	"	50.0		96.2	70-130	1.24	20	
Xylene (o)	25.2	1.00	"	25.0		101	70-130	0.985	20	
Surrogate: Dibromofluoromethane	47.1		ug/kg	50.0		94.2	68-129			
Surrogate: 1,2-Dichloroethane-d4	41.0		"	50.0		82.0	72-132			
Surrogate: Toluene-d8	43.8		"	50.0		87.6	74-118			
Surrogate: 4-Bromofluorobenzene	39.0		"	50.0		78.0	65-140			

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 10 of 12

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
06/05/06 14:36

**TCLP Volatile Organic Compounds by EPA Method 1311/8260B - Quality Control  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EF60211 - EPA 1311/ZHE**

**Calibration Check (EF60211-CCV1)**

Prepared & Analyzed: 06/02/06

Toluene	47.9		ug/kg	50.0		95.8	70-130			
Ethylbenzene	40.7		"	50.0		81.4	70-130			
Surrogate: Dibromofluoromethane	49.2		"	50.0		98.4	68-129			
Surrogate: 1,2-Dichloroethane-d4	43.0		"	50.0		86.0	72-132			
Surrogate: Toluene-d8	45.7		"	50.0		91.4	74-118			
Surrogate: 4-Bromofluorobenzene	38.8		"	50.0		77.6	65-140			

**Matrix Spike (EF60211-MS1)**

Source: 6E24012-01

Prepared: 06/02/06 Analyzed: 06/03/06

Benzene	25.8	1.00	ug/l	25.0	ND	103	70-130			
Toluene	26.9	1.00	"	25.0	ND	108	70-130			
Ethylbenzene	27.0	1.00	"	25.0	0.510	106	70-130			
Xylene (p/m)	49.2	1.00	"	50.0	ND	98.4	70-130			
Xylene (o)	26.3	1.00	"	25.0	ND	105	70-130			
Surrogate: Dibromofluoromethane	51.4		ug/kg	50.0		103	68-129			
Surrogate: 1,2-Dichloroethane-d4	48.9		"	50.0		97.8	72-132			
Surrogate: Toluene-d8	46.0		"	50.0		92.0	74-118			
Surrogate: 4-Bromofluorobenzene	40.2		"	50.0		80.4	65-140			

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

Page 11 of 12

Southern Union Gas Services- Jal  
P.O. Box 1226  
Jal NM, 88252

Project: West Eunice Compressor  
Project Number: None Given  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
06/05/06 14:36

### Notes and Definitions

PS-1 Matrix spike recoveries were outside method and/or historical control limits due to matrix interference. Interference was confirmed by similar results from a post matrix spike.

MS-3 Matrix spike and/or matrix spike duplicate outside 75-125% limits. Serial dilution (x5) outside 10% RPD limits. Post spike for the serial dilution sample was within 75-125% recoveries, therefore data accepted based on method requirements.

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By: \_\_\_\_\_

*Raland K. Tuttle*

Date: \_\_\_\_\_

6/5/2006

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
LaTasha Cornish, Chemist  
Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

Page 12 of 12



Environmental Lab of Texas  
Variance / Corrective Action Report – Sample Log-In

Client: SUYS

Date/Time: 5/25/00 12:48

Order #: WEL5013

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	2.5 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	No	
Custody Seals intact on shipping container/cooler?	Yes	No	<del>Not present</del>
Custody Seals intact on sample bottles?	Yes	No	<del>Not present</del>
Chain of custody present?	<input checked="" type="checkbox"/>	No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/>	No	
Container labels legible and intact?	<input checked="" type="checkbox"/>	No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	No	
Samples properly preserved?	<input checked="" type="checkbox"/>	No	
Sample bottles intact?	<input checked="" type="checkbox"/>	No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	No	
VOC samples have zero headspace?	<input checked="" type="checkbox"/>	No	Not Applicable

Other observations:

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Variance Documentation:

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
Regarding: \_\_\_\_\_

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Corrective Action Taken:

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APPENDIX D:

DRAFT NOTICE OF APPLICATION, LOCATIONS AND NEWSPAPER  
FOR PUBLICATION

## APPENDIX D

**Notice of Application by Southern Union Gas Services for Approval of a Discharge Plan for Natural Gas Compressor Station:** Southern Union Gas Services, whose offices are located at 301 N. Commerce St., Suite 700, Fort Worth, Texas (76102) seeks approval from the New Mexico Oil Conservation for a Discharge Plan for the West Eunice Compressor Station, located in the Southeast Quarter of the Southeast Quarter of Section 36, Township 21 South, Range 36 East in Lea County, New Mexico (32° 30.070' North, 103° 8.652' West). This location is at an elevation of 3480 feet; approximately 4 miles west of Eunice, New Mexico. This compressor station is designed to have no intentional liquid discharges. The shallowest groundwater potentially impacted by this facility is at a depth of approximately 70 to 100 feet and has a total dissolved solids content of approximately 700 to 800 milligrams per liter. Additional information, comments or statements should be addressed Mr. James C. Hunter, R.G. of Geolex, Inc., 500 Marquette NW, Suite 1350, Albuquerque, NM 87102, Tel. (505-842-8000).

### PROPOSED POSTINGS, NOTIFICATIONS, AND PUBLICATION

Following NMOCD review and acceptance, we propose to post this notice using a 2'x3' sign, in English and Spanish, at the gate of the above-named facility and to post the 2<sup>nd</sup> sign outside the SUGS office in Jal.

Identified owners of all properties within a 1/3-mile distance from the boundary of the property where the discharge site is located will be provided with copies of this notice by mail. If there are no properties other than properties owned by SUGS within a 1/3-mile distance from the boundary of property where the discharge site is located, notice will be provided to owners of record of the next nearest adjacent properties not owned by the discharger.

Any owners of the lands upon which the proposed discharge site is located not owned by SUGS will be notified by certified, receipt-requested mailing.

The notice will also be advertised, in English and Spanish, in a 3" by 4" display advertisement in the local newspaper, the Hobbs Sun.

History of Repealed Material: [Reserved]

Other History:

Rule 101, filed 02-05-91; Rule 102, filed 02-05-91; Rule 103, filed 02-05-91; Rule 104, filed 02-05-91; Rule 105, filed 02-05-91; Rule 106, filed 02-05-91; Rule 107, filed 02-05-91; Rule 108, filed 02-05-91; Rule 109, filed 02-05-91; Rule 110, filed 02-05-91; Rule 111, filed 07-27-95; Rule 112-A, filed 02-05-91; Rule 112-B, filed 02-05-91; Rule 113, filed 02-05-91; Rule 114, filed 02-05-91; Rule 115, filed 02-05-91; Rule 116, filed 02-05-91; Rule 117, filed 02-05-91; Rule 118, filed 02-05-91; all renumbered, reformatted to and replaced by 19 NMAC 15.C, Drilling, filed 01-18-96.

19 NMAC 15.C, Drilling, filed 01-18-96; renumbered, reformatted and replaced by 19.15.3 NMAC, effective 11-15-01.

ATTACHMENT TO THE DISCHARGE PLAN RENEWAL GW-270  
SID RICHARDSON ENERGY SERVICES, LTD.  
WEST EUNICE COMPRESSOR STATION  
DISCHARGE PLAN APPROVAL CONDITIONS  
(January 9, 2002)

1. Payment of Discharge Plan Fees: The \$100.00 filing fee has been received by the OCD. There is a flat fee assessed for natural gas compressor stations with horsepower rating less than 1000 horsepower equal to \$400.00. The required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the plan, with the first payment due upon receipt of this approval.
2. Sid Richardson Energy Services, Ltd. Commitments: Sid Richardson Energy Services, Ltd. will abide by all commitments submitted in the discharge plan renewal application dated October 19, 2001 and these conditions for approval.
3. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge plan will be approved by OCD on a case-by-case basis.
4. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.
5. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
6. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.
7. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

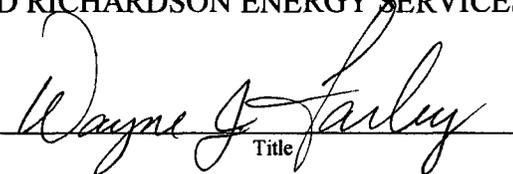
8. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.
9. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.
10. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity every 5 years. The permittee may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.
11. Class V Wells: No Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.
12. Housekeeping: All systems designed for spill collection/prevention will be inspected by a Sid Richardson Energy Services, Ltd.'s representative on a regular basis and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained for a period of five years.
13. Spill Reporting: All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD Hobbs District Office.
14. Transfer of Discharge Plan: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.
15. Storm Water Plan: The facility will have an approved storm water run-off plan.

16. Closure: The OCD will be notified when operations of the West Eunice Compressor Station are discontinued for a period in excess of six months. Prior to closure of the West Eunice Compressor Station a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.
17. Certification: Sid Richardson Energy Services, Ltd., by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Sid Richardson Energy Services, Ltd. further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Accepted:

SID RICHARDSON ENERGY SERVICES, LTD.

by

  
Title

# **SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN**

**FOR**

**Star Lake Compressor Station**  
Township 20 North, Range 6 West, Section 34  
McKinley County, New Mexico

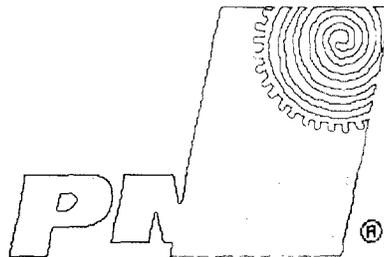
**Public Service Company of New Mexico**

**Original Date of Plan: July 24, 2002**

**Date of Last Plan Amendment / P.E. Certification:**

**Date of Last Plan Review:**

**Designated Person Accountable for Spill Prevention:**  
Dan Engert, Compressor Plant Manager



*A personal commitment  
to New Mexico*



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

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

September 14, 1998

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. Z-357-870-021**

Mr. Robert L. Gawlik  
Environmental Health & Safety Associate  
Sid Richardson Gasoline Co.  
201 Main Street, Suite 3000  
Fort Worth, TX 76102

**Re: Discharge Plan Modification**  
**GW-270 West Eunice Compressor Station**  
**Lea County, New Mexico**

Dear Mr. Gawlik:

The OCD has received and considered the request of Sid Richardson Gasoline Co. dated September 10, 1998 for the minor modification to the approved discharge plan, GW-270 West Eunice Compressor site located in Lea County, New Mexico. Based upon the information and laboratory analyses provided in your request the closure of one below grade steel storage tank pit by backfilling with clean soil and recontouring the surface to grade is **hereby approved**. This proposal is considered by the OCD as a minor modification to the current discharge plan and does not require public notice.

Please be advised that the approval of this modification does not relieve Sid Richardson Gasoline Co. of liability should the operations associated with this facility result in pollution of surface water, ground water, or the environment.

If you have any questions, please feel free to contact myself at (505)-827-7152 or Jack Ford at (505) - 827-7156.

Sincerely,

  
Roger C. Anderson  
Environmental Bureau Chief

RCA/wjf

cc: OCD Hobbs District Office

Z 357 870 021

US Postal Service  
Receipt for Certified Mail  
No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to	<i>Robert Gawlik</i>	
Street & Number	<i>Sid Richardson</i>	
Post Office, State, & ZIP Code	<i>Ft. Worth</i>	
Postage	\$	
Certified Fee		
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to Whom & Date Delivered		
Return Receipt Showing to Whom, Date, & Addressee's Address		
TOTAL Postage & Fees	\$	
Postmark or Date	<i>GW-270</i>	



NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT

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

September 9, 1998

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. Z-357-870-019**

Mr. Robert L. Gawlik  
Environmental Health & Safety Associate  
Sid Richardson Gasoline Co.  
201 Main Street, Suite 3000  
Fort Worth, TX 76102

**Re: Discharge Plan Modification**  
**GW-270 West Eunice Compressor Station**  
**Lea County, New Mexico**

Dear Mr. Gawlik:

The OCD has received and considered the request of Sid Richardson Gasoline Co. dated September 8, 1998 for the minor modification to the approved discharge plan; GW-270 West Eunice Compressor site located in Lea County, New Mexico. Based upon the information and laboratory analyses provided in your request the closure of two below grade steel storage tanks as proposed by cutting the tanks below grade, backfilling with clean soil and recontouring the surface to grade is **hereby approved**. This proposal is considered by the OCD as a minor modification to the current discharge plan and does not require public notice.

Please be advised that the approval of this modification does not relieve Sid Richardson Gasoline Co. of liability should the operations associated with this facility result in pollution of surface water, ground water, or the environment.

If you have any questions, please feel free to contact myself at (505)-827-7152 or Jack Ford at (505) - 827-7156.

Sincerely,

  
Roger C. Anderson  
Environmental Bureau Chief

RCA/wjf

cc: OCD Hobbs District Office

Z 357 870 019

US Postal Service  
Receipt for Certified Mail  
No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

Sent to	<i>Robert Gawlik</i>	
Street & Number	<i>Sid Richardson</i>	
Post Office, State, & ZIP Code	<i>Ft. Worth</i>	
Postage	\$	
Certified Fee		
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to Whom & Date Delivered		
Return Receipt Showing to Whom, Date, & Addressee's Address		
TOTAL Postage & Fees	\$	
Postmark or Date	<i>GW-270</i>	

PS Form 3800, April 1995

SID RICHARDSON GASOLINE CO.  
201 MAIN STREET, SUITE 3000  
FORT WORTH, TEXAS 76102

ROBERT L. GAWLIK  
ENVIRONMENTAL HEALTH  
& SAFETY ASSOCIATE

January 6, 1997

RECEIVED  
817/390-8600  
1997 JAN 8 AM 8 52

**CERTIFIED MAIL - RETURN RECEIPT**  
**Z 378 134 317**

Mr. William J. LeMay  
New Mexico Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

RECEIVED  
JAN - 8 1997  
Environmental Bureau  
Oil Conservation Division

Re: **Discharge Plans**  
**GW-269 Boyd Compressor Station**  
**GW-270 West Eunice Compressor Station**  
**Lea County, New Mexico**

Dear Mr. LeMay:

Attached are signed copies of the NMOCD's Conditions of Approval for Discharge Plans GW-269 and GW-270 (Boyd Compressor Station and West Eunice Compressor Station, respectively).

We appreciate your time and attention to this matter. If there should be any further questions, please do not hesitate to call.

Sincerely,



Robert L. Gawlik  
Environmental Health & Safety Associate

RLG:gad  
Attachments

cc: C. P. O'Farrell/H. Harless - w/attachments  
W. J. Farley - w/attachments  
K. C. Clark - w/attachments  
H. E. Hicks - w/attachments  
Wayne Price (NMOCD - Hobbs) - w/attachments

RECEIVED

Mr. Herb Harless  
Sid Richardson Gasoline Co.  
GW-270  
December 18, 1996  
Page 3

JAN - 8 1997

Environmental Bureau  
Oil Conservation Division

**ATTACHMENT TO DISCHARGE PLAN GW-270**  
**Sid Richardson Gasoline Co. West Eunice Compressor Station**  
**DISCHARGE PLAN REQUIREMENTS**  
(December 18, 1996)

1. **Sid Richardson Gasoline Co. Commitments:** Sid Richardson Gasoline Co. will abide by all commitments submitted in the application dated October 29, 1996, the additional information dated November 22, 1996 both from ESI on behalf of Sid Richardson Gasoline Company, the letter from OCD dated December 12, 1996, and this approval letter with conditions of approval from OCD dated December 18, 1996.
2. **Drum Storage:** All drums containing materials other than fresh water must be stored on an impermeable pad and curb type containment. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets should also be stored on an impermeable pad and curb type containment.
3. **Process Areas:** All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
4. **Above Ground Tanks:** All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad.
5. **Above Ground Saddle Tanks:** Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
6. **Tank Labeling:** All tanks should be clearly labeled to identify their contents and other emergency information necessary if the tank were to rupture, spill, or ignite.
7. **Below Grade Tanks/Sumps:** All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks that do not have secondary containment and leak detection must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks /or sumps.

RECEIVED

Mr. Herb Harless  
Sid Richardson Gasoline Co.  
GW-270  
December 18, 1996  
Page 4

JAN - 8 1997

Environmental Bureau  
Oil Conservation Division

8. **Underground Process/Wastewater Lines:** All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years there after. Companies may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD.

9. **Housekeeping:** All systems designed for spill collection/prevention should be inspected to ensure proper operation and to prevent overtopping or system failure.

Any soils contaminated with a non-exempt waste at the facility will be tested for hazardous constituents, and after receiving OCD approval, will be disposed of at an OCD approved site.

10. **Spill Reporting:** All spills/releases shall be reported pursuant to OCD Rule 116 and WQCC 1203 to the Hobbs OCD District Office at (505)-393-6161.

11. **Transfer of Discharge Plan:** The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.

12. **Closure:** The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

13. **Certification:** Sid Richardson Gasoline Company, by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Sid Richardson Gasoline Company, further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect groundwater, human health and the environment.

Accepted:

Sid Richardson Gasoline Company

by

Title

*Wayne J. Lawley*