

EPA Region 5 Records Ctr.



202464

1995
STATE RESPONSE

DOCUMENTS 52-55

KALAMAZOO RIVER

SITE

INVESTIGATION

DOCUMENTS #52 - 55

**MSD SHEETS OF
OIL USED AT THE
OTSEGO FACILITY**

DOCUMENT #52

MATERIAL SAFETY DATA SHEET

MEN02657

EFFECTIVE DATE: 11/85REVISION NUMBER: 1

TEXSTAR AUTOMOTIVE GROUP, INC. 9060 LATTY AVE. ST. LOUIS, MO 63134

I. IDENTIFICATION

PRODUCT NAME PENETREX NON-DETERGENT MOTOR OIL
(10W, 20, 30, 40)

CHEMICAL NAME N/A

PRODUCT SIZE

1 Qt. 5 Gal.
1 Gal. 55 Gal
2 Gal.

FORMULA: Complex Mixture of Petroleum Hydrocarbons

CHEMICAL FAMILY

Petroleum Hydrocarbons

SYNONYMS Straight Mineral Oil

DEPARTMENT OF
TRANSPORTATION

HAZARD CLASSIFICATION

Not Hazardous Under DOT 172.101

SHIPPING NAME

Petroleum Lubricating
Oil

IDENTIFICATION #

None

CAS # Mixture

CAS NAME Mixture

II. TYPICAL COMPOSITION

<u>MATERIAL</u>	<u>CAS #</u>	<u>% WT</u>	<u>TLV (UNITS) (SOURCE)</u>	<u>HAZARD</u>
Mineral Oils*	Mixture	100	5mg/M ³ TWA ACGIH	

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

III. PHYSICAL DATA

BOILING POINT /60 mm Hg N/D

PHYSICAL STATE liquid

SPECIFIC GRAVITY (H₂O = 1) .90

VAPOR PRESSURE AT 20°C. N/D

VAPOR DENSITY (AIR = 1): N/D

SOLUBILITY IN
WATER % BY WT Nil

PER CENT VOLATILES

BY VOLUME Nil

EVAPORATION RATE N/D
(Butyl Acetate = 1)

APPEARANCE AND ODOR: Amber liquid (thickness dependent on viscosity). Slight hydrocarbon odor.

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

FOR FURTHER INFORMATION CALL (314) 521-3900

IV. HEALTH HAZARD DATA

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

ACUTE EFFECTS OF OVEREXPOSURE:

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

CHRONIC EFFECTS OF OVER EXPOSURE:

None known. See Notes to Physician below.

EMERGENCY AND FIRST AID PROCEDURES:

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

NOTES TO PHYSICIAN:

Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water. It is believed during use in internal combustion engines contamination of oil with low levels of cancer causing combustion products (poly nuclear aromatics) occurs.

V. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method(s)):

390°F, minimum (COC)

AUTO IGNITION TEMPERATURE:

N/D

FLAMMABLE LIMITS IN AIR, % BY VOLUME:

N/A

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

SPECIAL FIRE FIGHTING PROCEDURES:

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

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

VI. REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: High temperatures and open flame.

INCOMPATIBILITY (materials to avoid) Strong oxidizing agents.

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

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID None known.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Clean up spills as soon as possible. Absorb large spills with commercially available absorbent materials, such as absorbent clay.

WASTE DISPOSAL METHOD: Place contaminated material in disposable containers and bury in an approved landfill site per local, state and Federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

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

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

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

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

OTHER PROTECTIVE EQUIPMENT:

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not store near high heat or open flame.

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

NOTES

APPROVED BY R. A. Yarbrough
Quality Control Supervisor

765-140

MEN02661

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

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

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

SECTION I

MANUFACTURER'S NAME COILHOSE PNEUMATICS		EMERGENCY TELEPHONE NO. 201-752-5000
ADDRESS (Name, Street, City, State and ZIP Code) 289 POND AVENUE, MIDDLESEX, NEW JERSEY 08846		
CHEMICAL NAME AND SYNONYMS PETROLEUM HYDROCARBON	TRADE NAME AND SYNONYMS ATL016	
CHEMICAL FAMILY PETROLEUM HYDROCARBON	CAS NO. 8400016	

SECTION II - HAZARDOUS INGREDIENTS

PRODUCTS DESCRIPTION

ATL016 IS A LUBRICATING AND HYDRAULIC OIL INHIBITED BY ADDITION AGENTS AGAINST RUST, OXIDATION, FOAM AND WEAR.

CHEMICAL ANALYSIS

PETROLEUM HYDROCARBONS	99.69% wt.
ZINC	0.08% wt.
PHOSFORUS	0.07% wt.
SULFUR	0.16% wt.
SILICONE	TRACE

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

	%	TLV (Units)
THIS PRODUCT IS NOT CLASSIFIED AS A "HAZARDOUS MATERIAL" IN NORMAL USE AS DEFINED IN U.S. DEPARTMENT OF LABOR REGULATIONS 29 CFR PARTS 1501, 1502 & 1503.		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	1 BP	672	SPECIFIC GRAVITY (H ₂ O=1)	0.87
VAPOR PRESSURE (mm Hg.)		0.01	PERCENT. VOLATILE BY VOLUME (%)	neglig.
VAPOR DENSITY (AIR=1)		12.5	REFRACTIVE INDEX	0.01
SOLUBILITY IN WATER		neglig.		
APPEARANCE AND ODOR CLEAR, LIGHT YELLOW OIL - MILD PETROLEUM ODOR				

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	385°F C.O.C.	FLAMMABLE LIMITS	18% ^U	68% ^U
EXTINGUISHING MEDIA	FOAM, DRY CHEMICAL, CO ₂			
SPECIAL FIRE FIGHTING PROCEDURES	USE AIR SUPPLIED RESCUE EQUIPMENT FOR ENCLOSED AREAS.			
UNUSUAL FIRE AND EXPLOSION HAZARDS	DO NOT MIX OR STORE WITH STRONG OXIDANTS.			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE 5 mg/meter³

EFFECTS OF OVEREXPOSURE
PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE SLIGHT IRRITATION.

EMERGENCY AND FIRST AID PROCEDURES
WASH SKIN WITH SOAP AND WATER.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATIBILITY (Materials to avoid) STRONG OXIDANTS

HAZARDOUS DECOMPOSITION PRODUCTS
CARBON MONOXIDE MAY FORM IN THE CASE OF INCOMPLETE COMBUSTION.

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

ABSORB ON CLAY AND SWEEP UP.

WASTE DISPOSAL METHOD

INCINERATION

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
NORMALLY NOT NEEDED

VENTILATION	LOCAL EXHAUST ONLY IS OIL MIST GENERATED	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES NORMALLY NOT NEEDED EYE PROTECTION NORMALLY NOT NEEDED

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

KEEP CONTAINERS AWAY FROM OPEN FLAME.

OTHER PRECAUTIONS

MEN02663



MATERIAL SAFETY DATA SHEET

PAGE 1
EFFECTIVE DATE 10/24/83
RUN DATE 06/14/85

TPI4901
LA 160105 LUBRICANTS

NUDEX INC. TURNER PLACE, P.O. BOX 365, PISCATAWAY, N.J. 08854
OILS
EMERGENCY TELEPHONE NO : (201)763-7173

-----SECTION 01 IDENTIFICATION OF PRODUCT-----

TRADE NAME & SYNONYMS	:ANDEROL** 500 OIL	MSDS/PRODUCT NUMBER	: 7953813
CHEMICAL NAME & SYNONYMS	:MIXTURE	REVISION DATE	:A500
CHEMICAL FAMILY	:ESTERS	MOLECULAR WEIGHT	:N/A
MOLECULAR FORMULA	:NOT APPLICABLE		
** REGISTERED US. TRADEMARK OF NUDEX INC.			

-----SECTION 02 HAZARDOUS COMPONENTS OF MIXTURES-----

COMPONENTS	PERCENT	THRESHOLD LIMIT VALUE	COMPONENTS	PERCENT	THRESHOLD LIMIT VALUE
NONE					

-----SECTION 03 PHYSICAL DATA-----

APPEARANCE AND ODOR	:LIGHT AMBER OIL, SLIGHT MILD ODOR.	MELTING POINT	:<-25F
BOILING POINT	:>660F	SPECIFIC GRAVITY	:LESS THAN 1
VAPOR PRESSURE	:<0.02 MM HG @ 300F	PERCENT VOLATILE	:NOT VOLATILE
VAPOR DENSITY	:NOT VOLATILE	EVAPORATION RATE	:NOT VOLATILE
SOLUBILITY IN WATER	:NEGLIGIBLE		

-----SECTION 04 FIRE AND EXPLOSION HAZARD DATA-----

FLASH POINT	:>450F CDC	FLAMMABLE LIMITS	:NOT AVAILABLE
FIRE EXTINGUISHING MEDIA	:WATER SPRAY, FOAM, CO2 OR DRY CHEMICAL		
SPECIAL FIRE FIGHTING PROCEDURE	:BURNING WILL PRODUCE TOXIC FUMES. WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL TURN-OUT GEAR TO FIGHT FIRE. AVOID SPREADING LIQUID AND FIRE BY WATER FLOODING.		
UNUSUAL FIRE AND EXPLOSION HAZARDS	:EXPOSURE TO HEAT BUILDS UP PRESSURE IN CLOSED CONTAINERS. COOL WITH WATER SPRAY.		

-----SECTION 05 HEALTH HAZARD DATA-----

THRESHOLD LIMIT VALUE	:NOT APPLICABLE
EFFECTS OF OVER EXPOSURE	:LOW ORAL AND DERMAL TOXICITY. MISTS OR FUMES FROM EXCESSIVE HEATING MAY CAUSE IRRITATION, NAUSEA, VOMITING.
EMERGENCY 1ST AID PROCEDURE	:CONTACT - WASH SKIN WITH SOAP AND WATER; FLUSH EYES WITH WATER FOR 15 MINUTES. CALL A PHYSICIAN IF IRRITATION DEVELOPS. INHALATION - REMOVE TO FRESH AIR, GIVE ARTIFICIAL RESPIRATION OR OXYGEN IF NECESSARY. INGESTION - INDUCE VOMITING IF VICTIM IS CONSCIOUS. CALL A PHYSICIAN. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

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MEN02664

14901
160105 LUBRICANTS

NUDDEX INC. TURNER PLACE, P.O. BOX 365, PISCATAWAY, N.J. 08854
OILS

MSDS NUMBER : 7953813

-----SECTION 06 REACTIVITY DATA-----M

ABILITY: STABLE x UNSTABLE	CONDITIONS TO AVOID :
INCOMPATIBILITY	: CAN REACT WITH STRONG OXIDANTS.
HAZARDOUS DECOMPOSITION	: BURNING WILL PRODUCE TOXIC FUMES.
HAZARDOUS POLYMERIZATION WILL NOT OCCUR	CONDITIONS TO AVOID :

-----SECTION 07 SPILL OR LEAK PROCEDURES-----M

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	: COVER WITH AN INERT, ABSORBENT MATERIAL AND REMOVE TO DISPOSAL CONTAINER. OBEY ALL RELEVANT FEDERAL, STATE AND LOCAL LAWS.
WASTE DISPOSAL METHOD	: OBEY RELEVANT LOCAL, STATE AND FEDERAL LAWS. DO NOT CONTAMINATE ANY LAKES, STREAMS, PONDS OR UNDERGROUND WATER SUPPLY.

-----SECTION 08 SPECIAL PROTECTION INFORMATION-----M

RESPIRATORY PROTECTION	: IF OVERHEATED USE NIOSH-APPROVED ORGANIC VAPOR RESPIRATOR.
VENTILATION LOCAL EXHAUST MECHANICAL PROTECTION GLOVES	: RECOMMENDED : RECOMMENDED SPECIAL : OTHER : : IMPERMEABLE GLOVES TO MINIMIZE SKIN CONTACT.
EYE PROTECTION	: CHEMICAL SPLASH GOGGLES OR FULL FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT	: EYE WASH FOUNTAIN, SAFETY SHOWER. REMOVE AND WASH CONTAMINATED CLOTHING.

-----SECTION 09 SPECIAL PRECAUTIONS-----M

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	: DO NOT USE OIL ABOVE MAXIMUM RECOMMENDED OPERATING TEMPERATURE OF 450F (232C). MAY SOFTEN SOME : PLASTIC AND PAINT SURFACES. WIPE UP SPILLS IMMEDIATELY.
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MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED:09/21/90

***** I. PRODUCT IDENTIFICATION *****
MOBILGEAR SHC 220

SUPPLIER:	HEALTH EMERGENCY TELEPHONE:
MOBIL OIL CORP.	(609) 737-4411
CHEMICAL NAMES AND SYNONYMS:	TRANSPORT EMERGENCY TELEPHONE:
SYN. HYDROCARBONS AND ADDITIVES	(800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION:	PRODUCT TECHNICAL INFORMATION:
INDUSTRIAL GEAR OIL	(800) 662-4525

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: Lt. Amber Liquid	ODOR: Mild	PH: NA
VISCOSITY AT 100 F, SUS: 1150.0	AT 40 C, CS: 209.0	
VISCOSITY AT 210 F, SUS: 125.0	AT 100 C, CS: 25.0	
FLASH POINT F(C): > 420(216)	(ASTM D-92)	
MELTING POINT F(C): NA	POUR POINT F(C): -35(-37)	
BOILING POINT F(C): > 600(316)		
RELATIVE DENSITY, 15/4 C: 0.887	SOLUBILITY IN WATER: Negligible	
VAPOR PRESSURE-mm Hg 20C: < .1		

NA=Not Applicable NE=Not Established D=Decomposes
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. POTENTIALLY HAZARDOUS INGREDIENTS *****

None

SEE SECTIONS XII AND XIII FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES: A=ACGIH-TLV, A*=Suggested-TLV, M=Mobil, O=OSHA, S=Supplier
NOTE: Limits shown for guidance only. Follow applicable regulations.

***** IV. HEALTH HAZARD DATA *****

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---
EFFECTS OF OVEREXPOSURE: Not expected to be a problem.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: Flush with water.
 SKIN CONTACT: Wash contact areas with soap and water.
 INHALATION: Not expected to be a problem.
 INGESTION: Not expected to be a problem. However, if greater than 1/2 liter(pint) ingested, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room or poison control center for assistance. Do not induce vomiting or give anything by mouth to an unconscious person.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 420(216) (ASTM D-92)

FLAMMABLE LIMITS. LEL: .6 UEL: 7.0

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing.

Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. For fires in enclosed areas, firefighters must use self-contained breathing apparatus.

Prevent runoff from fire control or dilution from entering streams or drinking water supply.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0

***** VII. REACTIVITY DATA *****

STABILITY (Thermal, Light, etc.): Stable

CONDITIONS TO AVOID: Extreme heat.

INCOMPATIBILITY (Materials to Avoid): Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: Report spills as required to appropriate authorities. U. S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Adsorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.

WASTE MANAGEMENT: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the resource conservation and recovery act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: No special equipment required.

SKIN PROTECTION: No special equipment required. However, good personal hygiene practices should always be followed.

RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation.

VENTILATION: No special requirements under ordinary conditions of use and with adequate ventilation.

***** X. SPECIAL PRECAUTIONS *****

No special precautions required.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): LD50: > 5 g/kg Slightly toxic (estimated) ---
Based on testing of similar products and/or the components.
DERMAL TOXICITY (RABBITS): LD50: > 2 g/kg Slightly toxic (estimated) --
-Based on testing of similar products and/or the components.
INHALATION TOXICITY (RATS): Not applicable ---Harmful concentrations of
mists and/or vapors are unlikely to be encountered through any
customary or reasonably foreseeable handling, use, or misuse of
this product.
EYE IRRITATION (RABBITS): Expected to be non-irritating. ---Based on
testing of similar products and/or the components.
SKIN IRRITATION (RABBITS): Expected to be non-irritating. ---Based on
testing of similar products and/or the components.

***** XII. REGULATORY INFORMATION *****

GOVERNMENTAL INVENTORY STATUS: All components registered in accordance
with TSCA.

DOT:

Shipping Name: Not applicable
Hazard Class: Not applicable

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance
with OSHA 29 CFR 1910.1200 and determined not to be hazardous.

RCRA INFORMATION: The unused product, in our opinion, is not
specifically listed by the EPA as a hazardous waste (40 CFR,
Part 261D); does not exhibit the hazardous characteristics of
ignitability, corrosivity, or reactivity, and is not formulated
with the contaminants listed in the Toxicity Characteristic (TC)
Rule as determined by the Toxicity Characteristic Leaching
Procedure (TCLP). However, used product may be regulated.

U.S. Superfund Amendments and Reauthorization Act (SARA) TITLE III:
This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: NONE

This product contains no chemicals reportable under
SARA (313) toxic release program.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME CAS NUMBER LIST CITATIONS
*** NO REPORTABLE INGREDIENTS ***

--- KEY TO LIST CITATIONS ---

- 1 = OSHA 2, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
16 = FL RTK, 17 = PA RTK, 18 = CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

***** XIII. INGREDIENTS *****

INGREDIENT DESCRIPTION	PERCENT	CAS NUMBER
CONTAINS ONE OR MORE OF THE FOLLOWING > 95.00		
BASE OILS:		
ALKENES, C>10 ALPHA, POLYMD.		68527-08-2
HEXANEDIOIC ACID, DITRIDECYL ESTER		16958-92-2
1-PROPENE, 2-METHYL-, SULFURIZED	< 2.00	68511-50-2
BENZENAMINE, N-PHENYL	0.05	122-39-4

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: RL1327F*001) MCN: , MHC: 1* 1* NA 0*
0*, MPPEC: , PPEC: , US85-024 APPROVE 11/28/88

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWES ROAD, FAIRFAX, VA 22037 (800) 227-0707 X3265

Material Safety Data Sheet
 MSDS: 5724 - MOBILGEAR SHC 220

MSDS: 5724

5/04/92

Status: Pending

Revised: 1/20/92

Formula: NOT GIVEN
 Specification: NOT GIVEN
 Synonyms: NOT GIVEN
 Stock Items: NOT GIVEN

Part Number: NOT GIVEN
 Keyword: NOT GIVEN

Manufacturer

MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

Phone: 800-662-4525

PRINCETON, NJ

Emergency: 609-737-4411

Supplier

MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

Phone: 800-662-4525

PRINCETON, NJ

Emergency: 609-737-4411

Physical/Chemical Characteristics

Boiling Point	>	600 F	>316'C.
Melting Point	NA		NOT APPLICABLE.
Freezing Point	NG		
Pour Point	=	-35 F	-37'C.
Softening Point	NG		
Specific Gravity	=	.887	15/4'C, REL.DENSITY.
Vapor Pressure	<	.1	MM HG @ 20'C.
at Temperature		68 F	
Vapor Density	NG		
Percent Volatiles	NG		
Evaporation Rate	NG		
pH	NA		NOT APPLICABLE.
Molecular Weight	NG		
Viscosity	=	125csT	SUS@210'F, 25CS@100'C
Solubility in Water ..	NEGLIGIBLE.		
Odor/Appearance/Other Characteristics:			
MILD ODOR/LT.AMBER LIQUID/VISCOSITY:			1150 SUS @ 100'F, 209 CS @ 40'C.

Fire and Explosion Data

Closed Cup Flash Pt. ..	NG		
Open Cup Flash Point ..	>	420 F	216'C, ASTM D-92.
Fire Point	NG		
Auto Ignition	NG		
Lower Explosion Limit :	EQ	.6	
Upper Explosion Limit :	EQ	7.0	

Shipping Regulations

UN/NA Number: NG
 DOT Hazard Class: NOT APPLICABLE
 Shipping Label: NOT GIVEN
 Shipping Name: NOT APPLICABLE

Material Safety Data Sheet
MSDS: 5724 - MOBILGEAR SHC 220

MSDS: 5724

Page 2

Prepared

Preparer's Name & Title: MOBIL OIL CORPORATION
Preparation Date: 9/21/90

Component(s):

CONTAINS ONE OR MORE OF THE FOLLOWING BASE OILS:

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: > 95%

CAS No.: NOT GIVEN

ALKENES, C>10 ALPHA, POLYMD.

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 68527082

HEXANEDIOIC ACID, DITRIDECYL ESTER

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 16958922

1-PROPENE, 2-METHYL-, SULFURIZED

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: < 2%

CAS No.: 68511502

BENZENAMINE, N-PHENYL

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: = .05%

CAS No.: 122394

POTENTIALLY HAZARDOUS INGREDIENTS: NONE.

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: NOT GIVEN

Text Section(s)

PRODUCT IDENTIFICATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

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PRODUCT NAME: MOBILGEAR SHC 220.

CHEMICAL NAMES AND SYNONYMS: SYN. HYDROCARBONS AND ADDITIVES.

USE OR DESCRIPTION: INDUSTRIAL GEAR OIL.

HEALTH EMERGENCY TELEPHONE: (609) 737-4411.

TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC).

PRODUCT TECHNICAL INFORMATION: (800) 662-4525.

TYPICAL CHEMICAL AND PHYSICAL PROPERTIES

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

NA= NOT APPLICABLE.

NE= NOT ESTABLISHED.

D= DECOMPOSES.

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

POTENTIALLY HAZARDOUS INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

NONE.

SEE REGULATORY INFORMATION AND INGREDIENTS SECTIONS FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES:

A= ACGIH-TLV.

A*= SUGGESTED-TLV.

M= MOBIL.

O= OSHA.

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S= SUPPLIER.

NOTE: Limits shown for guidance only. Follow applicable regulations.

HEALTH HAZARD DATA

INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED.

EFFECTS OF OVEREXPOSURE: Not expected to be a problem.

EMERGENCY AND FIRST AID PROCEDURES

FOR PRIMARY ROUTES OF ENTRY:

EYE CONTACT: Flush with water.

SKIN CONTACT: Wash contact areas with soap and water.

INHALATION: Not expected to be a problem.

INGESTION: Not expected to be a problem. However, if greater than 1/2 liter (pint) ingested, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room or poison control center for assistance. Do not induce vomiting or give anything by mouth to an unconscious person.

FIRE AND EXPLOSION HAZARD DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. For fires in enclosed areas, firefighters must use self-contained breathing apparatus. Prevent runoff from fire control or dilution from entering streams or drinking water supply.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

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NFPA HAZARD ID:

HEALTH: 0.

FLAMMABILITY: 1.

REACTIVITY: 0.

REACTIVITY DATA

STABILITY (THERMAL, LIGHT, ETC.): Stable.

CONDITIONS TO AVOID: Extreme heat.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SPILL OR LEAK PROCEDURES

ENVIRONMENTAL IMPACT: Report spills as required to appropriate authorities. U.S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Absorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.

WASTE MANAGEMENT: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the resource conservation and recovery act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

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SPECIAL PROTECTION INFORMATION

EYE PROTECTION: No special equipment required.

SKIN PROTECTION: No special equipment required. However, good personal hygiene practices should always be followed.

RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation.

VENTILATION: No special requirements under ordinary conditions of use and with adequate ventilation.

SPECIAL PRECAUTIONS

No special precautions required.

TOXICOLOGICAL DATA

ACUTE TOXICOLOGY:

ORAL TOXICITY (RATS): LD50: > 5 g/kg Slightly toxic (estimated) ----
Based on testing of similar products and/or the components.

DERMAL TOXICITY (RABBITS): LD50: > 2 g/kg Slightly toxic (estimated) ---
-Based on testing of similar products and/or the components.

INHALATION TOXICITY (RATS): Not applicable ----Harmful concentrations of mists and/or vapors are unlikely to be encountered through any customary or reasonably foreseeable handling, use, or misuse of this product.

EYE IRRITATION (RABBITS): Expected to be non-irritating. ----Based on testing of similar products and/or the components.

SKIN IRRITATION (RABBITS): Expected to be non-irritating. ---Based on testing of similar products and/or the components.

REGULATORY INFORMATION

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 SEE DATA PAGES FOR ADDITIONAL INFORMATION.

GOVERNMENTAL INVENTORY STATUS: All components registered in accordance with TSCA.

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D); does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity, and is not formulated with the contaminants listed in the Toxicity Characteristic (TC) Rule as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

U.S. Superfund Amendments and Reauthorization Act (SARA) TITLE III: This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: NONE.

This product contains no chemicals reportable under SARA (313) toxic release program.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
---------------	------------	----------------

NO REPORTABLE INGREDIENTS.

KEY TO LIST CITATIONS:

1= OSHA Z	10= CA RTK
2= ACGIH	11= IL RTK
3= IARC	12= MA RTK
4= NTP	13= MN RTK
5= NCI	14= NJ RTK
6= EPA CARC	15= MI 293
7= NFPA 49	16= FL RTK
8= NFPA 325M	17= PA RTK

End of MSDS

MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL 3225 GALLOW
ROAD, FAIRFAX, VA 22037 (800) 227-0707 X3265.

FOR FURTHER INFORMATION, CONTACT:

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT
GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR
USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE
ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND
AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT.
NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID
PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS
AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

SPECIAL NOTES

FOR MOBIL USE ONLY: (FILL NO: RL1327F*001) MCN: MHC: 1 * 1 * NA 0 * 0 *
MPPEC: C, PPEC: , US85-024 APPROVE 11/28/88.

APPENDIX

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

INGREDIENTS

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBs.

NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS.

9 = DOT HMT

18 = CA P65.

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MEN02676

MATERIAL SAFETY
DATA SHEET

AMOCO 100 MOTOR OIL SAE 10W

MANUFACTURER:
Amoco Oil Company
200 East Randolph Drive
Chicago, Illinois 60601

EMERGENCY HEALTH INFORMATION: (800) 447-8735
EMERGENCY SPILL INFORMATION: (800) 424-9300
OTHER PRODUCT SAFETY INFORMATION: (312) 856-3907

IMPORTANT COMPONENTS: Solvent refined paraffinic petroleum oil. CAS #64741-88-4.

WARNING STATEMENT: Continuous long-term contact with used motor oils has caused skin cancer in animal tests. Avoid prolonged skin contact with used motor oils.

APPEARANCE AND ODOR: Lemon to orange pale colored oily liquid.

HEALTH HAZARD INFORMATION

EYE

EFFECT: No significant irritation expected.

FIRST AID: Flush eyes with plenty of water.

PROTECTION: None required, however, use of safety glasses is good industrial practice.

SKIN

EFFECT: None expected for single short-term exposures. Prolonged or repeated contact may produce some irritation.

FIRST AID: None required for unused motor oil. Contact with used motor oil--wash exposed skin thoroughly with soap and water.

PROTECTION: Wear protective clothing and impervious gloves when working with used motor oils.

INHALATION

EFFECT: None expected under usual conditions of use.

FIRST AID: None required.

PROTECTION: None required for usual conditions of use.

INGESTION

EFFECT: Expected to be relatively non-toxic.

FIRST AID: If a large amount is swallowed, induce vomiting, get medical attention.

FIRE AND EXPLOSION INFORMATION

FLASHPOINT: 380°F, Minimum (COC)

EXTINGUISHING MEDIA: Agents approved for Class B hazards (e.g., dry chemical, carbon dioxide, halogenated agents, foam, steam) or water fog.

REACTIVITY INFORMATION

STABILITY: Stable.

CHEMICAL AND PHYSICAL PROPERTIES

pH: 7.5

SOLUBILITY IN WATER: Negligible, below 0.1%

SPECIFIC GRAVITY (WATER = 1): 0.88

VISCOSITY: 168.1-214 SUS @ 100°F VISCOSITY INDEX: 100 minimum

POUR POINT: -20°F Maximum

STORAGE AND ENVIRONMENTAL PROTECTION

STORAGE REQUIREMENTS: No special requirements.

SPILLS AND LEAKS: Treat as an oil spill. Contain and remove by mechanical means.

WASTE DISPOSAL: Disposal must be in accordance with applicable federal, state, or local regulations. Enclosed-controlled incineration is recommended unless directed otherwise by applicable ordinances.

TOXICOLOGICAL INFORMATION

EYE: A similar product produced a maximum primary eye irritation score of 0.7/110.0; 24 hours (rabbits).

SKIN: A similar product produced an acute dermal LD50 greater than 2g/kg (rabbits). Practically nontoxic for acute exposures by this route. A similar product produced a primary dermal irritation score of 2.0/8.0 (rabbits).

INGESTION: A similar product produced an acute oral LD50 greater than 10g/kg (rats). Practically nontoxic for acute exposures by this route.

REGULATORY INFORMATION

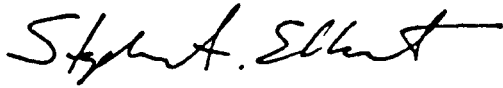
OSHA HAZARD COMMUNICATION STANDARD: Not hazardous per 29 CFR 1910.1200(d).

DOT PROPER SHIPPING NAME (BULK, LAND): Not regulated.

Truck/Rail Shipping Class: Petroleum Lubricating Oil.

ISSUE INFORMATION

BY:



Stephen A. Elbert
Mgr., Product Safety & Toxicology

ISSUED: August 13, 1985
SUPERSEDES: January 02, 1985

This material safety data sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this data sheet which we received from sources outside our company. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either express or implied.

Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No 1218-0072



IDENTITY (As Used on Label and LHM) Chain and Cable Lubricant When spaces are not permitted if any item is not applicable or is inapplicable, the space must be marked as blank.

Section I

Distributor's Name Beaver Research Company	Emergency Telephone Number (616) 382-0133
Address (Number, Street, City, State, and ZIP Code) 1075 West North Street Kalamazoo, Mi 49007	Telephone Number for Information 382-0133
	Date Prepared June 16, 1986
	Signature of Preparer (optional)

Section II - Hazardous Ingredients/Identify Information

Hazardous Components (Specific Chemical Identity, CAS Number)	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Butyl cellulose 111-76-2		50 ppm		1
Methyl chloroform 71-55-6		350 ppm		1

Section III - Physical/Chemical Characteristics

Boiling Point	No data	Specific Gravity (H₂O = 1) @ 75°F	1.164
Vapor Pressure (mm Hg) In can @ 75°F	90	Melting Point	N/A
Vapor Density (Air = 1)	No data	Evaporation Rate (Butyl Acetate = 1)	1
Solubility in Water	Negligible		

Appearance and Odor Black brown, opaque liquid; mild sweetish odor

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) none to 150°F (T.O.C.)	Flammable Limits none	LEL N/A	UEL N/A
Extinguishing Media Foam; dry chemical, CO ₂			
Special Fire Fighting Procedures none			
Unusual Fire and Explosion Hazards none			

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid	none
	Stable	XX		

Incompatibility (Materials to Avoid) None known

Hazardous Decomposition or Byproducts None known

Hazardous Polymerization	May Occur		Conditions to Avoid	none
	Will Not Occur	XX		

Section VI — Health Hazard Data

Routes of Entry Inhalation? X Skin? NA Ingestion? X

Health Hazards (Acute and Chronic) Excessive prolonged inhalation may result in drowsiness, headaches, nausea, eye and lung irritation. Harmful if swallowed.

Carcinogenicity NTP? NA IARC Monographs? NA OSHA Regulated? NA

Signs and Symptoms of Exposure See above

Medical Conditions Generally Aggravated by Exposure None known

Emergency and First Aid Procedures Skin: wash with soap and water. Eyes: flush with water for 15 minutes if irritation persists—contact physician. Inhalation: remove to fresh air; if unconscious, call a physician.

Section VII — Precautions for Safe Handling and Use Ingestion: contact physician immediately.

Steps to Be Taken in Case Material is Released or Spilled Mop up and/or soak up with appropriate absorbent material (sand, sawdust, etc.)

Waste Disposal Method Dispose of according to federal, state, and local regulation.

Precautions to Be Taken in Handling and Storing Keep out of reach of children. Keep away from food and food-stuffs.

Other Precautions none

Section VIII — Control Measures

Respiratory Protection (Specify Type) None required as long as not used in small closed area.

Ventilation	Local Exhaust	N/A	Special	n/A
	Mechanical (General)	adequate	Other	n/A

Protective Gloves None unless prolonged contact Eye Protection goggles if splashing conditions.

Other Protective Clothing or Equipment As necessary to avoid wetting of clothing and skin.

Work/Hygiene Practices Wash hands thoroughly after use. Use only in accordance with direction.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILUBE HD 80W-90

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: AUTOMOTIVE GEAR LUBRICANT

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 7.5 VISCOUS LIQUID ODDP: MILD PH: NA
VISCOSITY AT 100 F, SUS: 729.0 AT 40 C, CS: 132.0
VISCOSITY AT 210 F, SUS: 76.0 AT 100 C, CS: 13.9
FLASH POINT F(C): >375(191) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): -15(-26)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.895 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 23C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

WT PCT (APPROX)	EXPOSURE LIMITS (MG/M3)	SOURCES (PPM AND NOTES)
-----------------	-------------------------	-------------------------

HAZARDOUS INGREDIENTS:
NONE

OTHER INGREDIENTS:
REFINED MINERAL OILS >90
ADDITIVES AND/OR OTHER INGREDIENTS <10

KEY TO SOURCES: A=ACI-TLTV, A*=SUGGESTED-TLTV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 375(191) (ASTM D-92)
FLAMMABLE LIMITS, LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 300-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SCRAPE UP AND REMOVE. DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE EMPLOYED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---

ORAL TOXICITY (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.
EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.
D.O.T. SHIPPING NAME: NOT APPLICABLE
D.O.T. HAZARD CLASS: NOT APPLICABLE
US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.
RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 2610); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME CAS NUMBER LIST CITATIONS
*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
16 = FL RTK, 17 = PA RTK.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

Mobil

MOBILUBE HD 30W-90

510156

PA. MEN02685

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: RP5438C201) MHC: 1* 1* NA 1* 1* PPEC:
US83-289 APPROVE REVISED: 01/22/65



no mixing required
shelf life 6 years

MATERIAL SAFETY DATA SHEET

**PART ONE
SECTION I**

PRODUCT NAME OR NUMBER (as it appears on label) MOLUB-ALLOY 882 EP AEROSOL		EMERGENCY TELEPHONE NO. 213-679-0271
ADDRESS (Number, Street, City, State and Zip Code) 4801 West 147th St., Hawthorne, California, 90250		MANUFACTURER'S D.U.N-S NO. 07-964-5248
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) CONSUMER COMMODITY: ORM-D AIR		
ADDITIONAL HAZARD CLASSES (as applicable) FLAMMABLE GAS N.O.S. COMPRESSED GAS		
CHEMICAL FAMILY None-(mixture)	FORMULA None-(mixture)	

SECTION II — HAZARDOUS INGREDIENTS
(Additional information in MSDS Part 2)

CAS REGISTRY NO.	%W	%V	CHEMICAL NAME(S)	Listed as a Carcinogen in NTP, IARC or OSHA 1910(z) (specify)
AEROSOL PROPELLANTS INCLUDE:				
75-09-2	<50		METHYLENE CHLORIDE (TLV-TWA = 350 mg/m ³)	NO
75-28-5	<20		ISOBUTANE (SIMPLE ASPHIXIANT)	NO
74-98-6	<20		PROPANE (TLV-TWA 1800 mg/m ³)	NO
			AEROSOL CONTENTS UNDER PRESSURE 50±5 psig at 70°F	

SECTION III — PHYSICAL DATA

BOILING POINT -40°F Propellant °C	SPECIFIC GRAVITY (H ₂ O = 1)	N/A		
VAPOR PRESSURE in -42°F °C <input checked="" type="checkbox"/> mm Hg <input type="checkbox"/> psi 760	PERCENT VOLATILE BY VOLUME (%)	70	PERCENT SOLID BY WEIGHT (%)	
Vapor Density Air = 1	1.56	Evaporation Rate Ether = 1	<1	
APPEARANCE AND ODOOR Dark: Solvent Odor	IS MATERIAL: <input type="checkbox"/> GAS <input type="checkbox"/> PASTE <input checked="" type="checkbox"/> LIQUID <input type="checkbox"/> SOLID POWDER			

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT <20 °F °C method used TOC	FLAMMABLE LIMITS LEL 1.9 UEL 8.5
EXTINGUISHING MEDIA CO ₂ , Foam, Dry Chemical	
SPECIAL FIRE FIGHTING PROCEDURES Water may be used to keep exposed containers cool	
UNUSUAL FIRE AND EXPLOSION HAZARDS Do not spray near open flame. Heavy vapors need to be ventilated to maintain LEL.	

SECTION V-HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE - Conditions to Avoid	THRESHOLD LIMIT VALUE PERMISSIBLE EXPOSURE LIMIT
Lightheadedness, possible nausea See MSDS Part 2	OTHER LIMIT <input checked="" type="checkbox"/> It is recommended that generalized ACGIH limit of TWA of 5 be followed if sprayed into air.
PRIMARY ROUTES OF ENTRY Inhalation <input checked="" type="checkbox"/> Skin Contact <input type="checkbox"/> Other (specify)	
EMERGENCY AND FIRST AID PROCEDURES Remove to fresh air, give artificial respiration if necessary, flush eyes with water for 20 minutes. Skin - wash with warm soapy water	

SECTION VI-REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE	Elevated Temperature (Store below 120 °F)
INCOMPATIBILITY (Materials to avoid) Strong oxidizers		
HAZARDOUS DECOMPOSITION PRODUCTS: Products of combustion may include oxides of carbon, sulfur.		
HAZARDOUS	MAY OCCUR	CONDITIONS TO AVOID
POLYMERIZATION	WILL NOT OCCUR	None

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Remove all sources of ignition, ventilate area, avoid vapors, remove with inert absorbents
WASTE DISPOSAL METHOD Do not incinerate! Dispose of in accordance with applicable regulations.

SECTION VIII-SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Avoid breathing vapor or spray mist		
VENTILATION	LOCAL EXHAUST (Specify Rate) Sufficient to maintain LEL and TLV	SPECIAL N/A
	MECHANICAL (General) (Specify Rate) None required	OTHER N/A
PROTECTIVE GLOVES (Specify type)	None required	EYE PROTECTION (Specify type)
OTHER PROTECTIVE EQUIPMENT	None required	Protective eyewear always recommended

SECTION IX-SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	Store below 120°F - neatly to detect leaks
OTHER PRECAUTIONS	Avoid smoking or use of open flames in use or storage area

"THE INFORMATION PRESENTED HEREIN HAS BEEN COMPILED FROM SOURCES CONSIDERED TO BE DEPENDABLE AND IS ACCURATE TO THE BEST OF SELLER'S KNOWLEDGE, HOWEVER, SELLER MAKES NO WARRANTY WHATSOEVER, EXPRESSED, IMPLIED OR OF MERCHANTABILITY REGARDING THE ACCURACY OF SUCH DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SELLER ASSUMES NO RESPONSIBILITY FOR INJURY TO BUYER OR TO THIRD PERSONS OR FOR ANY DAMAGE TO ANY PROPERTY AND BUYER ASSUMES ALL SUCH RISKS."

Name (Print)	STEPHEN CZAJKOWSKI
Signature	<i>Stephen Czajkowski</i>
Title	ENVIRONMENTAL CHEMIST
Date	

G. Reyes



MATERIAL SAFETY DATA SHEET

PART ONE

SECTION I

PRODUCT NAME OR NUMBER (as it appears on label) MOLUB-ALLOY 882 (Arctic, Light, Heavy)		EMERGENCY TELEPHONE NO. (213)-679-0271
ADDRESS (Number, Street, City, State and Zip Code) 4801 West 147th Street, Hawthorne, California, 90250		MANUFACTURER'S D-U-N-S NO. 07-964-5248
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) None		
ADDITIONAL HAZARD CLASSES (as applicable) None		
CHEMICAL FAMILY	Mixture	FORMULA Mixture

SECTION II — INGREDIENTS

CAS REGISTRY NO.	%W	%V	CHEMICAL NAME(S)	Listed as a Carcinogen in NTP, IARC or OSHA 1910(z) (specify)
-----	>1.0%		Inert solid lubricants (trade secret) with a combined TLV of 0.5 mg/m ³ .	No
1333-86-4	<20		Carbon compounds	No

SECTION III — PHYSICAL DATA

BOILING POINT >600 °F *	SPECIFIC GRAVITY (H ₂ O = 1) @ 60°F 1.0964
APPEARANCE AND ODOR Dark, greyish; petroleum odor	IS MATERIAL: GAS [] LIQUID PASTE [] SOLID POWDER []

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT >450 °F * method used ASTM D92	FLAMMABLE LIMITS not explosive	UEL
EXTINGUISHING MEDIA CO ₂ , foam, or dry chemicals		
SPECIAL FIRE FIGHTING PROCEDURES None; fight as petroleum fire		
UNUSUAL FIRE AND EXPLOSION HAZARDS None		
*Data applies to fluid components only.		

SECTION V-HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE — Conditions to Avoid	THRESHOLD LIMIT VALUE <input type="checkbox"/> PERMISSIBLE EXPOSURE LIMIT <input type="checkbox"/> N/A
Mild skin irritation.	OTHER LIMIT <input type="checkbox"/>
PRIMARY ROUTES OF ENTRY Inhalation <input type="checkbox"/> Skin Contact <input checked="" type="checkbox"/> Other (specify)	
EMERGENCY AND FIRST AID PROCEDURES Rinse material from eyes with warm water. Slight toxic potential if ingested - do not induce vomiting, call a physician.	

SECTION VI-REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE <input checked="" type="checkbox"/>	Sources of ignition.
INCOMPATIBILITY (materials to avoid) Strong oxidizing agents.		
HAZARDOUS DECOMPOSITION PRODUCTS: None in normal use.		
HAZARDOUS POLYMERIZATION	MAY OCCUR	CONDITIONS TO AVOID
	WILL NOT OCCUR <input checked="" type="checkbox"/>	None

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Dike spill - clean up promptly with oil absorbent - place in impervious container.
WASTE DISPOSAL METHOD	Transport to licensed disposal facility per applicable regulation.

SECTION VIII-SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)	None required.		
VENTILATION	LOCAL EXHAUST (Specify Rate)	None required.	SPECIAL N/A
	MECHANICAL (General) (Specify Rate)	None required.	OTHER
PROTECTIVE GLOVES (specify type)	None required.	EYE PROTECTION (specify type)	Protective eyewear always recommended.
OTHER PROTECTIVE EQUIPMENT	None in normal use.		

SECTION IX-SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Store neatly to detect leaks.
OTHER PRECAUTIONS	Maintain cleanliness.

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Name (Print)	MICHAEL ROMANOV Ph D
Signature	<i>Michael Romanov</i>
Title	Environmental Chemist
Date	January 8, 1986

TECHNICAL data

MEN02690

No. _____ Date _____

Red Devil

Red Devil Inc. 2400 Vauxhall Rd., Union, N.J. 07083 201/688-6900

100% HOMEOWNER'S SILICONE SEALANT

0816 White, 0826 Clear, 0816/4 Bronze, 0816/5 Gray, 0816/6 Black,
10.3 fl. oz. cartridges (.304 L.)

DESCRIPTION: A one-component room temperature vulcanizing (RTV) Silicone-based sealant. (Cured product is rubber-like and remains permanently elastic.) A high-performance architectural glazing and sealing compound. Resistant to fungal growth. Use with aluminum, plastic (as PVC), metal, glass and non-porous ceramics. For interior/exterior use in buildings, above-the-waterline marine, RV's, heating/air conditioning, around bathtubs. Seals ceramic tiles. Not for use in traffic bearing joints subject to abrasive wear.

PASSES SPECS

TT-S-001543A ¹	TT-S-00230C ¹	C.G.S.B.	19G.P.	-9B ²
CEBTP 432.6.	140-2	OREX 150031/2	MIL. SPEC. MILA-46106A	ASTM C-920-79

TYPICAL PROPERTIES

Peel Strength	Glass 45 psi
Tear Strength:	30 ppi
Hardness (Shore A):	22
Staining, Color Change:	None
Weatherability, (6000 Hr.):	No cracking, change in hardness or in color
Tensile Strength:	240 psi
Peel Strength:	Concrete, 40 psi
Sag/Slump:	nil
Tack-Free Time:	1 hour
Temperature Range:	May be applied at 10° F. to 100° F. When fully cured will withstand constant temperatures of -60° F. and 400° F. (600° F. intermittent).

TYPICAL PROPERTIES - UNCURED

Weight Per Gallon:	8.6
Density:	1/03 g/cc
Colors:	2. Clear - applies white, dries clear
Paint Over Time:	Does not take paint easily.
Odor:	Vinegar odor during curing.
Movement Capability:	+25%
Shipping & Storage:	Do not store above 80° F. (27° C.)
Shelf Life:	1 year from date to manufacture.
Adhesion to:	Most non-porous surfaces, as glass, metal plastics, ceramic tile.
Standard Containers:	H.D.P.E. - Burst proof cartridge

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

Form Approved
OMB No. 44-11387

MATERIAL SAFETY DATA SHEET

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

SECTION I

MANUFACTURER'S NAME Tapmatic Corporation	EMERGENCY TELEPHONE NO. 714/261-9302
ADDRESS (Number, Street, City, State and ZIP Code) 1851 Kettering Street - Irvine, CA 92714	
CHEMICAL NAME AND SYNONYMS Chlorinated Hydrocarbon	TRADE NAME AND SYNONYMS Tapmatic Cutting Fluid #1
CHEMICAL FAMILY Chlorinated Hydrocarbon	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS CAS #71-55-6	85	350 PPM	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS OR GASES

% TLV (Units)

Tapmatic certifies that all requirements of the Toxic Substance Control Act as amended have been complied with. All components of this formulation are listed in the TOSCA Inventory of Chemical Substance.

SECTION III - PHYSICAL DATA

BOILING POINT (°F)	165°	SPECIFIC GRAVITY (H ₂ O=1)	1.32
VAPOR PRESSURE (mm Hg)	150	PERCENT VOLATILE BY VOLUME (%)	Approx. 90%
VAPOR DENSITY (AIR=1)	4.5	EVAPORATION RATE (Ether = 1)	.35
SOLUBILITY IN WATER	Insoluble		

APPEARANCE AND ODOR **Light brown liquid, wintergreen scent.**

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	None	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA				
SPECIAL FIRE FIGHTING PROCEDURES	Product is not flammable.			
UNUSUAL FIRE AND EXPLOSION HAZARDS				

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
350 PPM

EFFECTS OF OVEREXPOSURE
Anesthetic effects may occur in concentrations approaching 1000 PPM.

EMERGENCY AND FIRST AID PROCEDURES
**Inhalation; remove to fresh air.
Eyes and/or Skin; flush with water.**

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE	X Open flames, welding arcs

INCOMPATIBILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS
Hydrogen Chloride, Phosgene, Chlorine

HAZARDOUS POLYMERIZATION	MAY OCCUR	CONDITIONS TO AVOID
	WILL NOT OCCUR	X

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Small leaks; wipe up immediately.

Large spills; evacuate area, contain liquid, transfer to closed metal containers. Keep out of water supply.

WASTE DISPOSAL METHOD
Send to reclaimer or chemical dump.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
Not required.

VENTILATION	LOCAL EXHAUST	SPECIAL
	Mainrain TLV MECHANICAL (General) Provide good ventilation	OTHER

PROTECTIVE GLOVES
Normally not needed.

EYE PROTECTION
Safety glasses w/ side shields.

OTHER PROTECTIVE EQUIPMENT

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Handle with reasonable care.

Store in a cool dry place.

OTHER PRECAUTIONS
Use with adequate ventilation.

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

Form Approved
OMB No. 44 11387

MATERIAL SAFETY DATA SHEET

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

SECTION I

MANUFACTURER'S NAME Tapmatic Corporation	EMERGENCY TELEPHONE NO. 714/261-9302
ADDRESS (Number, Street, City, State and ZIP Code) 1851 Kettering Street - Irvine, CA 92714	
CHEMICAL NAME AND SYNONYMS N.A.	TRADE NAME AND SYNONYMS Tapmatic Cutting Fluid #2
CHEMICAL FAMILY N.A.	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS PRESERVATIVES, & SOLVENTS	%	TLV (Unit)	ALLOYS AND METALLIC COATINGS	%	TLV (Unit)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS	CAS #8008-20-6	70 500 PPM	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Unit)
Tapmatic certifies that all requirements of the Toxic Substance Control Act as amended have been complied with. All components of this formulation are listed in the TOSCA Inventory of Chemical Substance.					

SECTION III - PHYSICAL DATA

BOILING POINT (°F)	340-560	SPECIFIC GRAVITY (H ₂ O=1)	.87
VAPOR PRESSURE (mm Hg)	<5	PERCENT VOLATILE BY VOLUME (%)	72
VAPOR DENSITY (AIR=1)	5.7	EVAPORATION RATE (but -30 = 1)	0.1
SOLUBILITY IN WATER	Insoluble Viscosity (centistokes)		1300
APPEARANCE AND ODOR	Pale yellow, faint wintergreen scent.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) Closed cup 140°F. Open cup 166°F.	FLAMMABLE LIMITS	Let 0-7%	Upt 3%
EXTINGUISHING MEDIA Foam, Carbon Dioxide, Dry Chemical			
SPECIAL FIRE FIGHTING PROCEDURES As with solvent fire.			
UNUSUAL FIRE AND EXPLOSION HAZARDS None			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE Not established. 500 PPM recommended.
EFFECTS OF OVEREXPOSURE Slightly irritating to eyes and skin.
EMERGENCY AND FIRST AID PROCEDURES Skin - wash with soap and water. Eyes - rinse with water for 15 minutes.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE	X Heat, flame, water.
INCOMPATIBILITY (Materials to avoid) Oxidizing materials.		
HAZARDOUS DECOMPOSITION PRODUCTS Carbon Monoxide.		
HAZARDOUS POLYMERIZATION	MAY OCCUR	CONDITIONS TO AVOID
	WILL NOT OCCUR	X

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Soak up with sawdust or soil absorbent. Extinguish open flames.
WASTE DISPOSAL METHOD Reclaimer or chemical dump.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)		
VENTILATION	LOCAL EXHAUST Provide adequate ventilation	SPECIAL
	MECHANICAL (General)	OTHER
PROTECTIVE GLOVES Normally not needed.	EYE PROTECTION Safety glasses w/side shields.	
OTHER PROTECTIVE EQUIPMENT		

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Do not store at elevated temperatures. Keep away from flames or sparks.
OTHER PRECAUTIONS Autoignition temperature is 444°F.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILGEAR 632

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 333-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: GEAR LUBRICANT

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 5.0 LIQUID DGR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 1620.0 AT 40 C, CS: 304.0
VISCOSITY AT 210 F, SUS: 115.0 AT 100 C, CS: 23.1
FLASH POINT F(C): 450(232) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): 0(-13)
BOILING POINT F(C): > 500(316)
RELATIVE DENSITY, 15/4 C: 0.895 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3	PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			

OTHER INGREDIENTS:
REFINED MINERAL OILS >95
ADDITIVES AND/OR OTHER INGREDIENTS. < 5

KEY TO SOURCES: A=ACGIH-TLV, A+=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****
FLASH POINT F(C): 450(232) (ASTM D-92)
FLAMMABLE LIMITS. LFL: .5 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****
STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED
INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****
EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---
ORAL TOXICITY (RATS): LD50: > 5 G/KG SLIGHTLY TOXIC (ESTIMATED)
---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG SLIGHTLY TOXIC (ESTIMATED)
---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE. ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****
 TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
 EINECS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
 THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
*** NO INGREDIENT CITATIONS ***		

--- KEY TO LIST CITATIONS ---

- | | | | | |
|---------------|--------------|----------------|--------------|--------------|
| 1 = OSHA, | 2 = ACGIH, | 3 = IARC, | 4 = NTP, | 5 = NCI, |
| 6 = EPA CARC, | 7 = NFPA 49, | 8 = NFPA 325M, | 9 = DOT HMT, | 10 = CA RTK, |
| 11 = IL RTK, | 12 = MA RTK, | 13 = MN RTK, | 14 = NJ RTK, | 15 = NJ SHH, |
| 16 = FL RTK, | 17 = PA RTK, | | | |

 FOR MOBIL USE ONLY: (FILL NO: RL1221H1101) MHC: 1* 1* NA 0* 1* PPEC:
 US84-208 APPROVE REVISED: 04/18/85 MSDS TEXT CHANGE

 PREPARED BY: MOBIL OIL CORPORATION
 ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
 FOR FURTHER INFORMATION, CONTACT:
 MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
 3225 GALLOWES ROAD, FAIRFAX, VA 22037 (703) 849-3265

 INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

Material Safety Data Sheet
 MS: 1803 - MOBIL VACTRA OIL 4

MSDS: 1803

4/30/92

Status: Pending

Revised: 4/13/92

Formula: NOT GIVEN
 Specification: NOT GIVEN
 Synonyms: NOT GIVEN
 Stock Items: NOT GIVEN

Part Number: NOT GIVEN
 Keyword: NOT GIVEN

Manufacturer

MOBIL OIL CORP., ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT.

PRINCETON, NJ 08540

Phone: 800-662-4525

Emergency: 609-737-4411

Supplier

MOBIL OIL CORP. (FAIRFAX)

3225 GALLOWES ROAD
 FAIRFAX, VA 22037

Phone: 703-849-3265

Emergency: 212-883-4411

Physical/Chemical Characteristics

Boiling Point	: GT	600 F	>316 'C.
Melting Point	: NA		NOT APPLICABLE.
Freezing Point	: NG		
Pour Point	: EQ	20 F	-7C.
Softening Point	: NG		
Specific Gravity	: EQ	.89	RELATIVE DENS., 15/4C
Vapor Pressure	: LT	0.1	MM HG 20C.
at Temperature	: EQ	68 F	
Vapor Density	: NG		
Percent Volatiles	: NG		
Evaporation Rate	: NG		
pH	: NA		NOT APPLICABLE.
Molecular Weight	: NG		
Viscosity	: EQ	1136csT	SUS: @100F, 95.5@210F
Solubility in Water	: NEGLIGIBLE.		
Odor/Appearance/Other Characteristics:			
MILD ODOR / LIQUID (ASTM 8.0) / VISCOSITY, CS: 215 @ 40C, 18.7 @100C.			

Fire and Explosion Data

Closed Cup Flash Pt.	: NG		
Open Cup Flash Point	: GT	350 F	>177'C, (ASTM D-92).
Fire Point	: NG		
Auto Ignition	: NG		
Lower Explosion Limit	: EQ	.6	
Upper Explosion Limit	: EQ	7.0	

Shipping Regulations

UN/NA Number: NG
 DOT Hazard Class: NOT APPLICABLE
 Shipping Label: NOT GIVEN
 Shipping Name: NOT APPLICABLE

Material Safety Data Sheet
 MS: 1803 - MOBIL VACTRA OIL 4

MSDS: 1803

Page 2

Prepared

Preparer's Name & Title:

MOBIL OIL CORP., ENVIRONMENTAL AFFAIRS & TOXICOLOGY DEPARTMENT

Preparation Date: 4/07/90

Component(s):

POTENTIALLY HAZARDOUS INGREDIENTS: NONE

OSHA Pel: NG ppm NG mg/m3

ACGIH TLV: NG ppm NG mg/m3

STEL: NG ppm NG mg/m3

Percent of Product: NG

CAS No.: NOT GIVEN

CONTAINS ONE OR MORE OF THE FOLLOWING BASE OILS:

OSHA Pel: NG ppm NG mg/m3

ACGIH TLV: NG ppm NG mg/m3

STEL: NG ppm NG mg/m3

Percent of Product: GT 95%

CAS No.: NOT GIVEN

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC

OSHA Pel: NG ppm NG mg/m3

ACGIH TLV: NG ppm NG mg/m3

STEL: NG ppm NG mg/m3

Percent of Product: NG

CAS No.: 64742547

Note: BASE OIL.

RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED

OSHA Pel: NG ppm NG mg/m3

ACGIH TLV: NG ppm NG mg/m3

STEL: NG ppm NG mg/m3

Percent of Product: NG

CAS No.: 64742627

Note: BASE OIL.

RESIDUAL OILS (PETROLEUM), SOLVEN-REFINED

OSHA Pel: NG ppm NG mg/m3

ACGIH TLV: NG ppm NG mg/m3

STEL: NG ppm NG mg/m3

Percent of Product: NG

CAS No.: 64742014

Note: BASE OIL.

DISTILLATES (PETROLEUM), SOLVENT-REFINED HEAVY PARAFFINIC

OSHA Pel: NG ppm NG mg/m3

ACGIH TLV: NG ppm NG mg/m3

STEL: NG ppm NG mg/m3

Percent of Product: NG

CAS No.: 64741884

Note: BASE OIL.

DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC

OSHA Pel: NG ppm NG mg/m3

ACGIH TLV: NG ppm NG mg/m3

STEL: NG ppm NG mg/m3

Percent of Product: NG

CAS No.: 64742650

Note: BASE OIL.

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CONTAIN ONE OF THE FOLLOWING ADDITIVES:

OSHA Pel:	NG ppm	NG mg/m3
ACGIH TLV:	NG ppm	NG mg/m3
STEL:	NG ppm	NG mg/m3
Percent of Product:	NG	

CAS No.: NOT GIVEN

SULFURIZED FATS

OSHA Pel:	NG ppm	NG mg/m3
ACGIH TLV:	NG ppm	NG mg/m3
STEL:	NG ppm	NG mg/m3
Percent of Product:	LT 3%	
Note:	ADDITIVE.	

CAS No.: 68603338

OILS, LARD

OSHA Pel:	NG ppm	NG mg/m3
ACGIH TLV:	NG ppm	NG mg/m3
STEL:	NG ppm	NG mg/m3
Percent of Product:	EQ 1%	
Note:	ADDITIVE.	

CAS No.: 8016282

MOBIL VACTRA OIL NO. 4

OSHA Pel:	NG ppm	NG mg/m3
ACGIH TLV:	NG ppm	5 mg/m3
STEL:	NG ppm	NG mg/m3
Percent of Product:	NG	
Note:	TLV: SUGGESTED FOR OIL MIST.	

CAS No.: NOT GIVEN

Text Section(s)

PRODUCT IDENTIFICATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

PRODUCT NAME: MOBIL VACTRA OIL NO. 4.

CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES.

USE OR DESCRIPTION: WAY LUBRICANT.

SUPPLIER:

MOBIL OIL CORP.
 ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT
 PRINCETON, NJ

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FOR FURTHER INFORMATION, CONTACT:

MOBIL OIL CORPORATION
PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD
FAIRFAX, VA 22037

PHONE: (800) 227-0707 X 3265.

HEALTH EMERGENCY TELEPHONE: (609) 737-4411.

TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC).

PRODUCT TECHNICAL INFORMATION: (800) 662-4525.

600510-00.

TYPICAL CHEMICAL AND PHYSICAL PROPERTIES

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

NA: NOT APPLICABLE.

NE: NOT ESTABLISHED.

D: DECOMPOSES.

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

POTENTIALLY HAZARDOUS INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

SEE REGULATORY INFORMATION SECTION AND COMPONENT PAGES FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

HEALTH HAZARD DATA

INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED:

THRESHOLD LIMIT VALUE: 5.00 MG/M3 SUGGESTED FOR OIL MIST.

EFFECTS OF OVEREXPOSURE: MODERATE SKIN IRRITATION.

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EMERGENCY AND FIRST AID PROCEDURES

FOR PRIMARY ROUTES OF ENTRY:

EYE CONTACT: FLUSH WITH WATER.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER. LAUNDER
CONTAMINATED CLOTHING BEFORE REUSE.

INHALATION: NOT EXPECTED TO BE A PROBLEM.

INGESTION: NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF UNCOMFORTABLE
SEEK MEDICAL ASSISTANCE.

FIRE AND EXPLOSION HAZARD DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: WATER OR FOAM MAY CAUSE FROTHING. USE
WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE USED TO
FLUSH SPILLS AWAY FROM EXPOSURE. FOR FIRES IN ENCLOSED AREAS, FIREFIGHTERS
MUST USE SELF-CONTAINED BREATHING APPARATUS. PREVENT RUNOFF FROM FIRE
CONTROL OR DILUTION FROM ENTERING STREAMS OR DRINKING WATER SUPPLY.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE.

NFPA HAZARD ID:

HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0.

REACTIVITY DATA

STABILITY (THERMAL, LIGHT, ETC.): STABLE.

CONDITIONS TO AVOID: EXTREME HEAT.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

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SPILL OR LEAK PROCEDURE

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U.S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

SPECIAL PROTECTION INFORMATION

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.

SKIN PROTECTION: IF PROLONGED OR REPEATED SKIN CONTACT IS LIKELY, OIL IMPERVIOUS GLOVES SHOULD BE WORN. GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

SPECIAL PRECAUTIONS

HANDLING: AVOID CONTACT WITH SKIN.

TOXICOLOGICAL DATA

ACUTE TOXICOLOGY:

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ORAL TOXICITY (RATS): LD50: > 15 G/KG NONTOXIC (ESTIMATED) -- BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): LD50: > 5 G/KG NONTOXIC (ESTIMATED) -- BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE -- HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORSEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. -- BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): MAY CAUSE MODERATE IRRITATION ON PROLONGED OR REPEATED CONTACT. -- BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SUBCHRONIC TOXICOLOGY (SUMMARY): SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS HAVE BEEN TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY FLUIDS, SHOWED NO ADVERSE EFFECTS.

CHRONIC TOXICOLOGY (SUMMARY): THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR SEVERELY HYDROTREATED. TWO YEAR MOUSE SKIN PAINTING STUDIES OF SIMILAR OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS.

REGULATORY INFORMATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

GOVERNMENTAL INVENTORY STATUS: ALL COMPONENTS REGISTERED IN ACCORDANCE WITH TSCA.

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA 29 CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE DISPOSAL OF UNUSED PRODUCT MAY BE SUBJECT TO RCRA REGULATIONS PER 40 CFR PART 261 FOR THE REASONS INCLUDING, BUT NOT LIMITED TO THOSE LISTED BELOW. DISPOSAL OF UNUSED PRODUCT MAY BE REGULATED.

BARIUM: 0.025 PCT.

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III: THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

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SARA (302) REPORTABLE HAZARD CATEGORIES: NONE.

THIS PRODUCT CONTAINS NO CHEMICALS REPORTABLE UNDER SARA (313) TOXIC RELEASE PROGRAM.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME:	CAS NUMBER:	LIST CITATIONS:
OILS, LARD	8016-28-2	7, 9, 17.

KEY TO LIST CITATIONS:

1 = OSHA Z,	2 = ACGIH,	3 = IARC,	4 = NTP,	5 = NCI,
6 = EPA CARC,	7 = NFPA 49,	8 = NFPA 325 M,	9 = DOT HMT,	10 = CA RTK,
11 = IL RTK,	12 = MA RTK,	13 = MN RTK,	14 = NJ RTK,	15 = MI 293,
16 = FL RTK,	17 = PA RTK,	18 = CA P65.		

NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS.

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

INGREDIENTS

SEE COMPONENT PAGES FOR ADDITIONAL INFORMATION.

SPECIAL NOTES

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

APPENDIX:

FOR MOBIL USE ONLY:

(FILL NO: MTL415F1190).

MCN: NOT GIVEN.

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MHC: 0* 0* NA 0* 2*.

MPPEC: A.

PPFC: A.

US89-572 APPROVE 12/14/89.

REVISED: 04/07/90.

End of MSDS

Material Safety Data Sheet

MSDS: 6967

MSDS: 6967 - LIGHT OIL

5/04/92

Status: Pending

Revised: 3/29/92

Formula: TM-1776

Part Number: NOT GIVEN

Specification: NOT GIVEN

Keyword: NOT GIVEN

Synonyms: NOT GIVEN

Stock Items: NOT GIVEN

Manufacturer

BOWMAN DISTRIBUTION, BARNES GROUP INC.
850 EAST 72ND ST.
CLEVELAND, OH 44103

Phone:
Emergency: 216-391-7200

Supplier

BOWMAN DISTRIBUTION, BARNES GROUP INC.
850 EAST 72ND ST.
CLEVELAND, OH 44103

Phone:
Emergency: 216-391-7200

Physical/Chemical Characteristics

Boiling Point	BT	-40 F	400 F
Melting Point	NG		
Freezing Point	NG		
Pour Point	NG		
Softening Point	NG		
Specific Gravity	EQ	.9	
Vapor Pressure	EQ	33	MM HG.
at Temperature		70 F	
Vapor Density	EQ	4	HEAVIER THAN AIR.
Percent Volatiles	NE		NOT ESTABLISHED.
Evaporation Rate	EQ	.01	BUAC = 1.
pH	NA		NOT APPLICABLE.
Molecular Weight	NG		
Viscosity	NG		
Solubility in Water ..	NONE.		
Odor/Appearance/Other Characteristics:			
SOLVENT ODOR / DARK GREEN LIQUID-GAS / PERCENT SOLID BY WEIGHT: NOT ESTAB.			

Fire and Explosion Data

Closed Cup Flash Pt. ..	EQ	-40 F	T.C.C.
Open Cup Flash Point ..	NG		
Fire Point	NG		
Auto Ignition	NG		
Lower Explosion Limit :	EQ	1.8	
Upper Explosion Limit :	EQ	12	

Shipping Regulations

UN/NA Number: UN UN1954
DOT Hazard Class: ORM-D
Shipping Label: NOT GIVEN
Shipping Name: CONSUMER COMMODITY

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Prepared

Preparer's Name & Title: NOT GIVEN

Preparation Date: 1/30/90

Component(s):

PROPANE/ISOBUTANE

OSHA Pel: 1000 ppm

ACGIH TLV: 1000 ppm

STEL: N* ppm

Percent of Product: EQ 12%

CAS No.: 74986

Note: * OTHER LIMITS: STEL, ASPHYXIANT.

NAPHTHENIC OIL

OSHA Pel: NE ppm

ACGIH TLV: 5 mg/m3

STEL: NE ppm

Percent of Product: EQ 88%

CAS No.: NOT GIVEN

Note: * NE = NOT ESTABLISHED / CAS#: UNKNOWN.

FOR ALL COMPONENTS: PERCENT BY WEIGHT.

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: NOT GIVEN

Text Section(s)

IDENTIFICATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

SUPPLIER: Bowman Distribution, Barnes Group Inc.; 850 East 72nd Street;
Cleveland, OH 44103.

PRODUCT NAME: LIGHT OIL.

EMERGENCY TELEPHONE NO.: (216) 391-7200.

ADDITIONAL HAZARD CLASSES (AS APPLICABLE): None.

CHEMICAL FAMILY: Mixture.

HMIS RATINGS:

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HEALTH: 1.

FLAMMABILITY: 4.

REACTIVITY: 0.

PERSONAL PROTECTION: A.

NFPA RATINGS:

HEALTH: 1.

FLAMMABILITY: 4.

REACTIVITY: 0.

SPECIFIC HAZARD: Not Given.

HAZARDOUS INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

CHEMICAL NAME	LISTED AS CARCINOGEN NTP, IARC or OSHA 1910(Z) (SPECIFY)
PROPANE/ISOBUTANE	NO
NAPHTHENIC OIL	NO

ALL CHEMICAL COMPOUNDS MARKED WITH AN ASTERISK () ARE TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) OF 1986 AND 40 CFR PART 372.

PHYSICAL DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

FIRE AND EXPLOSION HAZARD DATA

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MSDS: 6967

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===== Page 4
SEE DATA PAGES FOR ADDITIONAL INFORMATION.

EXTINGUISHING MEDIA: Use water fog, dry chemical, or carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES: Aerosol cans may rupture when heated.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Heated cans may burst.

HEALTH HAZARD DATA

HEALTH HAZARDS (ACUTE AND CHRONIC - INCLUDE TARGET ORGAN EFFECTS): May cause dizziness or narcosis in high vapor concentrations. Will cause defatting of skin. Effects are reversible. Long term exposure (years) to vapor may cause lung, liver or kidney damage. The solvents listed have been reported to affect the central nervous system.

CONDITIONS TO AVOID: See above.

SIGNS AND SYMPTOMS OF OVEREXPOSURE:

INHALATION: Difficulty in breathing.

SKIN: Redness.

INGESTION: Vomiting.

PRIMARY ROUTES OF ENTRY: Inhalation, Skin contact.

EMERGENCY AND FIRST AID PROCEDURES: Give oxygen - do not induce vomiting. Gastric lavage. Wash eyes and skin with water.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Heart disease, respiratory disorders.

REACTIVITY DATA

STABILITY: STABLE.

CONDITIONS TO AVOID: High temperatures.

INCOMPATIBILITY (MATERIALS TO AVOID): The above solvents are incompatible with strong oxidizers.

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HAZARDOUS DECOMPOSITION PRODUCTS: In fire will decompose to carbon dioxide and water.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

CONDITIONS TO AVOID: None.

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Use absorbent sweeping compound to soak up material. Put into container. Dispose as hazardous waste.

WASTE DISPOSAL METHOD: Dispose as hazardous waste in accordance with EPA RCRA.

CERCLA (SUPERFUND) REPORTABLE QUANTITY (IN LBS.): N.E.

RCRA HAZARDOUS WASTE NO. (40 CFR 261.33): D-001.

VOLATILE ORGANIC COMPOUND (VOC) (AS PACKAGED, MINUS WATER): <20%.

THEORETICAL: 4.4 LB/GAL.

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): Self contained breathing apparatus if above TLV limit exceeding.

VENTILATION:

LOCAL EXHAUST (SPECIFY RATE): YES.

MECHANICAL (GENERAL) (SPECIFY RATE): NONE.

SPECIAL: NONE.

OTHER: NONE.

PROTECTIVE GLOVES (SPECIFY TYPE): None required if spraying.

EYE PROTECTION (SPECIFY TYPE): Wear eye protection.

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MSDS: 6967 - LIGHT OIL

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OTHER PROTECTIVE EQUIPMENT: Long sleeves and long pants.

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep away from heat, sparks or open flame. Store at temperatures below 120°F.

OTHER PRECAUTIONS: None.

SPECIAL NOTES

N.A: Not applicable.

N.E: Not established.

N.D: Not determined.

End of MSDS

Material Safety Data Sheet

MSDS: 1735

MSDS: 1735 - PENETREX NON-DETERGENT MOTOR OIL 10W, 20, 30, 40

=====
 Status: Pending

Revised: 12/23/91

Formula: SEE TEXT

Part Number: NOT GIVEN

Specification: NOT GIVEN

Keyword: NOT GIVEN

Synonyms: NOT GIVEN

Stock Items: NOT GIVEN

Manufacturer

TEXSTAR AUTOMOTIVE GROUP, INC.

9060 LATTY AVE.

ST. LOUIS, MO 63134

Phone: 314-521-3900

Emergency:

Supplier

TEXSTAR AUTOMOTIVE GROUP, INC.

9060 LATTY AVE.

ST. LOUIS, MO 63134

Phone: 314-521-3900

Emergency:

Physical/Chemical Characteristics

Boiling Point: ND

Melting Point: NG

Freezing Point: NG

Pour Point: NG

Softening Point: NG

Specific Gravity: EQ .90

Vapor Pressure: ND

Vapor Density: ND

Percent Volatiles: NI

NIL.

Evaporation Rate: ND

pH: NG

Molecular Weight: NG

Viscosity: NG

Solubility in Water ..: NIL.

Odor/Appearance/Other Characteristics:

SLIGHT HYDROCARBON ODOR / AMBER LIQUID (THICKNESS DEPENDENT ON VISCOSITY).

Fire and Explosion Data

Closed Cup Flash Pt. .: NG

Open Cup Flash Point .: GE 390 F

COC, MINIMUM.

Fire Point: NG

Auto Ignition: ND

Lower Explosion Limit : NA

Upper Explosion Limit : NA

Shipping Regulations

UN/NA Number: NO

DOT Hazard Class: NOT HAZARDOUS

Shipping Label: NOT GIVEN

Shipping Name: PETROLEUM LUBRICATING OIL

Material Safety Data Sheet
MSDS: 1735 - PENETREX NON-DETERGENT MOTOR OIL 10W, 20, 30, 40

MSDS: 1735

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* We consider our blend of mineral oils to be PROPRIETARY INFORMATION.

PHYSICAL DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

HEALTH HAZARD DATA

TLV AND SOURCE:

OIL MIST, MINERAL:

TWA 5 mg/M3 ACGIH 1983-1984.

STEL 10 mg/M3 ACGIH 1983-1984.

ACUTE EFFECTS OF OVEREXPOSURE:

SWALLOWING: Not expected to be acutely toxic ingestion. May cause nausea and diarrhea.

SKIN ABSORPTION: No data available.

INHALATION: Not expected to be toxic by inhalation. However, breathing mineral oil mists at levels above the TLV may cause respiratory irritation and possible discomfort. The creation of an oil mist is unlikely when used as motor oil.

SKIN CONTACT: Material expected to cause no more than minor skin irritation following prolonged and/or repeated contact.

EYE CONTACT: May cause minor eye irritation.

CHRONIC EFFECTS OF OVER EXPOSURE: None known. See NOTES TO PHYSICIAN below.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING: If material is swallowed, DO NOT induce vomiting and contact a physician.

SKIN: Wash skin thoroughly with soap and water. Launder soiled clothing.

Material Safety Data Sheet

MSDS: 1735

MSDS: 1735 - PENETREX NON-DETERGENT MOTOR OIL 10W, 20, 30, 40

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HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: None known.

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Clean up spills as soon as possible. Absorb large spills with commercially available absorbent materials, such as absorbent clay.

WASTE DISPOSAL METHOD: Place contaminated material in disposable containers and bury in an approved landfill site per local, state and Federal regulations.

SPECIAL PROTECTION INFORMATION

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

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

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

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

OTHER PROTECTIVE EQUIPMENT: None normally necessary for intended use.

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Do not store near high heat or open flame.

Material Safety Data Sheet

MSDS: 4756

MSDS: 4756 - MOLUB-ALLOY CHAIN OIL 10, MOLUB-ALLOY CHAIN OIL 22

=====
 Status: Pending Revised: 12/26/91 4/30/92

Formula: NOT GIVEN Part Number: NOT GIVEN
 Specification: NOT GIVEN Keyword: NOT GIVEN
 Synonyms: NOT GIVEN
 Stock Items: NOT GIVEN

Manufacturer

TRIBOL
 4801 WEST 147TH ST.
 HAWTHORNE, CA 90250-6795

Phone:
 Emergency: 213-679-0271

Supplier

TRIBOL
 4801 WEST 147TH ST.
 HAWTHORNE, CA 90250-6795

Phone:
 Emergency: 213-679-0271

Physical/Chemical Characteristics

Boiling Point	ND	NOT DETERMINED.
Melting Point	NG	
Freezing Point	ND	NOT DETERMINED.
Pour Point	NG	
Softening Point	NG	
Specific Gravity	= .91	TYPICAL.
Vapor Pressure	ND	NOT DETERMINED.
Vapor Density	ND	NOT DETERMINED.
Percent Volatiles	ND	NOT DETERMINED.
Evaporation Rate	ND	NOT DETERMINED.
pH	NA	NOT APPLICABLE.
Molecular Weight	NG	
Viscosity	NG	
Solubility in Water ..	NEGLIGIBLE (LESS THAN 0.1%).	
Odor/Appearance/Other Characteristics:	CHARACTERISTIC ODOR/DARK GREY OR BLACK LIQUID/ODOR THRESHOLD:NOT DETERMINED.	

Fire and Explosion Data

Closed Cup Flash Pt. .:	NG	
Open Cup Flash Point .:	GE	275 F 135'C; ASTM D92,COC.
Fire Point	GE	295 F 146'C; ASTM D92,COC.
Auto Ignition	ND	NOT DETERMINED.
Lower Explosion Limit :	ND	NOT DETERMINED.
Upper Explosion Limit :	ND	NOT DETERMINED.

Shipping Regulations

UN/NA Number: NG
 DOT Hazard Class: NOT APPLICABLE
 Shipping Label: NONE
 Shipping Name: NOT APPLICABLE

Material Safety Data Sheet

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Prepared

Preparer's Name & Title: NABIL N. SAATY, TOXICOLOGIST

Preparation Date: 6/21/90

Component(s):

SEVERELY SOLVENT-REFINED AND/OR HYDROTREATED NAPHTHENIC PETROLEUM DISTILLATES

OSHA Pel: 5 mg/m3

ACGIH TLV: 5 mg/m3

STEL: NG ppm

Percent of Product: BT 84% 99%

CAS No.: 64741964

Component Note:

* PERCENT: TOTAL OILY / PEL, TLV: MIST / CAS #: 64741-96-4, 64742-52-5, 64742-53-6.

MOLUB-ALLOY CHAIN OIL 10 MOLUB-ALLOY CHAIN OIL 22

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: NOT GIVEN

Note: * EXPOSURE LIMITS: NOT DETERMINED.

Next Section(s)

PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER: Molub-Alloy Chain Oil 10. Molub-Alloy Chain Oil 22.

PRODUCT ID NO.: See TRANSPORTATION INFORMATION SECTION.

CHEMICAL NAME: Petroleum hydrocarbons plus performance additives.

SYNONYMS: Not applicable. Product is a mixture.

CHEMICAL FORMULA: Not Applicable. No single formula.

CHEMICAL FAMILY: Petroleum hydrocarbons plus performance additives.

PRODUCT USE: Lubricant.

PRODUCT CAS NO.: Not applicable. No single CAS number.

NFPA CLASSIFICATION:

HEALTH: 1.

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MSDS: 4756

MSDS: 4756 - MOLUB-ALLOY CHAIN OIL 10, MOLUB-ALLOY CHAIN OIL 22

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FIRE: 1.

REACTIVITY: 0.

SPECIAL HAZARDS: None known.

MANUFACTURER EMERGENCY PHONE: (213) 679-0271.

SUPPLIER (CANADA) EMERGENCY PHONE: (213) 679-0271.

TRANSPORTATION EMERGENCY:

IN U.S.A. CHEMTREC: (800) 424-9300.

IN DISTRICT OF COLUMBIA: (202) 483-7616.

IN CANADA CANUTEC: (613) 966-6666 (Call Collect).

HAZARDOUS INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

%	CAS NO	LD50	LC50	Exposure Limits (TWA*)	
Severely	84-99	64741-96-4	>5g/kg	Not	5mg/m3 for mist solvent
(total	64742-52-5	Acute	found	(OSHA & ACGIH)	refined and/or oil)
64742-53-6	oral	hydrotreated			(Rats) naphthenic
petroleum distillates.					

*TWA = 8 hour time-weighted average.

NOTE: Exposure limits may vary between jurisdictions. Employers are advised to contact regulatory agencies for the limits in effect in their areas.

PHYSICAL DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

VAPOR PRESSURE (MM HG): Not determined for this product. For base oil: <1.0, at 20 deg C/68 deg F.

VAPOR DENSITY (AIR = 1): Not determined for this product. For base oil: <0.1.

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EVAPORATION RATE (WATER = 1): Not determined for this product. For base oil: <0.01.

FIRE AND EXPLOSION HAZARD DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

FLAMMABILITY: This product is not classified as flammable or combustible; however, it will burn if its temperature reaches or exceeds its flash point.

EXTINGUISHING MEDIA: Dry chemical, water-fog, chemical foam, or CO2. Direct water-steam may cause frothing.

SPECIAL FIREFIGHTING PROCEDURE: Use water to cool fire-exposed containers. Wear full emergency equipment with supplied-air respirator (SA), or self-contained breathing apparatus (SCBA).

UNUSUAL FIRE & EXPLOSION HAZARDS: None known.

HAZARDOUS COMBUSTION PRODUCTS: Smoke and toxic gases including aldehydes, hydrogen sulfide (H2S), and oxides of antimony, molybdenum, zinc, phosphorus, calcium, carbon, sulfur, and nitrogen.

EXPLOSION SENSITIVITY:

IMPACT: Not Sensitive.

STATIC DISCHARGE: Not Sensitive.

EMPTY/PARTIAL CONTAINER WARNING: As with most petroleum products, empty or partial containers may contain explosive vapors. Do not expose to direct flame or high temperature.

NFPA CLASSIFICATION:

HEALTH: 1.

FIRE: 1.

REACTIVITY: 0.

SPECIAL HAZARDS: None known.

REACTIVITY DATA

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CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Prolonged exposure to elevated temperature.

INCOMPATIBILITY: Yes.

MATERIALS TO AVOID: Strong oxidizers, acids, and alkalies.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: None.

HAZARDOUS DECOMPOSITION PRODUCTS: Smoke and toxic gases including aldehydes, hydrogen sulfide (H₂S), and oxides of antimony, molybdenum, zinc, phosphorus, calcium, carbon, sulfur, and nitrogen.

TOXICOLOGICAL PROPERTIES & HEALTH HAZARD DATA

ROUTES OF ENTRY: Skin Contact, Eye Contact, Inhalation, Ingestion.

SYMPTOMS AND EFFECTS OF ACUTE EXPOSURE:

SKIN: May cause skin irritation.

EYES: Product, vapors, and mist may cause eye irritation and burning.

INHALATION: Vapors may irritate the mucosal membranes of mouth, nose, and throat. Intense and/or prolonged exposure to vapor concentrations exceeding the TLV/PEL may cause headache, nausea, and vomiting. Oil vapors may accumulate in the lungs, and may cause chemical pneumonitis.

INGESTION: Ingestion via minor contamination of fingers or food is not likely to cause significant discomfort or adverse effect. However, aspiration (with vomitus) into the lungs may cause mild to severe pulmonary injury, and may be fatal.

SYMPTOMS AND EFFECTS OF CHRONIC EXPOSURE:

SKIN: Prolonged or repeated contact tends to remove natural skin oil, may cause irritation, rash, and possibly dermatitis.

EYES: Product, vapors, and mist may cause eye irritation and burning.

INHALATION: Chronic inhalation may produce the same symptoms and effects discussed under Inhalation - ACUTE EXPOSURE, above.

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INGESTION: In normal course of industrial use, ingestion of large quantities of this product is unlikely. Nevertheless, ingestion may irritate the gastrointestinal tract and may cause nausea and vomiting. Aspiration (with vomitus) into the lungs may cause pulmonary injury and may be fatal.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Existing chronic dermal, respiratory, and and possibly gastrointestinal diseases.

EXPOSURE LIMITS: Not determined for this product. See HAZARDOUS INGREDIENTS Section, in this MSDS, for ingredient(s) limits.

IRRITANCY: Possible irritancy of skin, eyes, mucosal membranes, and respiratory tract.

SENSITIZATION: None known.

CARCINOGENICITY:

NTP LISTED: No.

IARC LISTED: No.

OSHA LISTED: No.

TERATOGENICITY AND EMBRYOTOXICITY: This product is not known to contain, at 0.1% or higher, any ingredients known to cause tetratogenic or embryonic toxicity.

REPRODUCTIVE TOXICITY: This product is not known to contain, at 0.1% or higher, any ingredients known to cause reproductive toxicity.

MUTAGENICITY: This product is not known to contain, at 0.1% or higher, any ingredients known to cause mutation in living cell.

SYNERGISTIC PRODUCTS: None known.

PREVENTIVE MEASURES AND PERSONAL PROTECTION

It is unlikely that serious overexposure to this product will occur during normal industrial use. Nevertheless, the user must exercise adequate precautions to protect against accidental spills, and to avoid undue exposure to sprays, mists, or vapors that may be inadvertently generated, especially at elevated temperatures. The following protective measures are recommended whenever undue exposure is unavoidable.

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GLOVES: Oil-impervious and solvent-resistant (e.g. neoprene) type.

RESPIRATOR: OSHA/NIOSH-approved supplied-air respirator (SA), or self-contained breathing apparatus (SCBA);.

EYE PROTECTION: Chemical goggles or, preferably, full face-shield. Do not wear contact lenses in the work area.

FOOTWEAR: Oil-impervious (e.g. neoprene) cover and anti-slip sole construction.

CLOTHING: Oil-impervious (e.g., neoprene) apron or, preferably, coveralls.

OTHER PROTECTION: As deemed necessary.

PERSONAL HYGIENE: Wash hands before eating or smoking. Do not smoke in the work area. Promptly remove contaminated clothing. Immediately clean up any spills, to prevent accidental slipping.

ENGINEERING CONTROLS: General ventilation, normally adequate, should be augmented with local exhaust whenever the TLV/PEL is exceeded, or worker discomfort is reported or observed.

LEAK AND SPILL PROCEDURE: Wear adequate protection and eliminate all sources of ignition. Stop the leak, if it can be safely done. Ventilate the area and dike the spill to prevent entry into sewer or watercourses. Suction or scoop the spill into appropriate disposal or recycling vessels, then cover the spill area with oil-absorbent. Label all waste containers appropriately, including all applicable hazard symbols. If spill enters U.S. navigable waters, the contiguous zone, or adjoining shorelines, notify the Coast Guard National Response Center (Tel. No. 800-424-8802).

WASTE DISPOSAL: Dispose of waste in accordance with applicable Federal, State (or Province), and local laws and regulations. (The services of licensed hazardous waste-disposal facilities may be utilized.) It is the user's responsibility to comply with the U.S. Clean Water Act, and Resource Conservation and Recovery Act. Refer to REGULATORY INFORMATION SECTION, in the MSDS.

HANDLING PROCEDURES & EQUIPMENT: Exercise prudent precautions to avoid accidental spillage, food contamination, vapor or mist inhalation, eye or skin contact, and ignition of this product.

STORAGE REQUIREMENTS: Store in a clean, dry area below 49 DEG C/120 DEG F, away from all ignition sources and incompatible materials listed in REACTIVITY DATA SECTION, in this MSDS.

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SPECIAL SHIPPING INFORMATION: SEE TRANSPORTATION AND REGULATORY INFORMATION SECTIONS, in this MSDS.

FIRST AID AND EMERGENCY MEASURES

SKIN: Wipe off, then wash thoroughly with soap and water.

EYES: Flush immediately with water for at least 15 minutes, occasionally lifting the eyelid. Get prompt medical attention.

INHALATION: Immediately remove the individual to fresh air. If breathing is difficult, administer oxygen. If breathing stops, administer artificial respiration. Keep the individual warm and quiet, and get prompt medical attention.

INGESTION: If the individual is conscious, give 1-2 glasses of milk or water to dilute stomach content. Do not physically induce vomiting. Never give anything by mouth to an unconscious person. As with all accidental chemical ingestions, use all available precautions to prevent aspiration of vomitus into the lungs, which may be fatal. Position the patient's head so as to facilitate expulsion of vomitus. Get prompt medical attention.

NOTE TO PHYSICIAN: Intubate the stomach. Aspirate the pharynx as regularly as possible to remove gagged or vomited stomach content.

TRANSPORTATION INFORMATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

PRODUCT IDENTIFICATION: Not applicable.

DOT PROPER SHIPPING NAME: Not applicable.

DOT HAZARD CLASS: Not applicable.

DOT LABEL REQUIRED: None.

IMO CLASS: Not applicable.

CANADIAN (WHMIS) CLASSIFICATION:

CLASS: D.

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DIVISION: 2.

SUBDIVISION: B.

CANADIAN (TDG ACT) CLASSIFICATION:

PRIMARY: Not applicable.

SUBSIDIARY: Not applicable.

PACKAGING (PACKING) GROUP: Not applicable.

FREIGHT CLASSIFICATION: Petroleum Lubricating Oil.

REGULATORY INFORMATION

TOXIC SUBSTANCE CONTROL ACT (TSCA): To our best knowledge, all the ingredients in this product have been included, by their manufacturers/suppliers, on the TSCA Inventory.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA):

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES: This product contains the following ingredient(s) on this list: None.

SECTION 313 - TOXIC CHEMICALS: This product contains the following ingredient(s) at or above the de minimis concentrations: None.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA): Reporting or releases of this product is not required.

RESOURCE, CONSERVATION, AND RECOVERY ACT (RCRA): This product contains the following ingredient(s) on the Hazardous Wastes List: None.

CALIFORNIA HAZARDOUS SUBSTANCES LIST: This product contains the following ingredients at or above the de minimis concentrations: Oil at 99% (max.).

CALIFORNIA PROPOSITION 65: This product contains the following ingredient(s) listed in the Safe Drinking Water and Toxic Enforcement Act of 1986: None.

MICHIGAN CRITICAL MATERIALS: This product contains the following ingredient(s) at or above the de minimis concentrations: None.

CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS): This product contains the following substance(s) at or above the de minimis concentrations: None.

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PREPARATION OF THE MSDS

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

DATE: June 21, 1990.

SUPERSEDES: July 8, 1987.

SPECIAL NOTES

The information presented herein has been compiled from sources considered to be dependable, and is, to the best knowledge of Tribol, accurate at the time of this writing. The data in this MSDS relates only to the product(s) designated herein. Tribol makes no warranty whatsoever, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereof. Tribol assumes no responsibility for injury to buyer or to third persons, or for any damage to property. Buyer assumes all risks.

End of MSDS

Material Safety Data Sheet

MSDS: 5536

MSDS: 5536 - BIO-CUT AEROSOL CUT FLUID

5/04/92

Status: Pending

Revised: 1/17/92

Formula: NOT GIVEN

Part Number: NOT GIVEN

Specification: NOT GIVEN

Keyword: NOT GIVEN

Synonyms: NOT GIVEN

Stock Items: NOT GIVEN

Manufacturer

TEXAS WESTMONT PRODUCTS, INC.
P.O. BOX 224049
DALLAS, TX 75222

Phone:
Emergency: 214-438-1381

Supplier

TEXAS WESTMONT PRODUCTS, INC.
P.O. BOX 224049
DALLAS, TX 75222

Phone:
Emergency: 214-438-1381

Physical/Chemical Characteristics

Boiling Point: = 500 F
Melting Point: NA
Freezing Point: NG
Pour Point: NG
Softening Point: NG
Specific Gravity: = .94
Vapor Pressure: = 10 MMHG.
Vapor Density: = 10
Percent Volatiles: NG
Evaporation Rate: = .1 BUTYL ACETATE=1.
pH: NA
Molecular Weight: NG
Viscosity: N* VISCOUS.
Solubility in Water ..: NEGLIGIBLE.
Odor/Appearance/Other Characteristics:
PETROLEUM ODOR / DARK, TRANSPARENT APPEARANCE.

Fire and Explosion Data

Closed Cup Flash Pt. .: NG
Open Cup Flash Point .: = 385 F COC.
Fire Point: NG
Auto Ignition: NG
Lower Explosion Limit : NA
Upper Explosion Limit : NA

Shipping Regulations

UN/NA Number: NG
DOT Hazard Class: NG
Shipping Label: NOT GIVEN
Shipping Name: NOT GIVEN

Material Safety Data Sheet
DS: 5536 - BIO-CUT AEROSOL CUT FLUID

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Prepared

Preparer's Name & Title: BOB SILVA, T.S. CHEMIST
Preparation Date: 12/18/89

Component(s):

PETROLEUM OIL

OSHA Pel: 5 mg/m3

ACGIH TLV: 5 mg/m3

STEL: NG ppm

Percent of Product: NG

CAS No.: 64742887

Note: * PEL & TLV: OIL MIST HAZARD ONLY.

PROPANE

OSHA Pel: 1000 ppm

ACGIH TLV: NE ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 74986

ISOBUTANE

OSHA Pel: NE ppm

ACGIH TLV: NE ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 75285

Text Section(s)

IDENTIFICATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

IDENTITY: BIO-CUT AEROSOL CUT FLUID.

PRODUCT CODE: 5035.

EMERGENCY TELEPHONE NUMBER: 214-438-1381.

SUPERSEDES: 09/01/89.

HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

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THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS AS THE PRODUCT MIXTURE HAS NOT BEEN TESTED AS A WHOLE.

HAZARDOUS COMPONENTS	OSHA PEL	ACGIH TLV	HAZARD TYPE
PETROLEUM OIL	5MG/M3 1.*	5MG/M3 1.*	SKIN IRR.
PROPANE			ASPHYXIAN.
ISOBUTANE			FLAMM.

* OIL MIST HAZARD ONLY.

NON-HAZARDOUS INGREDIENTS:

NON-HAZARDOUS INGREDIENTS NAMES AND CAS NUMBERS ARE PROTECTED UNDER NJ TRADE SECRET REGISTRY # 409363-5097P.

 PHYSICAL/CHEMICAL CHARACTERISTICS

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

 FIRE AND EXPLOSION HAZARD DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

EXTINGUISHING MEDIA: CO2, DRY CHEMICAL.

SPECIAL FIRE FIGHTING PROCEDURES: WEAR NIOSH/MSHA APPROVED RESPIRATOR WHEN FIGHTING FIRES IN CONFINED AREAS TO PROTECT FROM ACRID SMOKE AND HAZARDOUS DECOMPOSITION PRODUCTS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLAME EXTENSION 18-24 INCHES. BURNBACK 6 INCHES.

LEVEL 3 AEROSOL (NFPA 30B).

NFPA HAZARD RATING: (0 = INSIGNIFICANT; 1 = SLIGHT; 2 = MODERATE; 3 = HIGH; 4 = EXTREME).

HEALTH: 1.

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FLAMMABILITY: 1.

REACTIVITY: 0.

SPECIAL: N/A.

REACTIVITY DATA

STABILITY: STABLE.

CONDITIONS TO AVOID: NOT GIVEN.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: CARBON MONOXIDE, ACRID SMOKE AND FUMES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

CONDITIONS TO AVOID: N/A.

HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: INHALATION.

HEALTH HAZARDS (ACUTE AND CHRONIC):

ACUTE: CAN LEAD TO CENTRAL NERVOUS SYSTEM DEPRESSION WITH EFFECTS OF HEADACHE, DIZZINESS, NAUSEA AND LOSS OF CONSCIOUSNESS. EYE IRRITANT DEFATS SKIN WHICH CAN LEAD TO IRRITATION. INHALATION MAY BE SLIGHTLY IRRITATING TO MUCOUS MEMBRANES. INGESTION MAY RESULT IN VOMITING. ASPIRATION MUST BE AVOIDED TO AVOID PNEUMONITIS.

CHRONIC: MARKED IRRITATION OF SKIN AND EYE UPON CHRONIC OVEREXPOSURE IS POSSIBLE.

PROLONGED OVEREXPOSURE TO THIS PRODUCT BY EXCESSIVE CONTACT MAY AGGRAVATE CONDITIONS OF THE SKIN (PRIMARYLY DERMATITIS).

CARCINOGENICITY:

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NTP: NO.

IARC MONOGRAPHS: NO.

OSHA: NO.

OTHER: NO.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

EYE CONTACT: FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN CONTACT: WASH WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND SHOES; DO NOT REUSE UNTIL CLEANED. IF PERSISTENT IRRITATION OCCURS, GET MEDICAL ATTENTION.

INGESTION: DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

NOTES TO PHYSICIAN: N/A.

PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: ELIMINATE ALL SOURCES OF IGNITION. TAKE UP WITH ABSORBENT AND PLACE IN LABELED CONTAINER FOR DISPOSAL.

WASTE DISPOSAL METHOD: PLACE EMPTY AEROSOL CAN IN LAYERS OF NEWSPAPER AND DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL POLLUTION CONTROL AUTHORITIES.

STORAGE TEMPERATURE:

120 F. MAX.

32 F. MIN.

INDOOR: YES.

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HEATED: NOT GIVEN.

REFRIGERATED: NOT GIVEN.

OUTDOOR: YES.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: STORE AT MODERATE TEMPERATURES.

OTHER PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. READ ENTIRE LABEL BEFORE USING PRODUCT.

CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): TYPICAL USE DOES NOT REQUIRE RESPIRATORS; HOWEVER, IN EMERGENCY SITUATIONS WHERE EXPOSURE EXCEEDS OSHA STANDARDS: IDLH 1000 PPM/CCROVF.

VENTILATION REQUIRED: GENERAL EXHAUST IS ADEQUATE UNDER NORMAL CIRCUMSTANCES. PROVIDE LOCAL EXHAUST IF POOR VENTILATION EXISTS.

PROTECTIVE GLOVES: PVA OR RUBBER IF PROLONGED OR REPEATED SKIN CONTACT OCCURS.

EYE PROTECTION: CHEMICAL GOGGLES ARE RECOMMENDED DEPENDING UPON SEVERITY OF EXPOSURE.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: N/A.

WORK/HYGIENIC PRACTICES: N/A.

TOXICITY INFORMATION

ALIPHATIC PETROLEUM DISTILLATE:

UNK-MAN LDLO: 1176MG/KG 2.

ORL-RAT LD50: 28G/KG 2.

ORL-RBT LD50: 28G/KG 2.

REGULATORY INFORMATION

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CHEMICAL NAME	C.A.S. NUMBER	UPPER % LIMIT
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N/A.

THOSE INGREDIENTS LISTED ABOVE ARE SUBJECT TO THE REPORTING REQUIREMENTS OF 313 TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372.

IF UE (USE EXEMPTION) APPEARS UNDER UPPER % LIMIT, END USERS ARE EXEMPT FROM NOTIFICATION BECAUSE THE PRODUCT IS USED AND LABELED FOR ROUTINE JANITORIAL WORK, OR THE PRODUCT IS USED AND LABELED FOR FACILITY GROUNDS MAINTENANCE (SUCH AS FERTILIZERS AND HERBICIDES), OR THE PRODUCT IS USED AND LABELED FOR MAINTAINING MOTOR VEHICLES.

SPECIAL NOTES

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE IN LIGHT OF CURRENT FORMULATION, HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

TEXAS WESTMONT PRODUCTS, INC. ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE CAUSED BY THE USE, STORAGE OR DISPOSAL OF THE PRODUCT IN A MANNER NOT RECOMMENDED ON THE PRODUCT LABEL, USERS ASSUME ALL RISKS ASSOCIATED WITH SUCH UNRECOMMENDED USE, STORAGE, OR DISPOSAL OF THE PRODUCT.

End of MSDS

Material Safety Data Sheet
 MSDS: 4755 - MOLUB-ALLOY 860/220-2 GREASE

MSDS: 4755

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 Status: Pending Revised: 1/06/92 4/30/92

Formula: NOT GIVEN Part Number: NOT GIVEN
 Specification: NOT GIVEN Keyword: NOT GIVEN
 Synonyms: NOT GIVEN
 Stock Items: NOT GIVEN

Manufacturer
 TRIBOL
 4801 WEST 147TH ST.
 HAWTHORNE, CA 90250-6795

Phone:
 Emergency: 213-679-0271

Supplier
 TRIBOL
 4801 WEST 147TH ST.
 HAWTHORNE, CA 90250-6795

Phone:
 Emergency: 213-679-0271

Physical/Chemical Characteristics

Boiling Point	ND	NOT DETERMINED.
Melting Point	NG	NOT DETERMINED.
Freezing Point	ND	NOT DETERMINED.
Pour Point	NG	
Softening Point	NG	
Specific Gravity	= .90	TYPICAL.
Vapor Pressure	ND	NOT DETERMINED.
Vapor Density	ND	NOT DETERMINED.
Percent Volatiles	NE	NEGLIGIBLE BY WT.
Evaporation Rate	ND	NOT DETERMINED.
pH	NA	NOT APPLICABLE.
Molecular Weight	NG	
Viscosity	NG	
Solubility in Water ..	NEGLIGIBLE.	
Odor/Appearance/Other Characteristics:		
FAINT CHARACTERISTIC ODOR / DARK GREY PASTE, VISCOUS.		

Fire and Explosion Data

Closed Cup Flash Pt. .:	ND	NOT DETERMINED.
Open Cup Flash Point .:	ND	NOT DETERMINED.
Fire Point	ND	NOT DETERMINED.
Auto Ignition	ND	NOT DETERMINED.
Lower Explosion Limit :	ND	NOT DETERMINED.
Upper Explosion Limit :	ND	NOT DETERMINED.

Shipping Regulations

UN/NA Number: NG
 DOT Hazard Class: NOT APPLICABLE
 Shipping Label: NONE
 Shipping Name: NOT APPLICABLE

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MSDS: 4755 - MOLUB-ALLOY 860/220-2 GREASE

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Prepared

Preparer's Name & Title: NABIL N. SAATY, TOXICOLOGIST

Preparation Date: 8/06/90

Component(s):

SEVERELY TREATED PETROLEUM DISTILLATES AND RAFFINATES

OSHA Pel: 5 mg/m3

ACGIH TLV: 5 mg/m3

STEL: NG ppm

Percent of Product: BT 72% 86% CAS No.: 64741964

Component Note:

* OTHER CAS#'S: 64742-54-7, 64742-62-7, 64742-65-0 / PEL & TLV: FOR MIST.

MOLYBDENUM DISULFIDE

OSHA Pel: 15 mg/m3

ACGIH TLV: 10 mg/m3

STEL: NG ppm

Percent of Product: BT 1% 2% CAS No.: 1317335

ORGANO-ANTIMONY COMPOUND

OSHA Pel: .5 mg/m3

ACGIH TLV: .5 mg/m3

STEL: NG ppm

Percent of Product: BT 1% 3% CAS No.: NOT GIVEN

Note: * CAS #: TRADE SECRET / PEL, TLV: AS ANTIMONY.

MOLUB-ALLOY 860/220-2 GREASE

OSHA Pel: ND ppm

ACGIH TLV: ND ppm

STEL: NG ppm

Percent of Product: NG CAS No.: NOT GIVEN

Note: * PEL, TLV: NOT DETERMINED.

Text Section(s)

PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER: Molub-Alloy 860/220-0 Grease; Molub-Alloy 860/220-1 Grease; Molub-Alloy 860-220-2 Grease.

PRODUCT ID NO.: See TRANSPORTATION INFORMATION SECTION.

CHEMICAL NAME: Petroleum hydrocarbons plus performance additives.

Material Safety Data Sheet

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SYNONYMS: Not applicable. Product is a mixture.

CHEMICAL FORMULA: Not applicable. No single formula.

CHEMICAL FAMILY: Petroleum hydrocarbons plus performance additives.

PRODUCT USE: Lubricant.

PRODUCT CAS NO.: Not applicable. No single CAS number.

NFPA CLASSIFICATION:

HEALTH: 1

FIRE: 1

REACTIVITY: 0

SPECIAL HAZARDS: None known.

MANUFACTURER EMERGENCY PHONE: (213) 679-0271.

SUPPLIER (CANADA) EMERGENCY PHONE: (213) 679-0271.

TRANSPORTATION EMERGENCY:

IN U.S.A. CHEMTREC: (800) 424-9300.

IN DISTRICT OF COLUMBIA: (202) 483-7616.

IN CANADA CANUTEC: (613) 966-6666 (Call Collect).

HAZARDOUS INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

	LD50	LC50	EXPOSURE LIMITS (TWA*)	CAS. NO
Severely treated petroleum distillates and raffinates.	>5g/kg Acute oral (Rats)	Not found	5 mg/m3 for mist (OSHA & ACGIH)	64741-96-4 64742-54-7 64742-62-7 64742-65-0
Molybdenum disulfide	15g/kg Acute oral (Rats)	Not found	15 mg/m3 (OSHA) 10 mg/m3 (ACGIH)	1317-33-5

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Organo-antimony compound	16.4g/kg Acute oral (Rats)	Not found	0.5 mg/m3 as antimony (OSHA & ACGIH)	Trade Secret**
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*TWA: 8-hour time-weighted average.

**Exact chemical identity is being withheld as a trade secret, but health and physical hazards are disclosed in this MSDS. Trade secret exemption application for Canada pending.

NOTE: Exposure limits may vary between jurisdictions. Employers are advised to contact regulatory agencies for the limits effect in their areas.

PHYSICAL DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

ODOR THRESHOLD (PPM): Not determined.

VAPOR PRESSURE (MM HG): For base oil: < 0.01, at 20 DEG C/68 DEG F.

VAPOR DENSITY (Air=1): For base oil: > 1.

EVAPORATION RATE (ETHER = 1): For base oil: < 1.

FIRE AND EXPLOSION HAZARD DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

FLAMMABILITY: This product is not classified as flammable or combustible; however, it will burn if its temperature reaches or exceeds its flash point.

EXTINGUISHING MEDIA: Dry chemical, water-fog, chemical foam, or CO2.
Direct water-stream may cause frothing.

SPECIAL FIREFIGHTING PROCEDURE: Use water to cool fire-exposed containers. Wear full emergency equipment with supplied-air respirator (SA), or self-contained breathing apparatus (SCBA).

UNUSUAL FIRE & EXPLOSION HAZARDS: None known.

FLASH POINT (DEG C/DEG F) AND METHOD: For base fluid: 232/450, ASTM D 92 (C.O.C.).

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FIRE POINT (DEG C/DEG F): For base fluid: 260/500, ASTM D 92 (C.O.C.).

HAZARDOUS COMBUSTION PRODUCTS: Smoke and toxic gases including lithium oxide and hydroxide, oxides of antimony, molybdenum, carbon, sulfur, and nitrogen, and small amounts of aromatic and aliphatic hydrocarbons.

EXPLOSION SENSITIVITY:

IMPACT: Not Sensitive.

STATIC DISCHARGE: Not Sensitive.

EMPTY/PARTIAL CONTAINER WARNING: As with most petroleum products, empty or partial containers may contain explosive vapors. Do not expose to direct flame or high temperature.

REACTIVITY DATA

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Prolonged exposure to elevated temperature.

INCOMPATIBILITY: Yes.

MATERIALS TO AVOID: Strong oxidizers, acids, and alkalies.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: None.

HAZARDOUS DECOMPOSITION PRODUCTS: Smoke and toxic gases including lithium oxide and hydroxide, oxides of antimony, molybdenum, carbon, sulfur, and nitrogen, and small amounts of aromatic and aliphatic hydrocarbons.

TOXICOLOGICAL PROPERTIES & HEALTH HAZARD DATA

ROUTES OF ENTRY: Skin Contact, Skin Absorption, Eye Contact, Inhalation, Ingestion.

SYMPTOMS AND EFFECTS OF ACUTE EXPOSURE:

SKIN: May cause skin irritation.

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EYES: Product, vapors, and mist may cause eye irritation and burning.

INHALATION: Vapors may irritate the mucosal membranes of mouth, nose, and throat. Intense and/or prolonged exposure to vapor concentrations exceeding the TLV/PEL may cause headache, nausea, and vomiting. Oil vapors may accumulate in the lungs, and may cause chemical pneumonitis.

INGESTION: Ingestion via minor contamination of fingers or food is not likely to cause significant discomfort or adverse effect. However, aspiration (with vomitus) into the lungs may cause mild to severe pulmonary injury, and may be fatal.

STATEMENT ON SYSTEMIC TOXICITY: This product is a paste containing an organo-antimony ingredient, whereas the symptoms and effects detailed below resulted from inorganic antimony compounds dust-inhalation, or direct injection, neither of which is a practical entry route for this product. Furthermore, while no parallel studies on organo-antimony compounds are found, it is prudent to avoid undue exposure.

SYMPTOMS AND EFFECTS OF CHRONIC EXPOSURE:

SKIN: Prolonged or repeated contact tends to remove natural skin oil, and may cause irritation, rash, and possibly dermatitis. Evidence suggests that antimony permeation of the skin can occur in amounts capable of producing the effects of systemic poisoning.

EYES: Product, vapors, and mist may cause eye irritation. Antimony products can cause keratitis and conjunctivitis.

INHALATION: Chronic inhalation may produce the same symptoms and effects discussed under Inhalation-ACUTE EXPOSURE, above.

Inhalation of high levels of antimony trisulfide dust has been reported to cause antimony poisoning characterized by muscular pain, anorexia, weight-loss, hair-loss, dry and scaly skin, blood and blood-pressure abnormalities, cardiac injury (T-wave changes), penumonitis, and acute congestion of the heart, liver, and kidneys. Chronic antimony dust-inhalation has resulted in death from myocardical failure.

INGESTION: Ingestion of antimony trisulfide into the abdominal lining of laboratory animals produced acute antimony poisoning characterized by the same symptoms and effects detailed in the inhalation subheading, above.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Existing chronic dermal, respiratory, and cardiovascular diseases.

EXPOSURE LIMITS: Not determined for this product. See HAZARDOUS INGREDIENTS SECTION, in this MSDS, for ingredient(s) limits.

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IRRITANCY: Possible irritancy of skin, eyes, mucosal membranes, and respiratory tract.

SENSITIZATION: May cause skin and respiratory sensitization.

CARCINOGENICITY:

NTP LISTED: No.

IARC LISTED: No.

OSHA LISTED: No.

TERATOGENICITY AND EMBRYOTOXICITY: Reports of teratogenic effects of antimony appear to be conflicting. Female workers in one antimony processing plant experienced higher incidence of late spontaneous abortions, premature births, and gynecologic problems. Exposure of rats to antimony dust resulted in only 50% of the females becoming pregnant, and those that did, produced fewer offspring. Another study, subjecting female rats to antimony oxide dust, produced no evidence of teratogenic effects in the fetuses. And in yet another study, female rabbits that were fed doses of metallic antimony, experienced frequent abortions; while, in a separate study, no fetal toxicity developed in rats or mice following intramuscular doses of antimony dextran glycoside (RL-712), and there was no antimony penetration of the placenta.

MUTAGENICITY: An in vitro study found an increased incidence of human chromosome breakage in leukocytes treated with sodium antimony tartrate. Also, tests of antimony in mammalian cell cultures demonstrated mutagenic activity.

SYNERGISTIC PRODUCTS: When metallic antimony 3,4-benzopyrene, a carcinogen, were administered together in an intratracheal dose, the former enhanced the lung-retention of the latter in rat's lungs.

PREVENTIVE MEASURES AND PERSONAL PROTECTION

It is unlikely that serious overexposure to this product will occur during normal industrial use. Nevertheless, the user must exercise adequate precautions to protect against accidental spills, and to avoid undue exposure to sprays, mists, or vapors that may be inadvertently generated, especially at elevated temperatures. The following protective measures are recommended whenever undue exposure is unavoidable.

GLOVES: Oil-impervious and solvent-resistance (e.g. neoprene) type.

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RESPIRATOR: OSHA/NIOSH-approved supplied-air respirator (SA), or self-contained breathing apparatus (SCBA).

EYE PROTECTION: Chemical goggles or, preferably, full face-shield. Do not wear contact lenses in the work area.

FOOTWEAR: Oil-impervious (e.g. neoprene) cover and anti-slip sole construction.

CLOTHING: Oil-impervious (e.g. neoprene) apron or, preferably, coveralls.

OTHER PROTECTION: As deemed necessary.

PERSONAL HYGIENE: Wash hands before eating or smoking. Do not smoke in work area. Promptly remove contaminated clothing. Immediately clean up any spills, to prevent accidental slipping.

ENGINEERING CONTROLS: General ventilation, normally adequate, should be augmented with local exhaust whenever the TLV/PEL is exceeded, or worker discomfort is reported or observed.

LEAK AND SPILL PROCEDURE: Wear adequate protection and eliminate all sources of ignition. Stop the leak, if it can be safely done. Ventilate the area and dike the spill to prevent entry into sewer or watercourses. Suction or scoop the spill into appropriate disposal or recycling vessels, then cover the spill area with oil-absorbent. Label all waste containers appropriately, including all applicable hazard symbols. If spill enters U.S. navigable waters, the continuous zone, or adjoining shorelines, notify the Coast Guard National Response Center (Tel. No. 800-424-8802).

WASTE DISPOSAL: Dispose of waste in accordance with applicable Federal, State (or Province), and local laws and regulations. (The services of licensed hazardous waste-disposal facilities may be utilized.) It is the user's responsibility to comply with the U.S. Clean Air Act, Clean Water Act, and Resource Conservation and Recovery Act. Refer to REGULATORY INFORMATION Section, in the MSDS.

HANDLING PROCEDURES & EQUIPMENT: Exercise prudent precautions to avoid accidental spillage, food contamination, vapor or mist inhalation, eye or skin contact, and ignition of this product.

STORAGE REQUIREMENTS: Store in a clean, dry area below 49 DEG C/ 120 DEG F, away from all ignition sources and incompatible materials listed in REACTIVITY DATA SECTION, in this MSDS.

SPECIAL SHIPPING INFORMATION: See TRANSPORTATION INFORMATION SECTION AND REGULATORY INFORMATION SECTION.

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FIRST AID AND EMERGENCY MEASURES

SKIN: Wipe off, than wash thoroughly with soap and water.

EYES: Flush immediately with water for at least 15 minutes, occasionally lifting the eyelid. Get prompt medical attention.

INHALATION: Immediately remove the individual to fresh air. If breathing is difficult, administer oxygen. If breathing stops, administer artificial respiration. Keep the individual warm and quiet, and get prompt medical attention.

INGESTION: If the individual is conscious, give 1-2 glasses of milk or water to dilute stomach content. Do not physically induce vomiting. Never give anything by mouth to an unconscious person. As with all accidental chemical ingestions, use all available precautions to prevent aspiration of vomitus into the lungs, which may be fatal. Position the patient's so as to facilitate expulsion of vomitus. Get prompt medical attention.

NOTE TO PHYSICIAN: Intubate the stomach. Aspirate the pharynx as regularly as possible to remove gagged or vomited stomach content.

TRANSPORTATION INFORMATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

PRODUCT IDENTIFICATION: Not applicable.

IMO CLASS: Not applicable.

CANADIAN (WHMIS) CLASSIFICATION:

CLASS: D.

DIVISION: 2.

SUBDIVISION: B.

CANADIAN (TDG ACT) CLASSIFICATION: Not applicable

PACKAGING (PACKING) GROUP: Not applicable.

FREIGHT CLASSIFICATION: Petroleum Lubricating Grease.

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REGULATORY INFORMATION

TOXIC SUBSTANCE CONTROL ACT (TSCA): To our best knowledge, all the ingredients in this product have been included, by their manufactures/suppliers, on the TSCA Inventory.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA):

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES: This product contains the following ingredient(s) on this list: None.

SECTION 313 - TOXIC CHEMICALS: This product contains the following ingredient(s) at or above the de minimis concentrations: Antimony compound(s) at 3% (max).

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA): Reporting of releases of this product is required. Antimony compound(s) RQ = 1.0 lb. (CERCLA statutory RQ).

RESOURCE, CONSERVATION, AND RECOVERY ACT (RCRA): This product contains the following ingredient(s) on the Hazardous Wastes List: None.

CALIFORNIA HAZARDOUS SUBSTANCES LIST: This product contains the following ingredients at or above the de minimis concentrations: Antimony compound(s) at 3% (max.); Molybdenum compound(s) at 2% (max); Oil at 89% (max).

CALIFORNIA PROPOSITION 65: This product contains the following ingredient(s) listed in the Safe Drinking Water and Toxic Enforcement Act of 1986: None.

MICHIGAN CRITICAL MATERIALS: This product contains the following ingredient(s) on this list at or above the de minimis concentrations: Antimony compound(s) at 3% (max); Lithium compound (soap) at 17% (max).

CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS): This product contains the following substance(s) at or above the de minimis concentrations: Antimony compound(s) at 3% (max); Molybdenum compound(s) at 2% (max); Mineral oil at 3% (max).

PREPARATION OF THE MSDS

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

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DATE: August 6, 1990.

SUPERSEDES: June 22, 1990.

SPECIAL NOTES

The information presented herein has been compiled from sources considered to be dependable, and is, to the best knowledge of Tribol, accurate at the time of this writing. The data in this MSDS relates only to the product(s) designated herein. Tribol makes no warranty whatsoever, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereof. Tribol assumes no responsibility for injury to buyer or to third persons, or for any damage to property. Buyer assumes all risks.

End of MSDS

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MSDS: 2864

4/30/92

Status: Pending

Revised: 12/26/91

Formula: NOT GIVEN

Part Number: NOT GIVEN

Specification: NOT GIVEN

Keyword: NOT GIVEN

Synonyms: NOT GIVEN

Stock Items: NOT GIVEN

Manufacturer

MOBIL OIL CORP. (PRINCETON)
 P.O. BOX 1031
 PRINCETON, NJ 08540

Phone:
 Emergency: 212-883-4411

Supplier

MOBIL OIL CORP. (PRINCETON)
 P.O. BOX 1031
 PRINCETON, NJ 08540

Phone:
 Emergency: 212-883-4411

Physical/Chemical Characteristics

Boiling Point	>	600 F	> 316 'C.
Melting Point	NA		NOT APPLICABLE.
Freezing Point	NG		
Pour Point	NE		NOT ESTABLISHED.
Softening Point	NG		
Specific Gravity	=	1.087	15/4 'C.
Vapor Pressure	<	.1	MM HG @ 20 C.
at Temperature		68 F	
Vapor Density	NG		
Percent Volatiles	NG		
Evaporation Rate	NG		
pH	NA		NOT APPLICABLE.
Molecular Weight	NG		
Viscosity	EQ	899cst	@ 100 F, SUS/SEE TXT.
Solubility in Water ..	NEGLIGIBLE.		
Odor/Appearance/Other Characteristics:			
MILD ODOR / BROWN GREASE / RELATIVE DENSITY: 1.087 15/4 C.			

Fire and Explosion Data

Closed Cup Flash Pt. ..	NG		
Open Cup Flash Point ..	GT	400 F	> 204 'C, ASTM D-92.
Fire Point	NG		
Auto Ignition	NG		
Lower Explosion Limit :	NE		NOT ESTABLISHED.
Upper Explosion Limit :	NE		NOT ESTABLISHED.

Shipping Regulations

UN/NA Number: NG
 DOT Hazard Class: NOT APPLICABLE
 Shipping Label: NOT GIVEN
 Shipping Name: NOT APPLICABLE

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Prepared

Preparer's Name & Title:

MOBIL OIL CORPORATION, ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT

Preparation Date: 1/14/91

Component(s):

POTENTIALLY HAZARDOUS INGREDIENTS: NONE

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: NOT GIVEN

CONTAINS TWO OR MORE OF THE FOLLOWING BASE OILS:

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: LT 85%

CAS No.: NOT GIVEN

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 64742525

DISTILLATES (PETROLEUM), SOLVENT-REFINED HEAVY NAPHTHENIC

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 64741964

RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 64742627

LUBRICATING OILS (PETROLEUM), C>25 HYDROTREATED BRIGHT STOCK-BASED

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 72623837

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 64742547

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DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 64742650

RESIDUAL OILS (PETROLEUM) SOLVENT-REFINED

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: 64742014

THE ABOVE COMPONENTS ARE BASE OILS

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: NOT GIVEN

PARAFFIN WAXES AND HYDROCARBON WAXES CHLORINATED

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: LT 2%

CAS No.: 63449398

PHOSPHORODITHOIC ACID, 0,0-DI-C1-14 ALKYL ESTERS, ZINC SALTS

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: EQ 1.28%

CAS No.: 68649423

RESIN ACIDS AND ROSIN ACIDS, ZINC SALTS

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: EQ 1%

CAS No.: 9010699

OCTADECANOIC ACID, 12-HYDROXY-MONOLITHIUM SALT

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: LT 5%

CAS No.: 7620771

FATTY ACIDS, C16-22, LITHIUM SALTS

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: LT 2%

CAS No.: 68783368

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Text Section(s)

PRODUCT IDENTIFICATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

PRODUCT: MOBILUX EP 1.

CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES.

USE OR DESCRIPTION: EXTREME PRESSURE GREASE.

HEALTH EMERGENCY TELEPHONE: (212) 883-4411.

TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC).

PRODUCT TECHNICAL INFORMATION: (800) 662-4525.

TYPICAL CHEMICAL AND PHYSICAL PROPERTIES

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

VISCOSITY:

AT 100 DEG. F, SUS: 899.0.

AT 210 DEG. F., SUS: 80.0.

AT 40 DEG. C, CS: 170.0

AT 100 DEG. C., CS: 15.0

NOTE: Most physical properties for oil component.

NA = Not Applicable.

NE = Not Established.

D = Decomposes.

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

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POTENTIALLY HAZARDOUS INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

SEE REGULATORY INFORMATION AND INGREDIENTS SECTIONS FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES: A = ACGIH-TLV, A* = SUGGESTED-TLV, M=MOBIL, O=OSHA, S=Supplier.

NOTE: Limits shown for guidance only. Follow applicable regulations.

HEALTH HAZARD DATA

INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED.

EFFECTS OF OVEREXPOSURE: Slight eye irritation. Slight skin irritation.

EMERGENCY AND FIRST AID PROCEDURES

FOR PRIMARY ROUTES OF ENTRY.

EYE CONTACT: Flush with water.

SKIN CONTACT: Wash contact areas with soap and water. High pressure accidental injection through the skin requires immediate medical attention for possible incision, irrigation and/or debridement.

INHALATION: Not expected to be a problem.

INGESTION: Not expected to be a problem. However, if greater than 1/2 liter (pint) ingested, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room or poison control center for assistance. Do not induce vomiting or give anything by mouth to an unconscious person.

FIRE AND EXPLOSION HAZARD DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

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SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. For fires in enclosed areas, firefighters must use self-contained breathing apparatus. Prevent runoff from fire control or dilution from entering streams or drinking water supply.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

NFPA HAZARD ID:

HEALTH: 0.

FLAMMABILITY: 1.

REACTIVITY DATA

STABILITY (THERMAL, LIGHT, ETC.): STABLE.

CONDITIONS TO AVOID: EXTREME HEAT.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SPILL OR LEAK PROCEDURE

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U.S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

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SPECIAL PROTECTION INFORMATION

EYE PROTECTION: GENERALLY EYE CONTACT IS UNLIKELY WITH THIS TYPE MATERIAL. IF EYE CONTACT IS LIKELY, SAFETY GLASSES WITH SIDE SHIELDS OR CHEMICAL TYPE GOGGLES SHOULD BE WORN.

SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

SPECIAL PRECAUTIONS

NO SPECIAL PRECAUTIONS REQUIRED.

TOXICOLOGICAL DATA

ACUTE TOXICOLOGY:

ORAL TOXICITY: (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY: (RABBITS): SLIGHTLY TOXIC (ESTIMATED) --- BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY: (RATS): NOT APPLICABLE --- HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION: (RABBITS): MAY CAUSE SLIGHT IRRITATION. BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION: (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

GENETIC TOXICOLOGY (SUMMARY):

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**NEGATIVE AMES TEST.

SUBCHRONIC TOXICOLOGY (SUMMARY):

SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS HAVE BEEN TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY FLUIDS, SHOWED NO ADVERSE EFFECTS.

CHRONIC TOXICOLOGY (SUMMARY):

THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR SEVERELY HYDROTREATED. CHRONIC MOUSE SKIN PAINTING STUDIES OF SIMILAR OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS.

REGULATORY INFORMATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA 29 CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D0; DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE CONTAMINANTS LISTED IN THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP). HOWEVER, USED PRODUCT MAY BE REGULATED.

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III: THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: NONE.

THIS PRODUCT CONTAINS THE FOLLOWING SARA (313) TOXIC RELEASE CHEMICALS.:

ZINC RESINATE 9010-69-9 1%.

PHOSPHORODITHIOIC ACID, O, 101747-77-7 1.28%

O-BIS(ISO-BU AND ISO-PR AND PENTYL) ESTERS, ZINC SALTS.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

Material Safety Data Sheet
 MS: 2864 - MOBILUX EP 1

MSDS: 2864

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZINC RESINATE	9010-69-9	9, 14
ZINC (ELEMENTAL ANALYSIS)	7440-66-6	15 (.23%)
CHLORINE (ELEMENTAL ANALYSIS)	7782-50-5	15 (.60%)

KEY TO LIST CITATIONS:

- 1 - OSHA Z, 2-ACGIH, 3- IARC, 4-NTP, 5-NCI.
 6 - EPA CARC, 7-NFPA 49, 8-NFPA 325M, 9-DOT HMT, 10-CA RTK,
 11 - IL RTK, 12-MA RTK, 13-MN RTK, 14-NJ RTK, 15-MI 293,
 16 - FL RTK. 17-PA RTK, 18-CA P65.

NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS.

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

APPENDIX

FOR MOBIL USE ONLY: (FILL NO.: LPM175A1A3*3200) MCN: , MHC: 1* 1* NA 1*
 11, MPPDC-1, 0000 1, US90-827 APPROVE 01/14,

Material Safety Data Sheet
 S: 2864 - MOBILUX EP 1

MSDS: 2864

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CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZINC RESINATE	9010-69-9	9, 14
ZINC (ELEMENTAL ANALYSIS)	7440-66-6	15 (.23%)
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KEY TO LIST CITATIONS:

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 6 - EPA CARC, 7-NFPA 49, 8-NFPA 325M, 9-DOT HMT, 10-CA RTK,
 11 - IL RTK, 12-MA RTK, 13-MN RTK, 14-NJ RTK, 15-MI 293,
 16 - FL RTK. 17-PA RTK, 18-CA P65.

NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS.

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

 INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

 APPENDIX

FOR MOBIL USE ONLY: (FILL NO.: LPM175A1AS**200) MCN: , MHC: 1* 1* NA 1*
 1*, MPPEC: A, PPEC: A, US90-827 APPROVE 01/14/91.

 SPECIAL NOTES

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

Material Safety Data Sheet

MSDS: 2864

MS: 2864 - MOBILUX EP 1

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PREPARED BY: MOBIL OIL CORPORATION, ENVIRONMENTAL HEALTH AND SAFETY
DEPARTMENT, PRINCETON, NJ.

FOR FURTHER INFORMATION, CONTACT: MOBIL OIL CORPORATION, PRODUCT
FORMULATION AND QUALITY CONTROL. 3225 GALLOWS ROAD, FAIRFAX, VA 22037. (800)
227-0707 X3265.

End of MSDS

Material Safety Data Sheet

MSDS: 2864

MS: 2864 - MOBILUX EP 1

4/30/92

Status: Pending

Revised: 12/26/91

Formula: NOT GIVEN

Part Number: NOT GIVEN

Specification: NOT GIVEN

Keyword: NOT GIVEN

Synonyms: NOT GIVEN

Stock Items: NOT GIVEN

Manufacturer

MOBIL OIL CORP. (PRINCETON)

P.O. BOX 1031

PRINCETON, NJ 08540

Phone:

Emergency: 212-883-4411

Supplier

MOBIL OIL CORP. (PRINCETON)

P.O. BOX 1031

PRINCETON, NJ 08540

Phone:

Emergency: 212-883-4411

Physical/Chemical Characteristics

Boiling Point	>	600 F	> 316 'C.
Melting Point	NA		NOT APPLICABLE.
Freezing Point	NG		
Pour Point	NE		NOT ESTABLISHED.
Softening Point	NG		
Specific Gravity	=	1.087	15/4 'C.
Vapor Pressure	<	.1	MM HG @ 20 C.
at Temperature		68 F	
Vapor Density	NG		
Percent Volatiles	NG		
Evaporation Rate	NG		
pH	NA		NOT APPLICABLE.
Molecular Weight	NG		
Viscosity	EQ	899csT	@ 100 F, SUS/SEE TXT.
Solubility in Water ..	NEGLIGIBLE.		
Odor/Appearance/Other Characteristics:			
MILD ODOR / BROWN GREASE / RELATIVE DENSITY: 1.087 15/4 C.			

Fire and Explosion Data

Closed Cup Flash Pt. .:	NG		
Open Cup Flash Point .:	GT	400 F	> 204 'C, ASTM D-92.
Fire Point	NG		
Auto Ignition	NG		
Lower Explosion Limit :	NE		NOT ESTABLISHED.
Upper Explosion Limit :	NE		NOT ESTABLISHED.

Shipping Regulations

UN/NA Number:	NG
DOT Hazard Class:	NOT APPLICABLE
Shipping Label:	NOT GIVEN
Shipping Name:	NOT APPLICABLE

Prepared
Preparer's Name & Title:
MOBIL OIL CORPORATION, ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT
Preparation Date: 1/14/91

Component(s):
POTENTIALLY HAZARDOUS INGREDIENTS: NONE

OSHA PEL: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: NG
CAS No.: NOT GIVEN

CONTAINS TWO OR MORE OF THE FOLLOWING BASE OILS:

OSHA PEL: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: LT 85%
CAS No.: NOT GIVEN

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY NAPHTHENIC

OSHA PEL: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: NG
CAS No.: 64742525

DISTILLATES (PETROLEUM), SOLVENT-REFINED HEAVY NAPHTHENIC

OSHA PEL: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: NG
CAS No.: 64741964

RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED

OSHA PEL: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: NG
CAS No.: 64742627

LUBRICATING OILS (PETROLEUM), <25 HYDROTREATED BRIGHT STOCK-BASED

OSHA PEL: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: NG
CAS No.: 72623837

DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC

OSHA PEL: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: NG
CAS No.: 64742547

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DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC

OSHA Pel: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: NG

CAS No.: 64742650

RESIDUAL OILS (PETROLEUM) SOLVENT-REFINED

OSHA Pel: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: NG

CAS No.: 64742014

THE ABOVE COMPONENTS ARE BASE OILS

OSHA Pel: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: NG

CAS No.: NOT GIVEN

PARAFFIN WAXES AND HYDROCARBON WAXES CHLORINATED

OSHA Pel: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: LT 2%

CAS No.: 63449398

PHOSPHORODITHOIC ACID, 0,0-DI-C1-14 ALKYL ESTERS, ZINC SALTS

OSHA Pel: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: EQ 1.28%

CAS No.: 68649423

RESIN ACIDS AND ROSIN ACIDS, ZINC SALTS

OSHA Pel: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: EQ 1%

CAS No.: 9010699

OCTADECANOIC ACID, 12-HYDROXY-MONOLITHIUM SALT

OSHA Pel: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: LT 5%

CAS No.: 7620771

FATTY ACIDS, C16-22, LITHIUM SALTS

OSHA Pel: NG ppm
ACGIH TLV: NG ppm
STEL: NG ppm
Percent of Product: LT 2%

CAS No.: 68783368

Text Section(s)

PRODUCT IDENTIFICATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

PRODUCT: MOBILUX EP 1.

CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES.

USE OR DESCRIPTION: EXTREME PRESSURE GREASE.

HEALTH EMERGENCY TELEPHONE: (212) 883-4411.

TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC).

PRODUCT TECHNICAL INFORMATION: (800) 662-4525.

TYPICAL CHEMICAL AND PHYSICAL PROPERTIES

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

VISCOSITY:

AT 100 DEG. F, SUS: 899.0.

AT 210 DEG. F, SUS: 80.0.

AT 40 DEG. C, CS: 170.0

AT 100 DEG. C, CS: 15.0

NOTE: Most physical properties for oil component.

NA = Not Applicable.

NE = Not Established.

D = Decomposes.

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

Material Safety Data Sheet
MSDS: 2864 - MOBILUX EP 1

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POTENTIALLY HAZARDOUS INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

SEE REGULATORY INFORMATION AND INGREDIENTS SECTIONS FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES: A = ACGIH-TLV, A* = SUGGESTED-TLV, M=MOBIL, O=OSHA, S=Supplier.

NOTE: Limits shown for guidance only. Follow applicable regulations.

HEALTH HAZARD DATA

INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED.

EFFECTS OF OVEREXPOSURE: Slight eye irritation. Slight skin irritation.

EMERGENCY AND FIRST AID PROCEDURES

FOR PRIMARY ROUTES OF ENTRY.

EYE CONTACT: Flush with water.

SKIN CONTACT: Wash contact areas with soap and water. High pressure accidental injection through the skin requires immediate medical attention for possible incision, irrigation and/or debridement.

INHALATION: Not expected to be a problem.

INGESTION: Not expected to be a problem. However, if greater than 1/2 liter (pint) ingested, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room or poison control center for assistance. Do not induce vomiting or give anything by mouth to an unconscious person.

FIRE AND EXPLOSION HAZARD DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

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SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. For fires in enclosed areas, firefighters must use self-contained breathing apparatus. Prevent runoff from fire control or dilution from entering streams or drinking water supply.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

NFPA HAZARD ID:

HEALTH: 0.

FLAMMABILITY: 1.

REACTIVITY DATA

STABILITY (THERMAL, LIGHT, ETC.): STABLE.

CONDITIONS TO AVOID: EXTREME HEAT.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SPILL OR LEAK PROCEDURE

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U.S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

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3: 2864 - MOBILUX EP 1

MSDS: 2864

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SPECIAL PROTECTION INFORMATION

EYE PROTECTION: GENERALLY EYE CONTACT IS UNLIKELY WITH THIS TYPE MATERIAL. IF EYE CONTACT IS LIKELY, SAFETY GLASSES WITH SIDE SHIELDS OR CHEMICAL TYPE GOGGLES SHOULD BE WORN.

SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

SPECIAL PRECAUTIONS

NO SPECIAL PRECAUTIONS REQUIRED.

TOXICOLOGICAL DATA

ACUTE TOXICOLOGY:

ORAL TOXICITY: (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY: (RABBITS): SLIGHTLY TOXIC (ESTIMATED) --- BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY: (RATS): NOT APPLICABLE --- HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION: (RABBITS): MAY CAUSE SLIGHT IRRITATION. BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION: (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

GENETIC TOXICOLOGY (SUMMARY):

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**NEGATIVE AMES TEST.

SUBCHRONIC TOXICOLOGY (SUMMARY):

SEVERELY SOLVENT REFINED AND SEVERELY HYDROTREATED MINERAL BASE OILS HAVE BEEN TESTED AT MOBIL ENVIRONMENTAL AND HEALTH SCIENCES LABORATORY BY DERMAL APPLICATION TO RATS 5 DAYS/WEEK FOR 90 DAYS AT DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL INDUSTRIAL EXPOSURE. EXTENSIVE EVALUATIONS INCLUDING MICROSCOPIC EXAMINATION OF INTERNAL ORGANS AND CLINICAL CHEMISTRY OF BODY FLUIDS, SHOWED NO ADVERSE EFFECTS.

CHRONIC TOXICOLOGY (SUMMARY):

THE BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR SEVERELY HYDROTREATED. CHRONIC MOUSE SKIN PAINTING STUDIES OF SIMILAR OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS.

REGULATORY INFORMATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA 29 CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D0; DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE CONTAMINANTS LISTED IN THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP). HOWEVER, USED PRODUCT MAY BE REGULATED.

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III: THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (302) REPORTABLE HAZARD CATEGORIES: NONE.

THIS PRODUCT CONTAINS THE FOLLOWING SARA (313) TOXIC RELEASE CHEMICALS.:

ZINC RESINATE 9010-69-9 1%.

PHOSPHORODITHIOIC ACID, 0, 101747-77-7 1.28%

0-BIS(ISO-BU AND ISO-PR AND PENTYL) ESTERS, ZINC SALTS.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

Material Safety Data Sheet
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CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
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ZINC (ELEMENTAL ANALYSIS)	7440-66-6	15 (.23%)
CHLORINE (ELEMENTAL ANALYSIS)	7782-50-5	15 (.60%)

KEY TO LIST CITATIONS:

1 - OSHA Z, 2-ACGIH, 3- IARC, 4-NTP, 5-NCI.
6 - EPA CARC, 7-NFPA 49, 8-NFPA 325M, 9-DOT HMT, 10-CA RTK,
11 - IL RTK, 12-MA RTK, 13-MN RTK, 14-NJ RTK, 15-MI 293,
16 - FL RTK. 17-PA RTK, 18-CA P65.

NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS.

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

APPENDIX

FOR MOBIL USE ONLY: (FILL NO.: LPM175A1AS**200) MCN: , MHC: 1* 1* NA 1*
1*, MPPEC: A, PPEC: A, US90-827 APPROVE 01/14/91.

SPECIAL NOTES

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

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PREPARED BY: MOBIL OIL CORPORATION, ENVIRONMENTAL HEALTH AND SAFETY
DEPARTMENT, PRINCETON, NJ.

FOR FURTHER INFORMATION, CONTACT: MOBIL OIL CORPORATION, PRODUCT
FORMULATION AND QUALITY CONTROL. 3225 GALLOWS ROAD, FAIRFAX, VA 22037. (800)
227-0707 X3265.

End of MSDS

Material Safety Data Sheet MSDS: 915
 MSDS: 915 - SUPER OIL HOUSEHOLD OIL NON-AEROSOL

=====
 Status: Pending Revised: 6/26/91

Formula: NOT GIVEN Part Number: NOT GIVEN
 Specification: NOT GIVEN Keyword: NOT GIVEN
 Synonyms: NOT GIVEN
 Stock Items: NOT GIVEN

Manufacturer

RADIATOR SPECIALTY CO.
 1400 W. INDEPENDENCE BLVD.
 CHARLOTTE, NC 28208

Phone: 704-377-6555
 Emergency: 704-377-6555

Supplier

RADIATOR SPECIALTY CO.
 1400 W. INDEPENDENCE BLVD.
 CHARLOTTE, NC 28208

Phone: 704-377-6555
 Emergency: 704-377-6555

Physical/Chemical Characteristics

Boiling Point: GT 500 F
 Melting Point: NG
 Freezing Point: NG
 Pour Point: NG
 Softening Point: NG
 Specific Gravity: EQ .90
 Vapor Pressure: NG
 Vapor Density: NG
 Percent Volatiles: NA
 Evaporation Rate: NA
 pH: *= 7
 Molecular Weight: NG
 Viscosity: NG

BY WEIGHT.

NEUTRAL.

Solubility in Water ..: INSOLUBLE / SOLUBILITY IN SOLVENT: PETROLEUM SOLVENTS

Odor/Appearance/Other Characteristics:
 PETROLEUM ODOR / CLEAR LOW VISCOSITY LIQUID.

Fire and Explosion Data

Closed Cup Flash Pt. .: GT 270 F
 Open Cup Flash Point .: NG
 Fire Point: NG
 Auto Ignition: NG
 Lower Explosion Limit : NG
 Upper Explosion Limit : NG

Shipping Regulations

UN/NA Number: NG
 DOT Hazard Class: NG
 Shipping Label: NOT GIVEN
 Shipping Name: NOT GIVEN

Material Safety Data Sheet

MSDS: 915

MSDS: 915 - SUPER OIL HOUSEHOLD OIL NON-AEROSOL

Prepared

Preparer's Name & Title: NOT GIVEN
Preparation Date: 9/01/85

Component(s):

NAPHTHENIC NEUTRAL OIL

OSHA Pel: NG ppm

ACGIH TLV: 5 mg/m3

STEL: NG ppm

Percent of Product: GT 80%

CAS No.: 64742763

Text Section(s)

GENERAL INFORMATION

PRODUCT NAME: SUPER OIL HOUSEHOLD OIL NON-AEROSOL.

PART NUMBERS: NOS. L10-03, L10-03V.

CHEMICAL DESCRIPTION: Petroleum Oil.

FORMULA*: NOT GIVEN.

EMERGENCY PHONE NUMBER: 704-377-6555.

HAZARDOUS COMPONENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

*Components not identified are non-hazardous according to 29 CFR 1910.1200.

PHYSICAL DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

FIRE AND EXPLOSION DATA

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

Material Safety Data Sheet

MSDS: 915

MSDS: 915 - SUPER OIL HOUSEHOLD OIL NON-AEROSOL

=====

EXTINGUISHING MEDIA: Foam, CO2, Dry Chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained, positive pressure breathing apparatus and protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NA.

REACTIVITY INFORMATION

(BASED ON DATA FOR INDIVIDUAL COMPONENTS).

STABILITY: STABLE.

HAZARDOUS POLYMERIZATION: NO.

CORROSIVE: NO.

MATERIALS TO AVOID: Strong oxidizing agents.

CONDITIONS TO AVOID: NA.

HAZARDOUS DECOMPOSITION PRODUCTS:

FIRE: Normal products of combustion; carbon dioxide, carbon monoxide, smoke.

HEALTH HAZARD INFORMATION

(BASED ON DATA FOR INDIVIDUAL COMPONENTS).

RECOMMENDED TLV OR PRODUCT: 5mg/m3.

EYE: Irritant.

SKIN: Irritant on long exposure.

INHALATION: Excessive exposure to mist may cause lung irritation.

INGESTION: Harmful if swallowed.

OTHER: NA.

EMERGENCY AND FIRST AID PROCEDURES

Material Safety Data Sheet

MSDS: 915

MSDS: 915 - SUPER OIL HOUSEHOLD OIL NON-AEROSOL

=====

(BASED ON DATA FOR INDIVIDUAL COMPONENTS).

EYE CONTACT: Flush eye with water for 15 minutes. If adverse symptoms persist, consult physician immediately.

SKIN CONTACT: Wash with soap and water.

INHALATION: Not likely. Move to fresh air. If adverse symptoms persist, consult physician immediately.

INGESTION: DO NOT INDUCE VOMITING. Consult physician immediately.

SPECIAL PROTECTION INFORMATION

(BASED ON DATA FOR INDIVIDUAL COMPONENTS).

RESPIRATORY PROTECTION:

CONSUMER USE: NA.

BULK HANDLING (PROLONGED EXPOSURE): If TLV is exceeded, wear NIOSH approved respirator.

VENTILATION:

CONSUMER USE: Use with adequate ventilation.

BULK HANDLING (PROLONGED EXPOSURE): General.

EYE PROTECTION:

CONSUMER USE: NA.

BULK HANDLING (PROLONGED EXPOSURE): Wear Goggles.

PROTECTIVE CLOTHING:

CONSUMER USE: NA.

BULK HANDLING (PROLONGED EXPOSURE): None Necessary.

SPILL OR LEAK PROCEDURES

SPILL OR LEAK PROCEDURES: Wipe up with rags.

Material Safety Data Sheet
MSDS: 915 - SUPER OIL HOUSEHOLD OIL NON-AEROSOL

MSDS: 915

=====

Observing health hazards described above, remove ignition sources, ventilate area. Confine spill and transfer to waste container.

WASTE DISPOSAL METHODS: Dispose of in accordance with all applicable government laws and regulations.

SPECIAL PRECAUTIONS

WEARING CONTACT LENSES IS INADVISABLE.

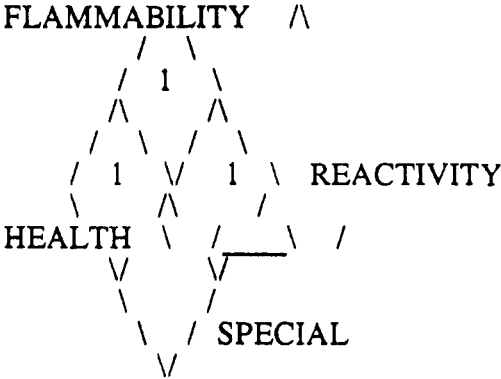
STORAGE AND HANDLING PRECAUTIONS: Do not store near flames or oxidizing materials.

OTHER PRECAUTIONS: KEEP AWAY FROM CHILDREN.

HAZARD INFORMATION LABEL DATA:

HAZARD CODE:

- 4 = Extreme.
- 3 = High.
- 2 = Moderate.
- 1 = Slight.
- 0 = Negligible.



SPECIAL NOTES

Material Safety Data Sheet

MSDS: 915

MSDS: 915 - SUPER OIL HOUSEHOLD OIL NON-AEROSOL

While Radiator Specialty Company believes this data is accurate as of the revision date, we make no warranty with respect to the data and we expressly disclaim all liability for reliance thereon. The data is offered solely for your information, investigation, and verification.

REVISED: September, 1985 KCE/sd.

End of MSDS

MOBIL MATERIAL SAFETY DATA BULLETIN

MOBIL OIL CORPORATION P. O. BOX 1031
 ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT. PRINCETON, N.J. 08540 (USA)

***** PRODUCT IDENTIFICATION *****
 MOBILUBE HD 80W-90

SUPPLIER:	MOBIL OIL CORP.	HEALTH EMERGENCY TELEPHONE:	(212)883-4411
CHEMICAL NAMES AND SYNONYMS:	PET. HYDROCARBONS AND ADDITIVES	TRANSPORT EMERGENCY TELEPHONE:	(800)424-9300(CHEMTREC)
USE OR DESCRIPTION:	AUTOMOTIVE GEAR LUBRICANT	OTHER DESIGNATION:	(TRN 510156)

***** TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE:	ASTM 7.5 VISCOUS LIQUID	VISCOSITY: AT 100 F, SUS	728.0	AT 40 C, CS	132.0
ODOR:	MILD	VISCOSITY: AT 210 F, SUS	76.0	AT 100 C, CS	13.9
RELATIVE DENSITY: 15/4 C	0.895	SOLUBILITY IN WATER:	NEGLIGIBLE	PH:	NA
MELTING POINT: F(C)	NA	POUR POINT: F(C)	-15(-26)		
BOILING POINT: F(C)	> 600(316)	FLASH POINT: F(C) (METHOD)	>375(191) (ASTM D-92)		
VAPOR PRESSURE:MM HG 20C	< .1				

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

***** INGREDIENTS *****

	WT PCT	TLV(TWA):	MG/M3	PPM
	(APPROX)			
HAZARDOUS INGREDIENTS:				
NONE				
NON-HAZARDOUS INGREDIENTS:				
REFINED MINERAL OILS	> 90			
ADDITIVES AND/OR OTHER INGREDIENTS.	< 10			

NOTE: TLVS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

***** FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT: F(C) (METHOD) FLAMMABLE LIMITS: LEL UEL
> 375(191) (ASTM D-92) .6 7.0

EXTINGUISHING MEDIA:
CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES:
FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
NONE

***** HEALTH HAZARD DATA *****
THRESHOLD LIMIT VALUE: (IF ESTABLISHED)

EFFECTS OF OVEREXPOSURE:
SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT:
FLUSH WITH WATER.

SKIN CONTACT:
WASH CONTACT AREAS WITH SOAP AND WATER.

INHALATION:
NOT EXPECTED TO BE A PROBLEM.

INGESTION:
NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** REACTIVITY DATA *****
STABILITY:-(THERMAL, LIGHT, ETC.) CONDITIONS TO AVOID:
STABLE EXTREME HEAT

INCOMPATIBILITY: (MATERIALS TO AVOID)
STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: CONDITIONS TO AVOID:
WILL NOT OCCUR

***** SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT:

REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SCRAPE UP AND REMOVE. DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT:

DILUTE WASTE WITH A SOLVENT, TO REDUCE ITS VISCOSITY, AND DISPOSE BY SUPERVISED INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION:

NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE EMPLOYED.

SKIN PROTECTION:

NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION:

NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION:

NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

OTHER:

***** SPECIAL PRECAUTIONS *****

HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** TOXICOLOGICAL DATA *****

ACUTE

ORAL TOXICITY: (RATS)

SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY: (RABBITS)

SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY: (RATS)

NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION: (RABBITS)

MAY CAUSE SLIGHT IRRITATION. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION: (RABBITS)

MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SUBACUTE AND MUTAGENICITY (SUMMARY)

CHRONIC OR SPECIALIZED (SUMMARY)

OTHER DATA

FILE CODES:

(FILL NO: RP5438C201) MHC: 1* 1* NA 1* 1* PPEC: US83-289 APPROVE 9154

ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT.

REVISED:

MANAGER OF PRODUCT SAFETY INFORMATION, PHONE: 609-737-5546

1/22/85

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBIL DTE 797 OIL

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 383-4411
 CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-
 USE OR DESCRIPTION: STEAM TURBINE OIL

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES

APPEARANCE: ASTM D.5 LIQUID DOOR: MILD
 VISCOSITY AT 100 F, SUS: 160.0 AT 40 C, CS: 30.0
 VISCOSITY AT 210 F, SUS: 44.0 AT 100 C, CS: 5.3
 FLASH POINT F(C): 410(210) (ASTM D-92)
 MELTING POINT F(C): NA POUR POINT F(C): 200
 BOILING POINT F(C): > 500(315)
 RELATIVE DENSITY, 15/4 C: 0.855 SOLUBILITY IN WATER:
 VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

Steam Turbine Oil

***** III. INGREDIENTS *****

WT PCT (APPROX)	EXPOSURE LIMITS (MG/M3)	SOURCES (PPM AND NOTES)
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HAZARDOUS INGREDIENTS:
 NONE

OTHER INGREDIENTS:
 REFINED MINERAL OILS >95
 ADDITIVES AND/OR OTHER INGREDIENTS < 5

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
 SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
 INHALATION: NOT EXPECTED TO BE A PROBLEM.
 INGESTION: NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF UNCOMFORTABLE SEEK MEDICAL ASSISTANCE.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): 410(210) (ASTM D-92)
 FLAMMABLE LIMITS, LEL: .5 UEL: 7.0
 EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
 SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.
 UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISPOSE OF WASTE BY SUPERVISED INCINERATION IN
COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): NONTOXIC(ESTIMATED) ---BASED ON TESTING OF
SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): NONTOXIC(ESTIMATED) ---BASED ON TESTING OF
SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****
TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
EINECS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
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*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

1 = OSHA,	2 = ACCIH,	3 = IARC,	4 = NTP,	5 = NCI,
6 = EPA CARC,	7 = NFPA 49,	8 = NFPA 325M,	9 = DOT HMT,	10 = CA RTK,
11 = IL RTK,	12 = MA RTK,	13 = MN RTK,	14 = NJ RTK,	15 = NJ SHH,
16 = FL RTK,	17 = PA RTK,			

FOR MOBIL USE ONLY: (FILL NO: MTL255001) MHC: 0* 0* NA 0* 1* PPEC:
US84-071 APPROVE REVISED: 04/17/84

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT
WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR
PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT
ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL
WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE
USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A
RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING
LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING
PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBIL SHC 630

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 353-4411
CHEMICAL NAMES AND SYNONYMS: SYN. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: LUBE OIL

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM D.5 LIQUID ODOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 1125.0 AT 40 C, CS: 217.0
VISCOSITY AT 210 F, SUS: 127.7 AT 100 C, CS: 25.9
FLASH POINT F(C): 492(950) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): -42(-45)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.868 SOLUBILITY IN WATER: APPRECIABLE
VAPOR PRESSURE-MM HG 20C: < .1
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT (APPROX)	EXPOSURE LIMITS (MG/M3)	SOURCES (PPM AND NOTES)
HAZARDOUS INGREDIENTS:			
AMINE/AMIDE MIXTURE	0.3		
OTHER INGREDIENTS:			
SYNTHETIC OILS	>95		
ADDITIVES AND/OR OTHER INGREDIENTS	< 5		

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER(PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****
FLASH POINT F(C): 42(250) (ASTM 7-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FJAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****
STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 300-424-2802. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY
CHEMTREC (800) 424-9300.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED
INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****
EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---
ORAL TOXICITY (RATS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF
SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****
TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
EINECS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME CAS NUMBER LIST CITATIONS
*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

- 1 = OSHA, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CIRC, 7 = NEPA 49, 8 = NEPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = NJ SHH,
- 16 = FL RTK, 17 = PA RTK.

FOR MOBIL USE ONLY: (FILL NO: RL13201F) MHC: 1* 1* NA 0* 1* PPEC:
US85-047 APPROVE REVISED: 03/13/85

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWES ROAD, FAIRFAX, VA 22037 (703) 849-3265

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILGEAR 626

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: GEAR LUBRICANT

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 4.0 LIQUID ODDOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 335.0 AT 40 C, CS: 64.0
VISCOSITY AT 210 F, SUS: 54.0 AT 100 C, CS: 8.0
FLASH POINT F(C): 400(204) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): -10(-23)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.831 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: < .1
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3	PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			

OTHER INGREDIENTS:
REFINED MINERAL OILS >95
ADDITIVES AND/OR OTHER INGREDIENTS. < 5

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): 400(204) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---
ORAL TOXICITY (RATS): LD50: > 5 G/KG SLIGHTLY TOXIC (ESTIMATED)
---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG SLIGHTLY TOXIC (ESTIMATED)
---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.
EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****
TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
EINECS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME CAS NUMBER LIST CITATIONS
*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

1 = OSHA, 2 = ACGIH, 3 = IAPC, 4 = NTP, 5 = NCI,
6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
11 = IL RTK, 12 = MA PTK, 13 = MI RTK, 14 = NJ RTK, 15 = NJ SHH,
16 = FL RTK, 17 = PA RTK.

FOR MORIL USE ONLY: (FILL NO: RL1221C1101) MHC: 1* 1* NA 0* 1* PPEC:
US94-203 APPROVE REVISED: 04/18/85 MSDB TEXT CHANGE

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOW'S ROAD, FAIRFAX, VA 22037 (703) 849-3265

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT
WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR
PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT
ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL
WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE
USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A
RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING
LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING
PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILITH SHC 460

SUPPLIER: MOBIL OIL CORP.
HEALTH EMERGENCY TELEPHONE: (212) 383-4411
CHEMICAL NAMES AND SYNONYMS: SYN. HYDROCARBONS AND ADDITIVES
TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: MULTI-SERVICE GREASE

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: BROWN GREASE ODDOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 2083.0 AT 40 C, CS: 400.0
VISCOSITY AT 210 F, SUS: 147.0 AT 100 C, CS: 40.7
FLASH POINT F(C): >400(204) (ESTIMATED (OIL COC))
MELTING POINT F(C): NA POUR POINT F(C): NA
BOILING POINT F(C): NA
RELATIVE DENSITY, 15/4 C: 0.865 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: NA
NOTE: MOST PHYSICAL PROPERTIES FOR OIL COMPONENT.
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3	PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			
OTHER INGREDIENTS:			
SYNTHETIC OILS	>75		
ADDITIVES AND/OR OTHER INGREDIENTS.	<10		
LITHIUM-SOAP THICKENER	<20		

KEY TO SOURCE: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****
FLASH POINT F(C): > 400(204) (ESTIMATED (OIL COC))
FLAMMABLE LIMITS. LEL: 1.4 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****
STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
ENVIRONMENTAL IMPACT: IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY CHEMTREC
(800) 424-9300. REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8902.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED
INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****
EYE PROTECTION: GENERALLY EYE CONTACT IS UNLIKELY WITH THIS TYPE
MATERIAL. IF EYE CONTACT IS LIKELY, SAFETY GLASSES WITH SIDE
SHIELDS OR CHEMICAL TYPE GOGGLES SHOULD BE WORN.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.

EINECS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME CAS NUMBER LIST CITATIONS

*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

- 1 = OSHA, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = NJ SHH,
- 16 = FL RTK, 17 = PA RTK.

***** FOR MOBIL USE ONLY: (FILL NO: RP2020) MHC: 1* 1* NA 0* 1* PPEC: US85-231 APPROVE REVISED: 06/03/85 *****

***** PREPARED BY: MOBIL OIL CORPORATION ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ FOR FURTHER INFORMATION, CONTACT: MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL 3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 349-3265 *****

***** INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT, NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS. *****

Colt Industries



Garlock Inc
 Mechanical Packing Division
 Industrial Packing
 1666 Division Street
 Palmyra, New York 14522
 315/597-4811

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

MARKETED BY: Garlock, Inc. EMERGENCY PHONE: 315-483-6961
 Compression Packing Divn.
ADDRESS: 300 Alling Drive, Sodus, N.Y. 14551
TRADE NAME: Formula 116 Penetrating Oil
SYNONYMS: Aersol Product

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	%	TLV	CAS NUMBER
Heavy Aromatic Naphtha	72.5	100 ppm	64742-94-5
Petroleum Lubricating Oil Mixture	24.0	5 mg/m ³	-
Propellant is carbon dioxide which is not hazardous.			

SECTION III - PHYSICAL DATA

Physical data measurements based on 100% concentrate

Boiling Point, °F: 340-530 Specific Gravity: 0.90
 Vapor Pressure, mm: less than 10 Volatile by volume, %: 72.5
 Solubility in water: Negligible Vapor Density (Air=1): 5.1
APPEARANCE AND ODOR: Light straw colored liquid, typical odor.

SECTION IV - FIRE AND EXPLOSION HAZARDS

FLASH POINT, °F.: 135 (TCC) FLAMMABILITY LIMITS, % BY VOLUME OF AIR:
 Lower 0.8
 Upper 6.0

EXTINGUISHING MEDIA: Foam, carbon dioxide, dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate unnecessary personnel. Wear self contained breathing apparatus.
 Water may be sprayed on fire exposed containers for cooling.

UNUSUAL FIRE AND EXPLOSION HAZARDS: At elevated temperatures (above 120°F.), containers may rupture or burst.
 Do not spray near open flame.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF EXPOSURE:

Inhalation: Irritant to upper respiratory system. Over exposure may result in light-headedness, staggering gait, giddiness, headache and possible nausea. Chronic exposure may result in permanent brain, liver or nervous system damage.

Ingestion: May be harmful or fatal if swallowed.

Skin and Eye Contact: Mild irritation.

Medical conditions Prone to Aggravation by Exposure: Respiratory allergies, chronic diseases of skin, nose, throat and lungs.

EMERGENCY FIRST AID PROCEDURES:

Inhalation: Remove to fresh air. Contact a physician.

Ingestion: DO NOT INDUCE VOMITING. Contact a physician at once.

Skin Contact: Wash area with soap and water.

Eye Contact: Flush with water 15 minutes, Contact a physician as a precaution.

SECTION VI - REACTIVITY DATA

Product is stable.

INCOMPATIBILITY: Avoid storage at elevated temperatures (120°F. or above).

HAZARDOUS DECOMPOSITION PRODUCTS: In a fire, carbon monoxide, hydrogen chloride.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Do not spray near open flame or heated surfaces.

SECTION VII - SPILL OR LEAK PROCEDURES

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

Remove all ignition sources, ventilate area. Avoid breathing vapors. Inert absorbent may be added to area. Liquid will evaporate.

WASTE DISPOSAL METHOD: Do not incinerate. If necessary, invert container and vent propellant in safe area. Cans may then be safely discarded. Give leaking or full containers to a disposal company equipped to handle and dispose of pressurized containers. Comply with any local disposal regulations.

Penetrating Oil (Cont'd.)

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Not required under normal conditions of use.
Avoid breathing vapor or spray mist.

VENTILATION REQUIREMENTS: Sufficient ventilation should be provided to
prevent build up of excessive vapor concentrations.

EYE PROTECTION: As generally good practice, safety glasses should be worn.
Do not direct spray toward any individual.

PROTECTIVE GLOVES: Not required under normal conditions of use.
If prolonged or repeated contact expected, wear
disposable plastic gloves.

OTHER PROTECTIVE EQUIPMENT: Not required.

SECTION IX - SPECIAL PRECAUTIONS

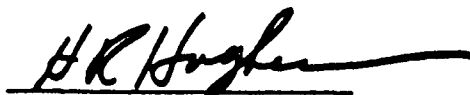
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in clean, dry place
away from heat sources.

Do not store above 120°F. Exposure to direct sunlight or heat for prolonged
periods may cause bursting.

OTHER PRECAUTIONS: Do not puncture cans. Do not spray near heat source
or open flame. Normal wash up after using is recommended.

NOTE: The information provided herein is accurate to the
best of our knowledge, but no warranty, express or implied
is made.

PREPARED BY:



1/10/86

Harold R. Hughes, Supervising Chemist

Colt Industries



Garlock Inc
 Mechanical Packing Division
 Industrial Packing
 1666 Division Street
 Palmyra New York 14522
 315/597-4811

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

MARKETED BY: Garlock, Inc. EMERGENCY PHONE: 315-483-6961
 Compression Packing Divn.
ADDRESS: 300 Alling Drive, Sodus, N.Y. 14551
TRADE NAME: Garlock Cutting Oil
SYNONYMS: Aerosol Product

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	%	TLV	CAS NUMBER
Propellant Blend	10	1000 ppm	
Propane		1000 ppm	74-98-6
Isobutane		1000 ppm	75-28-5

SECTION III - PHYSICAL DATA

Aerosol - Contents Under Pressure: 52 ± 5 psig. Volatile by Weight, %: 10
 Propellant Boiling Range, °F: Below 0 Evaporation Rate: Faster than ether (propellants).
 Vapor Density: Heavier than air. Weight per Gallon: N/A

SECTION IV - FIRE AND EXPLOSION HAZARDS

FLASH POINT (Propellant), °F: Below 20 LOWER EXPLOSION LIMITS, % by VOL. IN AIR: 1.8

EXTINGUISHING MEDIA: Foam, carbon dioxide, dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate unnecessary personnel.
 Wear self contained breathing apparatus.
 Water may be sprayed on fire exposed containers for cooling.

UNUSUAL FIRE AND EXPLOSION HAZARDS: At elevated temperatures (above 120°F.) containers may rupture or burst,

DO NOT SPRAY NEAR OPEN FLAME.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF EXPOSURE:

Inhalation: Irritant to upper respiratory system. Over exposure may result in light-headedness, staggering gait, giddiness, headache and possible nausea. Chronic exposure may result in permanent brain, liver or nervous system damage.

Ingestion: May be harmful or fatal if swallowed.

Skin and Eye Contact: Mild irritation.

Medical conditions Prone to Aggravation by Exposure: Respiratory allergies, chronic diseases of skin, nose, throat and lungs.

EMERGENCY FIRST AID PROCEDURES:

Inhalation: Remove to fresh air. Contact a physician.

Ingestion: **DO NOT INDUCE VOMITING.** Contact a physician at once.

Skin Contact: Wash area with soap and water.

Eye Contact: Flush with water 15 minutes. Contact a physician as a precaution.

SECTION VI - REACTIVITY DATA

Product is stable.

INCOMPATIBILITY: Avoid storage at elevated temperatures (120°F. or above).

HAZARDOUS DECOMPOSITION PRODUCTS: In a fire, carbon monoxide, hydrogen chloride.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Do not spray near open flame or heated surfaces.

SECTION VII - SPILL OR LEAK PROCEDURES

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

Remove all ignition sources, ventilate area. Avoid breathing vapors. Inert absorbent may be added to area. Liquid will evaporate.

WASTE DISPOSAL METHOD: Do not incinerate. If necessary, invert container and vent propellant in safe area. Cans may then be safely discarded. Give leaking or full containers to a disposal company equipped to handle and dispose of pressurized containers. Comply with any local disposal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Not required under normal conditions of use.
Avoid breathing vapor or spray mist.

VENTILATION REQUIREMENTS: Sufficient ventilation should be provided to
prevent build up of excessive vapor concentrations.

EYE PROTECTION: As generally good practice, safety glasses should be worn.
Do not direct spray toward any individual.

PROTECTIVE GLOVES: Not required under normal conditions of use.
If prolonged or repeated contact expected, wear
disposable plastic gloves.

OTHER PROTECTIVE EQUIPMENT: Not required.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in clean, dry place
away from heat sources.
Do not store above 120°F. Exposure to direct sunlight or heat for prolonged
periods may cause bursting.

OTHER PRECAUTIONS: Do not puncture cans. Do not spray near heat source
or open flame. Normal wash up after using is recommended.

NOTE: The information provided herein is accurate to the
best of our knowledge, but no warranty, express or implied
is made.

PREPARED BY:



Harold R. Hughes, Supervising Chemist

12/13/85

Colt Industries



Garlock Inc
 Mechanical Packing Division
 Industrial Packing
 1666 Division Street
 Palmyra New York 14522
 315/597-4811

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

MARKETED BY: Garlock, Inc. EMERGENCY PHONE: 315-483-6961
 Compression Packing Divn.
ADDRESS: 300 Alling Drive, Sodus, N.Y. 14551
TRADE NAME: Garlock Tapping Compound
SYNONYMS: Filled marine and Petroleum Base Product.

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS	%	TLV	CAS NUMBER
Petroleum Oil*(only if misted)Approx.	60	5 mg./m ³	64741-96-4 or 64742-52-5
<p>*This is a solvent washed neutral oil which does not require a carcinogenic warning. We do not consider this product hazardous under normal conditions of use.</p>			

SECTION III - PHYSICAL DATA

Boiling Point, °F: Over 350 (COC) Specific Gravity: 0.96 - 1.05
 Vapor Pressure at 20°C: less than 0.1 mm Volatile by Volume, %: Trace
 Solubility in water: Negligible
APPEARANCE AND ODOR: Tan fluid, fruity odor.

SECTION IV - FIRE AND EXPLOSION HAZARDS

FLASH POINT, °F: 365 (COC) FLAMMABILITY LIMITS, BY VOLUME OF AIR:
 Not Established
EXTINGUISHING MEDIA: Water, Foam, Carbon dioxide, dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES: If fire involves substantial quantities, self contained breathing apparatus should be used due to smoke produced.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Produces considerable smoke when burned.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF EXPOSURE:

Inhalation: Not a hazard.

Ingestion: May result in vomiting.

Skin and Eye Contact: Simple irritation. Possible dermatitis in sensitive individuals.

Medical Conditions Prone to Aggravation by Exposure: None known.

EMERGENCY FIRST AID PROCEDURES:

Ingestion: Do not induce vomiting. Contact a physician for treatment. Not an acute problem.

Skin Contact: Wipe off. Wash area with soap and water.

Eye Contact: Flush with water for 15 minutes. Contact a physician as a precaution.

SECTION VI - REACTIVITY DATA

Product is Stable. Direct flame will ignite product.

INCOMPATIBILITY: Avoid storage with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: In a fire, carbon monoxide under certain circumstances, organic vapors of unknown composition.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: None.

SECTION VII - SPILL OR LEAK PROCEDURES

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

Scrape up bulk of material and return to original container. A solvent such as 1,1,1-trichloroethane may be used to clean up residual material. Dispose of any clean up cloths as oily rags.

WASTE DISPOSAL METHODS: Significant quantities should be handled by a licensed waste oil disposal contractor. Comply with any local disposal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Not required under normal conditions of use.

VENTILATION REQUIREMENTS: No special requirement under normal conditions of use.

EYE PROTECTION: As generally good practice, safety glasses should be worn.

PROTECTIVE GLOVES: Not required.

OTHER PROTECTIVE EQUIPMENT: Not required.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE : Store in clean, dry place away from strong oxidizing agents. Keep containers closed, upright and away from excessive heat or flames.

OTHER PRECAUTIONS: Normal wash up after handling is recommended.

NOTE: The information provided herein is accurate to the best of our knowledge, but no warranty, express or implied is made.

PREPARED BY:



Harold R. Hughes, Supervising Chemist

12/12/85

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILUX EP 111

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 833-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: LUBRICANT

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: DARK GREEN/R GREASE ODDOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: >500.0 AT 40 C, CS: >11.0
VISCOSITY AT 210 F, SUS: 215.0 AT 100 C, CS: 42.0
FLASH POINT F(C): >400(204) (EST (OIL COC))
MELTING POINT F(C): NA POUP POINT F(C): NE
BOILING POINT F(C): > 400(204)
RELATIVE DENSITY, 15/4 C: 0.837 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG COC: < .1
NOTE: MOST PHYSICAL PROPERTIES FOR OIL COMPONENT.
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3	PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			

OTHER INGREDIENTS:

REFINED MINERAL OILS	<35
PETROLEUM RESIDUALS	<5
ADDITIVES AND/OR OTHER INGREDIENTS	<10
CALCIUM SOAP THICKENER	< 5
LITHIUM-SOAP THICKENER	<10

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF UNCOMFORTABLE SEEK MEDICAL ASSISTANCE.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****
FLASH POINT F(C): > 400(204) (EST (OIL COC))
FLAMMABLE LIMITS. LEL: .5 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****
STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: STRONG OXIDATION
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: METAL OXIDES. CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT CRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 300-424-3902.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SCRAPE UP AND REMOVE.
DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE
WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED
INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****
EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: IF PROLONGED OR REPEATED SKIN CONTACT IS LIKELY, OIL
IMPERVIOUS GLOVES SHOULD BE WORN. GOOD PERSONAL HYGIENE PRACTICES
SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---
ORAL TOXICITY (RATS): LD50: > 15 G/KG NONTOXIC (ESTIMATED) ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): LD50: > 5 G/KG NONTOXIC (ESTIMATED) ---BASED
ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****
 TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
 EINECS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
 THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
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*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

- | | | | | |
|---------------|--------------|----------------|--------------|--------------|
| 1 = OSHA, | 2 = ACGIH, | 3 = IARC, | 4 = NTP, | 5 = NCI, |
| 6 = EPA CARC, | 7 = NFPA 49, | 8 = NFPA 325M, | 9 = DOT HMT, | 10 = CA RTK, |
| 11 = IL RTK, | 12 = MA RTK, | 13 = MN RTK, | 14 = NJ RTK, | 15 = NJ SHH, |
| 16 = FL RTK, | 17 = PA RTK, | | | |

 FOR MOBIL USE ONLY: (FILL NO: MTR111C1100) MHC: 0* 0* NA J* 1* PPEC:
 US83-205 APPROVE REVISED: 04/26/84

 PREPARED BY: MOBIL OIL CORPORATION
 ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
 FOR FURTHER INFORMATION, CONTACT:
 MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
 3225 GALLOWAY ROAD, FAIRFAX, VA 22037 (703) 849-3265

 INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT
 WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR
 PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT
 ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL
 WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF
 MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE
 USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A
 RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING
 LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING
 PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBIL DTE 13

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 383-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: HYDRAULIC OIL

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: AMBER LIQUID ODR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 150.7 AT 40 C, CS: 29.6
VISCOSITY AT 210 F, SUS: 46.5 AT 100 C, CS: 6.0
FLASH POINT F(C): >530(166) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): -40(-40)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.892 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

WT PCT	EXPOSURE LIMITS	SOURCES	
(APPROX)	MG/M3	PPM	(AND NOTES)

HAZARDOUS INGREDIENTS:
NONE

OTHER INGREDIENTS:
REFINED MINERAL OILS >90
ADDITIVES AND/OR OTHER INGREDIENTS <10

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****
FLASH POINT F(C): > 330(155) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UFL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****
STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-3802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISPOSE OF WASTE BY SUPERVISED INCINERATION IN
COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****
EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---
ORAL TOXICITY (RATS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF
SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****
TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
EINECS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME CAS NUMBER LIST CITATIONS

*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

1 = OSHA, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = OOT HMT, 10 = CA RTK,
11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = NJ SHH,
16 = FL RTK, 17 = PA RTK.

FOR MOBIL USE ONLY: (FILL NO: MTL251A2A005) MHC: 1* 1* NA 0* 1* PPEC:
US84-373 APPROVE: REVISED: 04/16/95 NEW PRODUCT MSDS

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWAY ROAD, FAIRFAX, VA 22037 (703) 049-3265

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT
WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR
PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT
ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL
WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE
USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A
RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING
LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING
PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****

MOBIL DTE OIL HEAVY MEDIUM

SUPPLIER:

MOBIL OIL CORP.

HEALTH EMERGENCY
(212) 883-4

CHEMICAL NAMES AND SYNONYMS:

PET. HYDROCARBONS AND ADDITIVES

TRANSPORT EMERGE
(800) 424-9

USE OR DESCRIPTION:

LUBRICANT

*Powerhouse
Pump
Lubricant*

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 2.5 LIQUID ODDR: MILD
VISCOSITY AT 100 F, SUS: 335.0 AT 40 C, CS: 65.0
VISCOSITY AT 210 F, SUS: 55.0 AT 100 C, CS: 6.4
FLASH POINT F(C): >400(204) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): 20(-7)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.877 SOLUBILITY IN WATER: A
VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED O=DECOMPOSES

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

WT PCT (APPROX)	EXPOSURE LIMITS MG/M3	SOURCES PPM (AND NOTES)
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HAZARDOUS INGREDIENTS:
NONE

OTHER INGREDIENTS:

REFINED MINERAL OILS >95
ADDITIVES AND/OR OTHER INGREDIENTS < 5

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA

NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF UNCOMFORTABLE: SEEK MEDICAL ASSISTANCE.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 400(204) (ASTM D-92)
FLAMMABLE LIMITS: LEL: .5 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****
STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED
INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****
EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---
ORAL TOXICITY (RATS): LD50: > 15 G/KG NONTOXIC (ESTIMATED) ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG NONTOXIC (ESTIMATED) ---BASED
ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
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EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
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SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
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THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****
 TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
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 THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME CAS NUMBER LIST CITATIONS
 *** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

1 = OSHA, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = NJ SHH,
 16 = FL RTK, 17 = PA RTK.

 FOR MOBIL USE ONLY: (FILL NO: MTL274001(9) MHC: 0* 0* NA 0* 1* PPEC:
 US85-11: APPROVE REVISED: 06/03/85

 PREPARED BY: MOBIL OIL CORPORATION
 ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
 FOR FURTHER INFORMATION, CONTACT:
 MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
 3225 GALLOWAY ROAD, FAIRFAX, VA 22037 (703) 549-3205

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 WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR
 PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT
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 PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

FOR PHILLIPS A.M.R.

Material Information Bulletin



(Approved - "Essentially Similar" to Form OSHA 20, Material Safety Data Sheet)

CHEVRON SRI GREASE 2

CMS 234802

TYPICAL COMPOSITION

Hydrocarbon base oils	85%
Polyurea thickener	8%
Additives	7%

EXPOSURE STANDARD

No OSHA exposure standard or Threshold Limit Value has been established for this material.

PHYSIOLOGICAL & HEALTH EFFECTS

EMERGENCY & FIRST AID PROCEDURES

Eyes

Not expected to cause no more than minor eye irritation.

Wash eyes with fresh water for at least 15 minutes. If irritation continues, see a doctor.

Skin

Expected to produce no more than minor skin irritation following prolonged or frequently repeated contact.

Wash skin thoroughly with soap and water. Launder contaminated clothing.

Inhalation

Not expected to be acutely toxic by inhalation.

Since this material is not expected to be an acute inhalation problem, no first aid procedures are required.

Ingestion

Not expected to be acutely toxic by ingestion.

If a large volume of this material is swallowed, give a large amount of water to drink, make person vomit, and call a doctor.

SPECIAL PROTECTIVE INFORMATION

Eye Protection: No special eye protection is necessary.

Skin Protection: No special skin protection is necessary.

Respiratory Protection: No special respiratory protection is necessary.

Ventilation: No special ventilation is normally necessary.

FIRE PROTECTION

Flash Point: NDA
Autoignition Temp.: NDA
Flammability Limits: n/a

Extinguishing Media: CO₂, Dry Chemical, Foam, Water Spray

Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire bulletin.

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems.

Precautions if Material is Released or Spilled: Clean up spills as soon as possible.

Waste Disposal Methods: Shovel spilled material into disposable containers and bury in an approved dumping area.

REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable.

Incompatibility (Materials to Avoid): May react with strong oxidizing materials.

Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of nitrogen; incomplete combustion can produce carbon monoxide.

Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES

Solubility: Soluble in hydrocarbons; insoluble in water.

Appearance (Color, Odor, etc.): Blue-green grease.

Boiling Point: n/a
Dropping Point: 218°C (Min.)
Specific Gravity: 0.92
Vapor Pressure: < 1 mm Hg @ 40°C
Vapor Density (Air = 1): n/a
Percent Volatile (Volume %): NDA
Evaporation (= 1): n/a
Viscosity: 116 cSt at 40°C

n/a = Not Applicable
 NDA = No Data Available

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

Bell Laboratory, Inc.

 Blending Quality Fuel Additives since 1909

1340 BENNETT DRIVE • LONGWOOD FLORIDA 32750
• PHONE 305-831 5021 • TELEX 525667

February 28, 1986

Gary E. Roys
Process Chemist and Group Leader
Menasha Corporation
Otsego Paperboard Mill
Farmer Street
Otsego, Michigan 49078

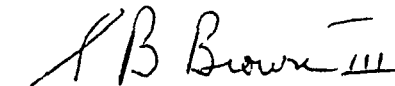
Dear Mr. Roys:

As per your letter of February 21, 1986, we are enclosing the Material Safety Data Sheet on Bell's MBL Metal Based Grease.

If we can be of further assistance to you, please let us know.

Very truly yours,

BELL LABORATORY, INC.



S. B. Brown, III
Director of Marketing

SBB/ph
Enclosure

M.B. GREASE 6/84

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

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

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

SECTION I

MANUFACTURER'S NAME BELL LABORATORY, INC.		EMERGENCY TELEPHONE NO. (305) 831-5021
ADDRESS (Number, Street, City, State, and ZIP Code) 1340 Bennett Drive, Longwood, Florida 32750		
CHEMICAL NAME AND SYNONYMS PETROLEUM GREASE	TRADE NAME AND SYNONYMS METAL BASED GREASE LUBRICANT	
CHEMICAL FAMILY PETROLEUM GREASE	FORMULA N.A.	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS PETROLEUM HYDROCARBON	70		FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES COPPER AND LEAD	30	0.2mg/m ³	OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
* TLV for airborne lead particles					

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	> 700°F	SPECIFIC GRAVITY (H ₂ O=1)	1.36
VAPOR PRESSURE (mm Hg.)	N.A.	PERCENT VOLATILE BY VOLUME (%)	N.A.
VAPOR DENSITY (AIR=1)	N.A.	EVAPORATION RATE (_____ =1)	N.A.
SOLUBILITY IN WATER	Insoluble		
APPEARANCE AND ODOR	Bronze to brown		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	> 400°F Open Cup	FLAMMABLE LIMITS		
		UNKNOWN		
EXTINGUISHING MEDIA	Regular foam, dry chemical, carbon dioxide.			
SPECIAL FIRE FIGHTING PROCEDURES	Water may cause frothing which can be violent and possibly endanger the life of firefighters.			
UNUSUAL FIRE AND EXPLOSION HAZARDS	NONE			

M. B. GREASE 6/84

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE 0.2mg/m³ as airborne particles.

EFFECTS OF OVEREXPOSURE Abdominal pain, headache, dizziness and muscle weakness

EMERGENCY AND FIRST AID PROCEDURES Wash contaminated skin surface with soap and water.

If ingestion occurs, contact doctor immediately for treatment of lead and petroleum ingestion.

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATIBILITY (Materials to avoid) Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID Avoid contact with strong oxidizing agents.
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

SMALL SPILL - Wipe up with disposable paper towel

LARGE SPILL - Shovel material into containers.

WASTE DISPOSAL METHOD Deposit in a landfill in accordance with local, state and federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Not required under normal conditions of use.

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES Wear resistant gloves

EYE PROTECTION Safety glasses per OSHA regulations.

OTHER PROTECTIVE EQUIPMENT Work clothing covering arms and legs.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Containers of this material may be hazardous when emptied and should be disposed of immediately and kept away from open flames.

OTHER PRECAUTIONS

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILUBE HD 85W-140

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: AUTOMOTIVE GEAR LUBRICANT

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 7.0 LIQUID ODOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 1980.0 AT 40 C, CS: 370.0
VISCOSITY AT 210 F, SUS: 137.0 AT 100 C, CS: 26.5
FLASH POINT F(C): >400(204) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): 0(-18)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.901 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

WT PCT	EXPOSURE LIMITS	SOURCES
(APPROX)	MG/M3	PPM (AND NOTES)

HAZARDOUS INGREDIENTS:
NONE

OTHER INGREDIENTS:
REFINED MINERAL OILS >99
ADDITIVES AND/OR OTHER INGREDIENTS <10

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****
FLASH POINT F(C): > 400(204) (ASTM D-92)
FLAMMABLE LIMITS. LFL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****
STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED
INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****
EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE
EMPLOYED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---
ORAL TOXICITY (RATS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF
SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****
TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
EINECS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME CAS NUMBER LIST CITATIONS
*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

- 1 = OSHA, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CAPC, 7 = NFPA 49, 8 = NFPA 325M, 9 = OCT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = NJ SHH,
- 16 = FL RTK, 17 = PA RTK.

FOR MOBIL USE ONLY: (FILL NO: RP543680201) MHC: 1* 1* NA 1* 1* PPEC:
US83-223 APPROVE REVISED: 03/27/85

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWAY ROAD, FAIRFAX, VA 22037 (703) 849-3265

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBIL ATF 220

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: AUTOMATIC TRANSMISSION FLUID

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: RED LIQUID ODOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 141.3 AT 40 C, CS: 35.6
VISCOSITY AT 210 F, SUS: 49.4 AT 100 C, CS: 6.9
FLASH POINT F(C): >320(160) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): -40(-40)
BOILING POINT F(C): > 500(314)
RELATIVE DENSITY, 15/4 C: 1.07 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG @ 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT (APPROX)	EXPOSURE LIMITS MG/M3 PPM	SOURCES (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			
OTHER INGREDIENTS:			
REFINED MINERAL OILS	>90		
ADDITIVES AND/OR OTHER INGREDIENTS	<10		

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, D=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****
FLASH POINT F(C): > 200(100) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****
STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-3802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED
INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****
EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---
ORAL TOXICITY (RATS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF
SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

***** REGULATORY INFORMATION *****
TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
EINCS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
THE FOLLOWING PRODUCT INGREDIENTS ARE LISTED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
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*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

1 = OSHA,	2 = ACGIH,	3 = IARC,	4 = NTP,	5 = NCI,
6 = EPA CARC,	7 = NFPA 49,	8 = NFPA 325M,	9 = DOT HMT,	10 = CA RTK,
11 = IL RTK,	12 = MA RTK,	13 = MN RTK,	14 = NJ RTK,	15 = NJ SHH,
16 = FL RTK,	17 = PA RTK,			

FOR MOBIL USE ONLY: (FILL NO: RL92JAR20010) MHC: 1* 1* NA 0* 1* PPEC:
US83-C39 APPROVE REVISED: 04/16/85 MS08 TEXT CHANGE

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****

MOBIL DELVAC SUPER

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
 CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
 USE OR DESCRIPTION: ENGINE OIL

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 5.5 LIQUID ODOR: MILD PH: NA
 VISCOSITY AT 100 F, SUS: 513.0 AT 40 C, CS: 98.0
 VISCOSITY AT 210 F, SUS: 75.0 AT 100 C, CS: 14.0
 FLASH POINT F(C): >390(199) (ASTM D-92)
 MELTING POINT F(C): NA POUR POINT F(C): -20(-29)
 BOILING POINT F(C): > 600(316)
 RELATIVE DENSITY, 15/4 C: 0.885 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

WT PCT	EXPOSURE LIMITS	SOURCES
(APPROX)	MG/M3	PPM (AND NOTES)

HAZARDOUS INGREDIENTS:
 NONE

OTHER INGREDIENTS:
 REFINED MINERAL OILS >70
 ADDITIVES AND/OR OTHER INGREDIENTS. <30

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
 SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
 INHALATION: NOT EXPECTED TO BE A PROBLEM.
 INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 390(199) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED,
CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY-SUPERVISED
INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING
BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY
GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS
IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS
AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE
EMPLOYED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---

ORAL TOXICITY (RATS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.
EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.
US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.
RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 2610); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZINC (ELEMENTAL ANALYSIS) (J.11 PCT)	7440-66-6	15

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLEWS ROAD, FAIRFAX, VA 22037 (703) 849-3205

Mobil

MOBIL DELVAC SUPER

440305

MEN02817
PAGE 4 OF 4

***** APPENDIX *****
FOR MOBIL USE ONLY: (FILL NO: MTN658890001) MHC: 1* 1* NA 1* 1* PPEC:
US85-304 APPROVE REVISED: 10/16/85

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILTAC E

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
 CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
 USE OR DESCRIPTION: OPEN GEAR LUBRICANTS

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: BLACK VISCOUS LIQUID ODOR: MILD PH: NA
 VISCOSITY AT 100 F, SUS: 40000.0 AT 40 C, CS: 7100.0
 VISCOSITY AT 210 F, SUS: NA AT 100 C, CS: NA
 FLASH POINT F(C): NA
 MELTING POINT F(C): NA POUR POINT F(C): NE
 BOILING POINT F(C): > 133(87)
 RELATIVE DENSITY, 15/4 C: 0.8 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: < 100.0
 NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT (APPROX)	EXPOSURE LIMITS MG/M3	PPM	SOURCES (AND NOTES)
HAZARDOUS INGREDIENTS:				
TRICHLOROETHYLENE (*) (79-01-6)	15	270	50 100	A O-Z-2
HEAVY PARAFFINIC DISTILLATE SOLVENT EXTRACT (54742-04-7)	15			
OTHER INGREDIENTS:				
ADDITIVES AND/OR OTHER INGREDIENTS.	< 5			
PETROLEUM ASPHALTS	>65			

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: RESPIRATORY IRRITATION, DIZZINESS, NAUSEA,
 LOSS OF CONSCIOUSNESS. SLIGHT EYE IRRITATION. SLIGHT SKIN
 IRRITATION. PROLONGED, REPEATED SKIN CONTACT MAY RESULT IN SKIN
 IRRITATION OR MORE SERIOUS SKIN DISORDERS. *****NOTE: THIS PRODUCT
 CONTAINS AROMATIC OILS. UNDER CONDITIONS OF POOR PERSONAL HYGIENE
 AND PROLONGED, REPEATED CONTACTS, SOME AROMATIC OILS HAVE BEEN
 SUSPECTED AS A CAUSE OF SKIN CANCER IN HUMANS.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER OR WATERLESS SKIN CLEANER. DO NOT WEAR ORDINARY CLOTHING WET WITH THIS PRODUCT. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

INHALATION: REMOVE FROM FURTHER EXPOSURE. IF UNCONSCIOUSNESS OCCURS, SEEK IMMEDIATE MEDICAL ASSISTANCE AND CALL A PHYSICIAN. IF BREATHING HAS STOPPED, USE MOUTH TO MOUTH RESUSCITATION.

INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): NA

FLAMMABLE LIMITS. LEL: NA UEL: NA

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE

CONDITIONS TO AVOID: HIGH ENERGY IGNITION SOURCES.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE. HCL. CHLORIDES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-9800. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE EMPLOYED.

SKIN PROTECTION: IF CONTACT IS LIKELY, OIL IMPERVIOUS CLOTHING SHOULD BE WORN.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION. APPROVED RESPIRATORY PROTECTIVE EQUIPMENT MUST BE USED WHEN VAPOR OR MIST CONCENTRATIONS EXCEED APPLICABLE STANDARDS.

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION. ADEQUATE VENTILATION SHOULD BE PROVIDED SO THAT REGULATORY STANDARDS ARE NOT EXCEEDED.

***** X. SPECIAL PRECAUTIONS *****

HANDLING: AVOID PROLONGED REPEATED SKIN CONTACT AND BREATHING MISTS/VAPORS.

STORAGE: SEE APPENDIX FOR PRECAUTIONARY LABEL. FL-380

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): LD50: > 5 G/KG SLIGHTLY TOXIC (ESTIMATED) ---
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG SLIGHTLY TOXIC (ESTIMATED) ---
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

---OTHER DATA---

THE ASTERISKED (*) CHEMICAL ON PAGE 1 HAS BEEN FOUND TO BE CARCINOGENIC
IN ANIMAL TESTS BASED ON BIOASSAY STUDIES CONDUCTED BY THE NATIONAL
TOXICOLOGY PROGRAM (NTP).

***** XII. REGULATORY INFORMATION *****
 TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.
 D.O.T. SHIPPING NAME: NOT APPLICABLE
 D.O.T. HAZARD CLASS: NOT APPLICABLE
 US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED TO BE HAZARDOUS.
 RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 2610); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ETHENE, TRICHLORO- (14 PCT)	79-01-6	1,2,3,7,8,9,10,11,12,13,14,15,16,17
HEAVY PARAFFINIC DISTILLATE SOLVENT EXTRACT	64742-04-7	3

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK.

 INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

 PREPARED BY: MOBIL OIL CORPORATION
 ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
 FOR FURTHER INFORMATION, CONTACT:
 MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
 3225 GALLOWES ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****
FOR MOBIL USE ONLY: (FILL NO: MTL259) MHC: 1* 1* 1* 1* 1* PPEC: US85-
161 APPROVE REVISED: 08/22/85

PRECAUTIONARY LABEL TEXT FOR PACKAGED PRODUCTS:

CONTAINS CHLORINATED HYDROCARBONS
AND AROMATIC-PETROLEUM OIL

WARNING

VAPOR HARMFUL.
MAY CAUSE IRRITATION OR MORE SERIOUS SKIN
DISORDERS ON PROLONGED, REPEATED SKIN CONTACT.

PROLONGED SKIN CONTACT HAS CAUSED SKIN CANCER
IN LABORATORY ANIMALS.

AVOID PROLONGED BREATHING OF VAPOR OR MIST.
KEEP CONTAINER CLOSED.
USE WITH ADEQUATE VENTILATION.
AVOID CONTACT WITH SKIN AND CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
WHEN CONTACT IS LIKELY, WEAR OIL IMPERVIOUS CLOTHING AND GLOVES.
ORDINARY CLOTHING WET WITH THIS PRODUCT MUST BE REMOVED.
LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.
DISCARD SHOES IF MATERIAL HAS PENETRATED TO INSIDE SURFACE.

FIRST AID: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING
GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH AND CALL
A PHYSICIAN.

IN CASE OF SKIN CONTACT, THOROUGHLY WASH AREA WITH SOAP
AND WATER.

FOR INDUSTRIAL USE ONLY.

NOT INTENDED OR SUITABLE FOR USE IN OR AROUND A
HOUSEHOLD OR DWELLING.

ATTENTION

EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUE, INCLUDING
FLAMMABLE OR EXPLOSIVE VAPORS. DO NOT CUT, PUNCTURE OR WELD ON
OR NEAR CONTAINER. ALL LABEL WARNINGS AND PRECAUTIONS MUST BE
OBSERVED UNTIL CONTAINER HAS BEEN THOROUGHLY CLEANED OR
DESTROYED.

REFER TO 'PRODUCT MATERIAL SAFETY DATA BULLETIN'
FOR FURTHER SAFETY AND HEALTH INFORMATION.

MOBIL OIL CORPORATION, NEW YORK, N.Y. 10017

FL-380(5-84)

D.O.T. SHIPPING NAME: NOT APPLICABLE
D.O.T. HAZARD CLASS: NOT APPLICABLE

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
 MOBILTAC E

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
 CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
 USE OR DESCRIPTION: OPEN GEAR LUBRICANTS

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: BLACK VISCOUS LIQUID DOOR: MILD PH: NA
 VISCOSITY AT 100 F, SUS: 40000.0 AT 40 C, CS: 7100.0
 VISCOSITY AT 210 F, SUS: NE AT 100 C, CS: NE
 FLASH POINT F(C): NA
 MELTING POINT F(C): NA POUR POINT F(C): NE
 BOILING POINT F(C): > 188(87)
 RELATIVE DENSITY, 15/4 C: 0.8 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: < 100.0

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT (APPROX)	EXPOSURE LIMITS MG/M3	PPM	SOURCES (AND NOTES)
HAZARDOUS INGREDIENTS:				
LEAD SOAPS	5	0.1		A-(AS PB)
TRICHLORJETHYLENE (*) (79-01-5)	15	270	50 100	A D-Z-2
HEAVY PARAFFINIC DISTILLATE	15			
SOLVENT EXTRACT (64742-04-7)				

OTHER INGREDIENTS:
 ADDITIVES AND/OR OTHER INGREDIENTS. < 5
 PETROLEUM ASPHALTS > 5

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

THRESHOLD LIMIT VALUE: 5.00 MG/M3 SUGGESTED FOR OIL MIST
 EFFECTS OF OVEREXPOSURE: RESPIRATORY IRRITATION, DIZZINESS, NAUSEA,
 LOSS OF CONSCIOUSNESS. SLIGHT EYE IRRITATION. MODERATE SKIN
 IRRITATION. PROLONGED, REPEATED SKIN CONTACT MAY RESULT IN SKIN
 IRRITATION OR MORE SERIOUS SKIN DISORDERS. ***NOTE: THIS PRODUCT
 CONTAINS AROMATIC OILS. UNDER CONDITIONS OF POOR PERSONAL HYGIENE
 AND PROLONGED, REPEATED CONTACTS, SOME AROMATIC OILS HAVE BEEN
 SUSPECTED AS A CAUSE OF SKIN CANCER IN HUMANS.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER OR WATERLESS SKIN CLEANER. DO NOT WEAR ORDINARY CLOTHING WET WITH THIS PRODUCT. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

INHALATION: REMOVE FROM FURTHER EXPOSURE. IF UNCONSCIOUSNESS OCCURS, SEEK IMMEDIATE MEDICAL ASSISTANCE AND CALL A PHYSICIAN. IF BREATHING HAS STOPPED, USE MOUTH TO MOUTH RESUSCITATION.

INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): NA

FLAMMABLE LIMITS. LEL: NE UEL: NE

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE

CONDITIONS TO AVOID: HIGH ENERGY IGNITION SOURCES.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-3802. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE EMPLOYED.

SKIN PROTECTION: IF PROLONGED OR REPEATED SKIN CONTACT IS LIKELY, OIL IMPERVIOUS GLOVES SHOULD BE WORN. GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION: APPROVED RESPIRATORY PROTECTIVE EQUIPMENT MUST BE USED WHEN VAPOR OR MIST CONCENTRATIONS EXCEED APPLICABLE STANDARDS.

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION. USE IN WELL VENTILATED AREA.

***** X. SPECIAL PRECAUTIONS *****

HANDLING: AVOID CONTACT WITH SKIN. AVOID INHALATION OF VAPORS OR MISTS. AVOID PROLONGED REPEATED SKIN CONTACT AND BREATHING MISTS/VAPORS. WASH THOROUGHLY BEFORE EATING OR SMOKING. KEEP AWAY FROM FEED OR FOOD PRODUCTS. DO NOT USE ON FOOD PROCESSING MACHINERY.

STORAGE: SEE APPENDIX FOR PRECAUTIONARY LABEL. FL-187

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): LD50: > 5 G/KG SLIGHTLY TOXIC(ESTIMATED) --- BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG SLIGHTLY TOXIC(ESTIMATED) --- BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): MODERATELY TOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): MAY CAUSE MODERATE IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

---CHRONIC OR SPECIALIZED (SUMMARY)---

***THIS PRODUCT CONTAINS LEAD COMPOUND(S). LEAD CAN BE A CUMULATIVE POISON.

---OTHER DATA---

THE ASTERISKED (*) CHEMICAL ON PAGE 1 HAS BEEN FOUND TO BE CARCINOGENIC IN ANIMAL TESTS BASED ON BIDASSAY STUDIES CONDUCTED BY THE NATIONAL TOXICOLOGY PROGRAM (NTP).

***** XII. REGULATORY INFORMATION *****
TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.
D.O.T. SHIPPING NAME: NOT APPLICABLE
D.O.T. HAZARD CLASS: NOT APPLICABLE
US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE
WITH OSHA CFR 1910.1200 AND DETERMINED TO BE HAZARDOUS.
RCRA INFORMATION: THE DISPOSAL OF THE UNUSED PRODUCT MAY BE SUBJECT
TO RCRA REGULATIONS PER 40 CFR PART 261 FOR THE REASONS INCLUDING,
BUT NOT LIMITED TO THOSE LISTED BELOW. DISPOSAL OF THE USED
PRODUCT MAY BE REGULATED.
LEAD: 1.314 PCT

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ETHENE, TRICHLORO- (14 PCT)	79-01-6	1,2,3,7,8,9,10,11, 12,13,14,15,16,17
HEAVY PARAFFINIC DISTILLATE SOLVENT EXTRACT	64742-04-7	3
LEAD (ELEMENTAL ANALYSIS) (1.3 PCT)	7439-92-1	15

--- KEY TO LIST CITATIONS ---

1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
16 = FL RTK, 17 = PA RTK.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT
WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR
PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT
ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL
WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE
USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A
RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING
LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING
PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWAY ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****
FOR MOBIL USE ONLY: (FILL NO: MTL243001) MHC: 1* 1* 2* 1* 2* PPEC:
US83-291 APPROVE REVISED: 09/24/85

PRECAUTIONARY LABEL TEXT FOR PACKAGED PRODUCTS:

LUBRICANT

CONTAINS CHLORINATED HYDROCARBONS,
LEAD SOAP AND AROMATIC PETROLEUM OIL.

WARNING

VAPOR HARMFUL.

MAY CAUSE IRRITATION OR MORE SERIOUS SKIN
DISORDERS ON PROLONGED, REPEATED SKIN CONTACT.
PROLONGED SKIN CONTACT HAS CAUSED SKIN CANCER
IN LABORATORY ANIMALS.

AVOID PROLONGED BREATHING OF VAPOR OR MIST.

KEEP CONTAINER CLOSED.

USE ONLY WITH ADEQUATE VENTILATION.

AVOID CONTACT WITH SKIN OR CLOTHING.

WASH THOROUGHLY AFTER HANDLING AND BEFORE EATING OR SMOKING.

WHEN CONTACT IS LIKELY, WEAR OIL IMPERVIOUS CLOTHING AND GLOVES.

ORDINARY CLOTHING WET WITH THIS PRODUCT MUST BE REMOVED.

LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

DISCARD SHOES IF MATERIAL HAS PENETRATED TO INSIDE SURFACE.

DO NOT USE ON FOOD PROCESSING, HANDLING OR PACKAGING MACHINERY.

KEEP AWAY FROM FOOD PRODUCTS, ANIMALS AND ANIMAL FEED.

FIRST AID: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING
GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH AND
CALL A PHYSICIAN.

IN CASE OF SKIN CONTACT, THOROUGHLY WASH AREA WITH SOAP AND WATER.

FOR INDUSTRIAL USE ONLY.

NOT INTENDED OR SUITABLE FOR USE IN OR AROUND A HOUSEHOLD
OR DWELLING.

ATTENTION

EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUE, INCLUDING
FLAMMABLE OR EXPLOSIVE VAPORS. DO NOT CUT, PUNCTURE OR WELD ON
OR NEAR CONTAINER. ALL LABEL WARNING AND PRECAUTIONS MUST BE
OBSERVED UNTIL CONTAINER HAS BEEN THOROUGHLY CLEANED OR
DESTROYED.

REFER TO PRODUCT MATERIAL SAFETY DATA BULLETIN
FOR FURTHER SAFETY AND HEALTH INFORMATION

MOBIL OIL CORPORATION, NEW YORK, N.Y. FL-137(05-84)

D.O.T. SHIPPING NAME: NOT APPLICABLE
D.O.T. HAZARD CLASS: NOT APPLICABLE

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILMET S 127

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: SOLUBLE OIL METAL WORKING FLUID

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 3.5 LIQUID ODOR: MILD PH: NE
VISCOSITY AT 100 F, SUS: 225.0 AT 40 C, CS: 36.7
VISCOSITY AT 210 F, SUS: NF AT 100 C, CS: NE
FLASH POINT F(C): 350(177) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): 15(-9)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.937 SOLUBILITY IN WATER: EMULSIFIES
VAPOR PRESSURE-MM HG 20C: < .1
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3	PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
DIETHYLENE GLYCOL (111-46-6)	1		
OTHER INGREDIENTS:			
SULFURIZED AND COMPOUNDED OILS	<20		
REFINED MINERAL OILS	>30		

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

THRESHOLD LIMIT VALUE: 5.00 MG/M3 SUGGESTED FOR OIL MIST
EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: REMOVE FROM FURTHER EXPOSURE. IF UNCONSCIOUSNESS OCCURS, SEEK IMMEDIATE MEDICAL ASSISTANCE AND CALL A PHYSICIAN. IF BREATHING HAS STOPPED, USE MOUTH TO MOUTH RESUSCITATION.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): 350(177) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: J

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8002.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE EMPLOYED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

STORAGE: SEE APPENDIX FOR PRECAUTIONARY LABEL. FL-388

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---

ORAL TOXICITY (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION, ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.
D.O.T. SHIPPING NAME: NOT APPLICABLE
D.O.T. HAZARD CLASS: NOT APPLICABLE
US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND MAY BE CONSIDERED HAZARDOUS WHEN USED IN CERTAIN APPLICATIONS WHERE MISTING CAN OCCUR.
RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME (OIL MIST)	CAS NUMBER	LIST CITATIONS
		2,10,11

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWAY ROAD, FAIRFAX, VA 22037 (703) 349-3265

***** APPENDIX *****
 FOR MOBIL USE ONLY: (FILL NO: MTJ335001) MHC: 1* 1* 1* 1* 1* PPEC:
 US82-249 APPROVE REVISED: 08/23/83

 PRECAUTIONARY LABEL TEXT FOR PACKAGED PRODUCTS:

CAUTION

WHEN USE CONDITIONS ARE LIKELY TO RESULT IN
 EXCESSIVE MISTING (GREATER THEN 5 MG/M3),
 PROVIDE ADEQUATE LOCAL VENTILATION OR
 RESPIRATORY PROTECTION.

ATTENTION

EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUE, INCLUDING
 FLAMMABLE OR EXPLOSIVE VAPORS. DO NOT CUT, PUNCTURE OR
 WELD ON OR NEAR CONTAINER. ALL LABEL WARNINGS AND
 PRECAUTIONS MUST BE OBSERVED UNTIL THE CONTAINER HAS
 BEEN THOROUGHLY CLEANED OR DESTROYED.

REFER TO PRODUCT MATERIAL SAFETY DATA BULLETIN
 FOR FURTHER SAFETY AND HEALTH INFORMATION.

MOBIL OIL CORPORATION, NEW YORK, N.Y. 10017-5666 FL-388(3/85)

 D.O.T. SHIPPING NAME: NOT APPLICABLE
 D.O.T. HAZARD CLASS: NOT APPLICABLE

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
 MOBILUX EP 023

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
 CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
 USE OR DESCRIPTION: INDUSTRIAL GREASE

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: BROWN GREASE OOR: MILD PH: NA
 VISCOSITY AT 100 F, SUS: 1577.0 AT 40 C, CS: 340.0
 VISCOSITY AT 210 F, SUS: 120.0 AT 100 C, CS: 24.2
 FLASH POINT F(C): >400(204) (ESTIMATED (OIL CDC))
 MELTING POINT F(C): NA POUR POINT F(C): NE
 BOILING POINT F(C): > 500(316)
 RELATIVE DENSITY, 15/4 C: 0.91 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: < .1
 NOTE: MOST PHYSICAL PROPERTIES FOR OIL COMPONENT.
 NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT (APPROX)	EXPOSURE LIMITS MG/M3	SOURCES (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			

OTHER INGREDIENTS:
 REFINED MINERAL OILS >90
 ADDITIVES AND/OR OTHER INGREDIENTS. <10
 LITHIUM-SOAP THICKENER < 5

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
 SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
 INHALATION: NOT EXPECTED TO BE A PROBLEM.
 INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****
FLASH POINT F(C): > 400(204) (ESTIMATED (OIL COC))
FLAMMABLE LIMITS. LEL: NE UEL: NE
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****
STABILITY (THERMAL, LIGHT, ETC.): UNSTABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE. METAL OXIDES.
HYDROGEN SULFIDE. NITROGEN OXIDES.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: SCRAPE UP AND REMOVE.
DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE
WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED,
CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED
INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING
BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY
GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS
IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS
AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****
EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE
EMPLOYED.
SKIN PROTECTION: IF PROLONGED OR REPEATED SKIN CONTACT IS LIKELY, OIL
IMPERVIOUS GLOVES SHOULD BE WORN. GOOD PERSONAL HYGIENE PRACTICES
SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
 DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
 INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.
 EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
 SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.
 D.O.T. SHIPPING NAME: NOT APPLICABLE
 D.O.T. HAZARD CLASS: NOT APPLICABLE
 US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.
 RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 2610); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZEINS	9010-69-9	9
ZINC (ELEMENTAL ANALYSIS) (0.14 PCT)	7440-66-6	15

--- KEY TO LIST CITATIONS ---

- 1 = OSHA 2, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: RR175C000*B1) MHC: 1* 1* NA 1* 1* PPEC:
US84-382 APPROVE REVISED: 12/26/84

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBIL 600 W CYLINDER OIL

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
 CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
 USE OR DESCRIPTION: CYLINDER OIL

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 8.0 LIQUID ODDOR: MILD PH: NA
 VISCOSITY AT 100 F, SUS: 2000.0 AT 40 C, CS: 375.0
 VISCOSITY AT 210 F, SUS: 140.0 AT 100 C, CS: 29.0
 FLASH POINT F(C): 540(282) (ASTM D-92)
 MELTING POINT F(C): NA POUR POINT F(C): 40(4)
 BOILING POINT F(C): > 600(316)
 RELATIVE DENSITY, 15/4 C: 0.901 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: < .1
 NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3 PPM	(AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			
OTHER INGREDIENTS:			
REFINED MINERAL OILS	>95		
ADDITIVES AND/OR OTHER INGREDIENTS.	< 5		

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
 SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
 INHALATION: NOT EXPECTED TO BE A PROBLEM.
 INGESTION: NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF UNCOMFORTABLE, SEEK MEDICAL ASSISTANCE.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): 540(282) (ASTM D-92)
 FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
 EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
 SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.
 UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
 NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE

CONDITIONS TO AVOID: EXTREME HEAT

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 300-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.

SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): NONTOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): NONTOXIC(ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.

D.O.T. SHIPPING NAME: NOT APPLICABLE

D.O.T. HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
OILS, LARD	8016-28-2	7,8,17

--- KEY TO LIST CITATIONS ---

1 = OSHA Z,	2 = ACGIH,	3 = IARC,	4 = NTP,	5 = NCI,
6 = EPA CARC,	7 = NFPA 49,	8 = NFPA 325M,	9 = DOT HMT,	10 = CA RTK,
11 = IL RTK,	12 = MA RTK,	13 = MN RTK,	14 = NJ RTK,	15 = MI 293,
16 = FL RTK,	17 = PA RTK,			

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
 ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
 FOR FURTHER INFORMATION, CONTACT:
 MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
 3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: TS9019A032) MHC: 0* 0* NA 0* 0* PPEC:
 US83-224 APPROVE REVISED: 02/15/84

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILUBE HD 85W-140

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 983-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: AUTOMOTIVE GEAR LUBRICANT

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 7.0 LIQUID DODR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 1980.0 AT 40 C, CS: 370.0
VISCOSITY AT 210 F, SUS: 130.0 AT 100 C, CS: 26.5
FLASH POINT F(C): >400(204) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): 0(-18)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.901 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

WT PCT	EXPOSURE LIMITS	SOURCES
(APPROX)	MG/M3	PPM (AND NOTES)

HAZARDOUS INGREDIENTS:
NONE

OTHER INGREDIENTS:
REFINED MINERAL OILS >90
ADDITIVES AND/OR OTHER INGREDIENTS <10

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 400(204) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED,
CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED
INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING
BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY
GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS
IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS
AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE
EMPLOYED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.

D.O.T. SHIPPING NAME: NOT APPLICABLE

D.O.T. HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 2610); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
*** NO INGREDIENT CITATIONS ***		
--- KEY TO LIST CITATIONS ---		
1 = OSHA Z,	2 = ACGIH,	3 = IARC,
4 = NTP,	5 = NCI,	6 = EPA CARC,
7 = NFPA 49,	8 = NFPA 325M,	9 = DOT HMT,
10 = CA RTK,	11 = IL RTK,	12 = MA RTK,
13 = MN RTK,	14 = NJ RTK,	15 = MI 293,
16 = FL RTK,	17 = PA RTK,	

***** INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

Mobil

MOBILUBE HD 85W-140

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PA

MEN02843

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: RP543880201) MHC: 1* 1* NA 1* 1* PPEC:
US83-223 APPROVE REVISED: 03/27/85

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

COMPLIES WITH OSHA 29 CFR 1910.1200

HAZARD COMMUNICATION STANDARD

PREMIER INDUSTRIAL CORPORATION
4500 EUCLID AVENUE
CLEVELAND, OHIO 44103

EMERGENCY TELEPHONE:

(216) 391-8300

FORMULA: 5498

INFORMATION TELEPHONE:

DATE EFFECTIVE: 11/07/85

(216) 391-8300

MAIL TO:

***** SECTION I - PRODUCT IDENTIFICATION *****

PART NUMBER: 35287

PRODUCT NAME: ROTANIUM BLUE GREASE 1 LB JAR
TRADE NAME/SYNONYMS: BLUE GREASE
CHEMICAL FAMILY: LUBRICANT

***** SECTION II - HAZARDOUS INGREDIENTS *****

INGREDIENT	CAS #	WT %	TLV	UNITS
ANTIMONY DIALKYLDITHIOCARBAMATE	15890-25-2	<2	0.5MG	/M3
PETROLEUM OIL	64742-57-0	>86	5MG	/M3

***** SECTION III - PHYSICAL DATA *****

BOILING POINT DEG F: N/A	SPECIFIC GRAVITY:(H2O=1) 0.890
VAPOR PRESSURE(MM HG):N/A	%VOLATILE VOLUME:0
VAPOR DENSITY(AIR 1):N/A	EVAPORATION RATE:N/A
SOLUBILITY IN WATER: INSOLUBLE	OTHER:DROP POINT: 290 F
APPEARANCE AND ODOR: BLUE PASTE; ODOR-PETROLEUM LUBRICANT	

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

FLASH POINT: N/A LEL: N/A UEL: N/A

EXTINGUISHING MEDIA: CO2, DRY CHEMICAL, FOAM, OR OTHER SUIT. FOR CLASS B FIRES

SPECIAL FIRE FIGHTING PROCEDURES:
TREAT AS PETROLEUM FIRE, AVOID SMOKE INHALATION, USE SELF-CONTAINED BREATHING EQUIPMENT WITH POSITIVE PRESSURE.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
WILL NOT FLASH SPONTANEOUSLY. MAY IGNITE IF EXPOSED TO OPEN FLAME.

35287 PRODUCT NAME ROTANIUM BLUE GREASE 1 LB JAR PAGE 2 OF 2

***** SECTION V - HEALTH HAZARD DATA *****

THRESHOLD LIMIT VALUE 0.5MG/M3

EFFECTS OF OVEREXPOSURE

NONE EXPECTED UNLESS PERSON IS HYPERSENSITIVE TO PETROLEUM LUBRICANTS. THOSE PERSONS SHOULD USE PROTECTIVE GLOVES AND APRON TO AVOID CONTACT. CAUSES EYE IRRITATION. MAY CAUSE SKIN AND LIVER DAMAGE WITH CHRONIC EXPOSURE, PROLONGED CONTACT, OR INJECTION FROM HIGH PRESSURE GUN.

EMERGENCY AND FIRST AID PROCEDURES

SKIN WASH WITH SOAP AND WATER.

EYES FLUSH WITH WATER FOR 15 MINUTES AND CONTACT PHYSICIAN.

INHALATION REMOVE TO FRESH AIR AND CONTACT PHYSICIAN.

INGESTION DO NOT INDUCE VOMITING. CONTACT PHYSICIAN.

***** SECTION VI - REACTIVITY DATA *****

STABLE YES CONDITIONS TO AVOID

N/A

INCOMPATIBILITY (MATERIALS TO AVOID) AVOID STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS CARBON, CO2, CO.

HAZARDOUS POLYMERIZATION NO CONDITIONS TO AVOID

N/A

***** SECTION VII - SPILL OR LEAK PROCEDURES *****

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

SCOOP UP MATERIAL AND PLACE IN A METAL CONTAINER. CLEAN ANY RESIDUE

WITH INERT OIL ABSORBENT MATERIAL AND DISCARD.

IF DISPOSAL METHOD

LAND FILL APPROVED FOR PETROLEUM PRODUCTS, APPROVED INCINERATION.

FOLLOW FEDERAL, STATE, AND LOCAL REGULATIONS.

***** SECTION VIII - SAFE HANDLING AND PROTECTION INFORMATION *****

RESPIRATORY PROTECTION NONE

VENTILATION-LOCAL NONE REQUIRED

SPECIAL N/A

MECHANICAL RECOMMENDED

OTHER N/A

PROTECTIVE GLOVES OIL RESISTANT REQUIRED EYE PROTECTION GOGGLES OR SHIELD

OTHER PROTECTIVE EQUIPMENT

N/A

***** SECTION IX - SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

STORE CLEAN AND DRY BELOW 170 F TO PRESERVE FOR INTENDED USE.

DO NOT STORE WITH STRONG OXIDIZERS.

OTHER PRECAUTIONS

FOLLOW GOOD PERSONAL HYGIENE AND SAFE INDUSTRIAL PRACTICES.

AVOID PROLONGED AND EFFUSED CONTACT WITH SKIN.

THE INFORMATION AND RECOMMENDATIONS PROVIDED HEREIN ARE BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF. HOWEVER, SUCH INFORMATION AND RECOMMENDATIONS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND AND PREMIER INDUSTRIAL CORPORATION DISCLAIMS ANY AND ALL LIABILITY OR LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON SAME.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
 SPRAY CAN FILLING E

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
 CHEMICAL NAMES AND SYNONYMS: PETROLEUM HYDROCARBONS TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
 USE OR DESCRIPTION: SPRAY LUBRICANT

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: BLACK LIQUID DOOR: MILD PH: NA
 VISCOSITY AT 100 F, SUS: NE AT 40 C, CS: NE
 VISCOSITY AT 210 F, SUS: 35000.0 AT 100 C, CS: 7500.0
 FLASH POINT F(C): >400(204) (ESTIMATED (OIL CDC))
 MELTING POINT F(C): NA POUR POINT F(C): NA
 BOILING POINT F(C): NE
 RELATIVE DENSITY, 15/4 C: 1.137 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: N
 NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT (APPROX)	EXPOSURE LIMITS MG/M3	PPM	SOURCES (AND NOTES)
HAZARDOUS INGREDIENTS:				
LEAD SOAPS	5	0.1		A-(AS P8)
TRICHLORJETHYLENE (*) (79-01-5)	30	270	50 100	A O-Z-2
HEAVY PARAFFINIC DISTILLATE	15			
SOLVENT EXTRACT (64742-04-7)				
OTHER INGREDIENTS:				
ADDITIVES AND/OR OTHER INGREDIENTS.	< 5			
PETROLEUM ASPHALTS	<50			

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION. PROLONGED, REPEATED SKIN CONTACT MAY RESULT IN SKIN IRRITATION OR MORE SERIOUS SKIN DISORDERS. ****NOTE: THIS PRODUCT CONTAINS AROMATIC OILS. UNDER CONDITIONS OF POOR PERSONAL HYGIENE AND PROLONGED, REPEATED CONTACTS, SOME AROMATIC OILS HAVE BEEN SUSPECTED AS A CAUSE OF SKIN CANCER IN HUMANS.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER OR WATERLESS SKIN CLEANER. DO NOT WEAR ORDINARY CLOTHING WET WITH THIS PRODUCT. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

INHALATION: REMOVE FROM FURTHER EXPOSURE. IF UNCONSCIOUSNESS OCCURS, SEEK IMMEDIATE MEDICAL ASSISTANCE AND CALL A PHYSICIAN. IF BREATHING HAS STOPPED, USE MOUTH TO MOUTH RESUSCITATION.

INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 400(204) (ESTIMATED (OIL COC))

FLAMMABLE LIMITS. LEL: NE UEL: NE

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE

CONDITIONS TO AVOID: EXTREME HEAT

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: CO, METAL OXIDES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: WIPE UP AND DISPOSE OF AS NORMAL REFUSE.

WASTE MANAGEMENT: CONTENTS UNDER PRESSURE. DO NOT PUNCTURE, INCINERATE OR STORE AT TEMPERATURES GREATER THAN 50 C (122 F). DISPOSE OF EMPTY CONTAINER AS NORMAL REFUSE.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE EMPLOYED.

SKIN PROTECTION: IF PROLONGED OR REPEATED SKIN CONTACT IS LIKELY, OIL IMPERVIOUS GLOVES SHOULD BE WORN. GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION. APPROVED RESPIRATORY PROTECTIVE EQUIPMENT MUST BE USED WHEN VAPOR OR MIST CONCENTRATIONS EXCEED APPLICABLE STANDARDS.

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
 HANDLING: AVOID PROLONGED REPEATED SKIN CONTACT AND BREATHING
 MISTS/VAPORS. WASH THOROUGHLY BEFORE EATING OR SMOKING. KEEP AWAY
 FROM FEED OR FOOD PRODUCTS. DO NOT USE ON FOOD PROCESSING
 MACHINERY.
 STORAGE: SEE APPENDIX FOR PRECAUTIONARY LABEL. FL-157

***** XI. TOXICOLOGICAL DATA *****
 ---ACUTE---
 ORAL TOXICITY (RATS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF
 SIMILAR PRODUCTS AND/OR THE COMPONENTS.
 DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON
 TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
 INHALATION TOXICITY (RATS): LC50: >8 MG/L FOR 4 HRS. C/20 RATS DIED
 AT THIS DOSAGE LEVEL. SLIGHTLY TOXIC(ESTIMATED) ---BASED ON
 TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
 EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON
 TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
 SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
 REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
 THE COMPONENTS.

---OTHER DATA---

THE ASTERISKED (*) CHEMICAL ON PAGE 1 HAS BEEN FOUND TO BE CARCINOGENIC
IN ANIMAL TESTS BASED ON BIDASSAY STUDIES CONDUCTED BY THE NATIONAL
TOXICOLOGY PROGRAM (NTP).

***** XII. REGULATORY INFORMATION *****
 US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE
 WITH OSHA CFR 1910.1200 AND DETERMINED TO BE HAZARDOUS.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ETHENE, TRICHLORO-	79-01-6	1,2,3,7,8,9,10,11, 12,13,14,16,17
HEAVY PARAFFINIC DISTILLATE SOLVENT EXTRACT	54742-04-7	3

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK.

 INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT
 WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR
 PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT
 ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL
 WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF
 MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE
 USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A
 RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING
 LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING
 PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

Mobil

SPRAY CAN FILLING E

858159

PA: MEN02849

PREPARED BY: MOBIL OIL CORPORATION

-NVIROMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ

FOR FURTHER INFORMATION, CONTACT:

MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL

3225 GALLOWS ROAD, FAIRFAX, VA 22037

(703) 849-3265

***** APPENDIX *****
FOR MOBIL USE ONLY: (FILL NO: MTL1001*001) MHC: 1* 1* 1* 1* 1* PPEC:
US85-031 APPROVE REVISED: 12/18/85

PRECAUTIONARY LABEL TEXT FOR PACKAGED PRODUCTS:

LUBRICANT
CONTAINS CHLORINATED HYDROCARBONS,
LEAD SOAP AND AROMATIC PETROLEUM OIL.

WARNING

VAPOR HARMFUL.
MAY CAUSE IRRITATION OR MORE SERIOUS SKIN
DISORDERS ON PROLONGED, REPEATED SKIN CONTACT.
PROLONGED SKIN CONTACT HAS CAUSED SKIN CANCER
IN LABORATORY ANIMALS.

AVOID PROLONGED BREATHING OF VAPOR OR MIST.
KEEP CONTAINER CLOSED.
USE ONLY WITH ADEQUATE VENTILATION.
AVOID CONTACT WITH SKIN OR CLOTHING.
WASH THOROUGHLY AFTER HANDLING AND BEFORE EATING OR SMOKING.
WHEN CONTACT IS LIKELY, WEAR OIL IMPERVIOUS CLOTHING AND GLOVES.
ORDINARY CLOTHING WET WITH THIS PRODUCT MUST BE REMOVED.
LAUNDEP CONTAMINATED CLOTHING BEFORE REUSE.
DISCARD SHOES IF MATERIAL HAS PENETRATED TO INSIDE SURFACE.
DO NOT USE ON FOOD PROCESSING, HANDLING OR PACKAGING MACHINERY.
KEEP AWAY FROM FOOD PRODUCTS, ANIMALS AND ANIMAL FEED.

FIRST AID: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING
GIVE ARTIFICIAL RESPIRATION, PERFERABLY MOUTH-TO-MOUTH AND
CALL A PHYSICIAN.
IN CASE OF SKIN CONTACT, THROUGHLY WASH AREA WITH SOAP AND WATER.

FOR INDUSTRIAL USE ONLY.

NOT INTENDED OR SUITABLE FOR USE IN OR AROUND A HOUSEHOLD
OR DWELLING.

ATTENTION

EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUE, INCLUDING
FLAMMABLE OR EXPLOSIVE VAPORS. DO NOT CUT, PUNCTURE OR WELD ON
OR NEAR CONTAINER. ALL LABEL WARNING AND PRECAUTIONS MUST BE
OBSERVED UNTIL CONTAINER HAS BEEN THOROUGHLY CLEANED OR
DESTROYED.

REFER TO PRODUCT MATERIAL SAFETY DATA BULLETIN
FOR FURTHER SAFETY AND HEALTH INFORMATION

MOBIL OIL CORPORATION, NEW YORK, N.Y. FL-187(05-84)

D.O.T. SHIPPING NAME:
D.O.T. HAZARD CLASS:

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
 MOBILITH AW-2

SUPPLIER: MOBIL OIL CORP.
 CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES
 USE OR DESCRIPTION: INDUSTRIAL GREASE

HEALTH EMERGENCY TELEPHONE: (212) 683-4411
 TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: BROWN GREASE ODOR: MILD PH: NA
 VISCOSITY AT 100 F, SUS: 795.0 AT 40 C, CS: 150.0
 VISCOSITY AT 210 F, SUS: NE AT 100 C, CS: NE
 FLASH POINT F(C): >400(204) (EST (OIL COC))
 MELTING POINT F(C): NA POUR POINT F(C): NA
 BOILING POINT F(C): > 600(316)
 RELATIVE DENSITY, 15/4 C: 0.89 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: < .1
 NOTE: MOST PHYSICAL PROPERTIES FOR OIL COMPONENT.
 NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3	PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			
OTHER INGREDIENTS:			
REFINED MINERAL OILS	>80		
ADDITIVES AND/OR OTHER INGREDIENTS	<10		
LITHIUM-SOAP THICKENER	<15		

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
 SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
 INHALATION: NOT EXPECTED TO BE A PROBLEM.
 INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****
FLASH POINT F(C): > 400(204) (EST (OIL COC))
FLAMMABLE LIMITS. LEL: .5 UEL: 7.2
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****
STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: SCRAPE UP AND REMOVE.
DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE
WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED
INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****
EYE PROTECTION: GENERALLY EYE CONTACT IS UNLIKELY WITH THIS TYPE
MATERIAL. IF EYE CONTACT IS LIKELY, SAFETY GLASSES WITH SIDE
SHIELDS OR CHEMICAL TYPE GOGGLES SHOULD BE WORN.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---
ORAL TOXICITY (RATS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF
SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

MOBIL MATERIAL SAFETY DATA BULLETIN

MOBIL OIL CORPORATION P. O. BOX 1031
 ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT. PRINCETON, N.J. 08540 (USA)

***** PRODUCT IDENTIFICATION *****
 MOBIL DELVAC 1230

SUPPLIER:	HEALTH EMERGENCY TELEPHONE:
MOBIL OIL CORP.	(212)893-4411
CHEMICAL NAMES AND SYNONYMS:	TRANSPORT EMERGENCY TELEPHONE:
PET. HYDROCARBONS AND ADDITIVES	(800)424-9300(CHEMTREC)
USE OR DESCRIPTION:	OTHER DESIGNATION:
AUTOMOTIVE ENGINE OIL	(TRN 440677)

***** TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE:	VISCOSITY: AT 100 F, SUS	AT 40 C, CS
ASTM 5.5 LIQUID	508.0	110.0
ODOR:	VISCOSITY: AT 210 F, SUS	AT 100 C, CS
MILD	67.0	12.0
RELATIVE DENSITY: 15/4 C	SOLUBILITY IN WATER:	PH:
0.875	NEGLIGIBLE	NA
MELTING POINT: F(C)	POUR POINT: F(C)	
NA	0(-18)	
BOILING POINT: F(C)	FLASH POINT: F(C) (METHOD)	
> 600(316)	>430(221) (ASTM D-92)	
VAPOR PRESSURE:MM HG 20C		
< .1		

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

***** INGREDIENTS *****

	WT PCT	TLV(TWA):	MG/M3	PPM
	(APPROX)			
HAZARDOUS INGREDIENTS:				
NONE				
NON-HAZARDOUS INGREDIENTS:				
REFINED MINERAL OILS	> 90			
ADDITIVES AND/OR OTHER INGREDIENTS.	< 10			

NOTE: TLVS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

***** FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT: F(C) (METHOD) FLAMMABLE LIMITS: LEL UEL
> 430(221) (ASTM D-92) .6 7.0

EXTINGUISHING MEDIA:

CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES:

FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

NONE

***** HEALTH HAZARD DATA *****
THRESHOLD LIMIT VALUE: (IF ESTABLISHED)

EFFECTS OF OVEREXPOSURE:

SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** EMERGENCY AND FIRST AID PROCEDURES *****
EYE CONTACT:

FLUSH WITH WATER.

SKIN CONTACT:

WASH CONTACT AREAS WITH SOAP AND WATER.

INHALATION:

NOT EXPECTED TO BE A PROBLEM.

INGESTION:

NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** REACTIVITY DATA *****
STABILITY: (THERMAL, LIGHT, ETC.) CONDITIONS TO AVOID:

STABLE EXTREME HEAT

INCOMPATIBILITY: (MATERIALS TO AVOID)

STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

CONDITIONS TO AVOID:

***** SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT:

REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT:

DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION:

NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE EMPLOYED.

SKIN PROTECTION:

NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION:

NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION:

NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

OTHER:

***** SPECIAL PRECAUTIONS *****

HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** TOXICOLOGICAL DATA *****

ACUTE

ORAL TOXICITY: (RATS)

SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY: (RABBITS)

SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY: (RATS)

NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION: (RABBITS)

MAY CAUSE SLIGHT IRRITATION. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION: (RABBITS)

MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SUBACUTE AND MUTAGENICITY (SUMMARY)

CHRONIC OR SPECIALIZED (SUMMARY)

OTHER DATA

NONE

FILE CODES:

(FILL NO: MTN545C154) MHC: 1* 1* NA 1* 1* PPEC: US83-333 APPROVE 8750

ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT.

REVISED:

MANAGER OF PRODUCT SAFETY INFORMATION, PHONE: 609-737-5596

12/15/83

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILGEAR 634

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 383-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: GEAR LUBRICANT

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 6.5 LIQUID ODOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 2300.0 AT 40 C, CS: 430.0
VISCOSITY AT 210 F, SUS: 150.0 AT 100 C, CS: 31.0
FLASH POINT F(C): >450(232) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): 20(-7)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.9 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: < .1

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3	PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			

OTHER INGREDIENTS:
REFINED MINERAL OILS >95
ADDITIVES AND/OR OTHER INGREDIENTS. < 5

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****
 FLASH POINT F(C): > 450(232) (ASTM D-92)
 FLAMMABLE LIMITS. LEL: 6 UEL: 7.0
 EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
 SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
 BREATHING APPARATUS.
 UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****
 STABILITY (THERMAL, LIGHT, ETC.): STABLE
 CONDITIONS TO AVOID: STRONG OXIDATION
 INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
 HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
 HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****
 ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
 AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
 REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
 INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
 NUMBER 300-424-8802.
 PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
 TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
 AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
 CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
 CHARACTERISTICS AT TIME OF DISPOSAL.
 WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED
 INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****
 EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
 SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
 HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
 RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
 CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
 VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
 AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****
 HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
 ---ACUTE---
 ORAL TOXICITY (RATS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON TESTING OF
 SIMILAR PRODUCTS AND/OR THE COMPONENTS.
 DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC(ESTIMATED) ---BASED ON
 TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
 INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
 MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
 CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
 THIS PRODUCT.
 EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
 TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
 SKIN IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
 TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****
 TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
 EINECS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
 THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
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*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

- | | | | | |
|---------------|--------------|----------------|--------------|--------------|
| 1 = OSHA, | 2 = ACGIH, | 3 = IARC, | 4 = NTP, | 5 = NCI, |
| 6 = EPA CARC, | 7 = NFPA 49, | 8 = NFPA 325M, | 9 = DOT HMT, | 10 = CA RTK, |
| 11 = IL RTK, | 12 = MA RTK, | 13 = MN RTK, | 14 = NJ RTK, | 15 = NJ SHH, |
| 16 = FL RTK, | 17 = PA RTK, | | | |

 FOR MOBIL USE ONLY: (FILL NO: RL1221J1101) MHC: 1* 1* NA 0* 0* PPEC:
 US84-208 APPROVE REVISED: 04/16/85 MSDS TEXT CHANGE

 PREPARED BY: MOBIL OIL CORPORATION
 ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
 FOR FURTHER INFORMATION, CONTACT:
 MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
 3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

 INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT
 WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR
 PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT
 ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL
 WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF
 MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE
 USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A
 RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING
 LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING
 PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILARMA 525

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 333-4411
 CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
 USE OR DESCRIPTION: RUST PREVENTIVE LUBRICANT

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 3.0 LIQUID DOOR: MILD PH: 6.5
 VISCOSITY AT 100 F, SUS: 273.0 AT 40 C, CS: 53.5
 VISCOSITY AT 210 F, SUS: 55.0 AT 100 C, CS: 8.7
 FLASH POINT F(C): >390(199) (ASTM D-92)
 MELTING POINT F(C): NA POUR POINT F(C): 35(2)
 BOILING POINT F(C): > 600(316)
 RELATIVE DENSITY, 15/4 C: 0.839 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: < .1
 NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3 PPM	(AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE,			

OTHER INGREDIENTS:
 REFINED MINERAL OILS >90
 ADDITIVES AND/OR OTHER INGREDIENTS. <10

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

THRESHOLD LIMIT VALUE: 5.00 MG/M3 SUGGESTED FOR OIL MIST
 EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
 SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
 INHALATION: NOT EXPECTED TO BE A PROBLEM.
 INGESTION: NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF UNCOMFORTABLE SEEK MEDICAL ASSISTANCE.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 390(199) (ASTM D-92)
 FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
 EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
 SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.
 UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8302.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED
INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): LD50: > 15 G/KG NONTOXIC (ESTIMATED) ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
DERMAL TOXICITY (RABBITS): LD50: > 5 G/KG NONTOXIC (ESTIMATED) ---BASED
ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.
EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.
SKIN IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****
TSCA INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
EINECS INVENTORY STATUS: ALL COMPONENTS ARE REGISTERED.
THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME CAS NUMBER LIST CITATIONS
(OIL MIST) 2,10,11

--- KEY TO LIST CITATIONS ---

- 1 = OSHA, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = NJ SHH,
- 16 = FL RTK, 17 = PA RTK.

FOR MOBIL USE ONLY: (FILL NO: MTJ337154) MHC: O* O* NA O* O* PPEC:
US92-126 APPROVE REVISED: 09/24/82

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWES ROAD, FAIRFAX, VA 22037 (703) 849-3265

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILTEMP SHC 32

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
CHEMICAL NAMES AND SYNONYMS: SYN. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: HIGH TEMPERATURE GREASE

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: RED GREASE DOOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 144.0 AT 40 C, CS: 28.0
VISCOSITY AT 210 F, SUS: 44.0 AT 100 C, CS: 5.2
FLASH POINT F(C): >425(218) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): NE
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.887 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: < .1
NOTE: MOST PHYSICAL PROPERTIES FOR OIL COMPONENT.
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3	PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			

OTHER INGREDIENTS:
SYNTHETIC OILS >70
ADDITIVES AND/OR OTHER INGREDIENTS. <30

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: ON RARE OCCASIONS, HYPERSENSITIVE INDIVIDUALS
MAY DEVELOP SKIN ALLERGIES. IF THIS OCCURS, REMOVE FROM FURTHER
EXPOSURE AND SEEK ADVICE OF A PHYSICIAN.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2
LITER(PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND
CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER
FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH
TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 425(218) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .5 JEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0 .

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-8302.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: SCRAPE UP AND REMOVE.
DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE
WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED,
CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED
INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING
BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY
GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS
IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS
AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): SLIGHTLY TOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

---CHRONIC OR SPECIALIZED (SUMMARY)---

THIS PRODUCT CONTAINS A SMALL AMOUNT OF AN ADDITIVE WHICH, IN RARE CASES, MAY CAUSE SKIN SENSITIZATION IN HYPERSENSITIVE INDIVIDUALS.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.

D.O.T. SHIPPING NAME: NOT APPLICABLE

D.O.T. HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 2610); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
1,3-PROPANEDIOL, 2,2-BIS(HYDROXYMETHYL)-	115-77-5	2,17
BENZENE, DIMETHYL- (0.027 PCT)	1330-20-7	15,17

--- KEY TO LIST CITATIONS ---

1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 3254, 9 = DDT HMT, 10 = CA RTK,
 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
 16 = FL RTK, 17 = PA RTK.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: RR38A1001) MHC: 1* 1* NA 0* 0* PPEC:
US84-127 APPROVE REVISED: 04/18/84

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****

MOBILTEMP 0

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
 CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (300) 424-9300 (CHEMTREC)
 USE OR DESCRIPTION: INDUSTRIAL GREASE

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: AMBER GREASE ODDOR: MILD PH: NA
 VISCOSITY AT 100 F, SUS: 1200.0 AT 40 C, CS: 259.0
 VISCOSITY AT 210 F, SUS: 150.0 AT 100 C, CS: 31.7
 FLASH POINT F(C): >400(204) (ESTIMATED (OIL COC))
 MELTING POINT F(C): NA POUR POINT F(C): NE
 BOILING POINT F(C): > 600(316)
 RELATIVE DENSITY, 15/4 C: 0.921-0.931 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: < .1
 NOTE: MOST PHYSICAL PROPERTIES FOR OIL COMPONENT.
 NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT (APPROX)	EXPOSURE LIMITS MG/M3	SOURCES PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			

OTHER INGREDIENTS:
 REFINED MINERAL OILS >90
 ADDITIVES AND/OR OTHER INGREDIENTS. <10

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
 SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
 INHALATION: NOT EXPECTED TO BE A PROBLEM.
 INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER(PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLCSION HAZARD DATA *****

FLASH POINT F(C): > 400(204) (ESTIMATED (OIL CDC))
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: NITROGEN OXIDES. SULFUR OXIDES.
METAL OXIDES. CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 800-424-2302.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: SCRAPE UP AND REMOVE.
DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE
WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL. SHOVEL UP AND DISPOSE OF AT
AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT
APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT
TIME OF DISPOSAL.
WASTE MANAGEMENT: DISPOSE OF WASTE AT AN APPROPRIATE WASTE DISPOSAL
FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS,
AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---

ORAL TOXICITY (RATS): LD50: > 5 G/KG CONSIDERED TO BE NO MORE THAN SLIGHTLY TOXIC BASED ON SINGLE DOSE LEVEL TESTING AT 5 G/KG.
DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG CONSIDERED TO BE NO MORE THAN SLIGHTLY TOXIC BASED ON SINGLE DOSE LEVEL TESTING AT 2 G/KG.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.
EYE IRRITATION (RABBITS): CAUSED NO SIGNIFICANT IRRITATION TO RABBITS.
SKIN IRRITATION (RABBITS): NOT IRRITATING TO RABBITS AFTER 24 HOUR CLOSED PATCH CONTACT.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.
D.O.T. SHIPPING NAME: NOT APPLICABLE
D.O.T. HAZARD CLASS: NOT APPLICABLE
US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.
RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
PHOSPHORIC ACID, TRISODIUM SALT	7601-54-9	17
ZINC (ELEMENTAL ANALYSIS) (0.031 PCT)	7440-66-6	15

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: RR16200*200) MHC: 1 1 NA 0 0 PPEC:
US64-111 APPROVE REVISED: 05/13/84

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBILTEMP 1

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
 CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (300) 424-9300 (CHEMTREC)
 USE OR DESCRIPTION: HIGH TEMPERATURE GREASE

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: BROWN/GREEN GREASE ODOR: MILD PH: NA
 VISCOSITY AT 100 F, SUS: 2448.0 AT 40 C, CS: 460.0
 VISCOSITY AT 210 F, SUS: 155.0 AT 100 C, CS: 32.0
 FLASH POINT F(C): >400(204) (ESTIMATED (OIL COC))
 MELTING POINT F(C): NA POUR POINT F(C): NE
 BOILING POINT F(C): > 600(316)
 RELATIVE DENSITY, 15/4 C: 0.931 SOLUBILITY IN WATER: NEGLIGIBLE
 VAPOR PRESSURE-MM HG 20C: < .1

NOTE: MOST PHYSICAL PROPERTIES FOR OIL COMPONENT.
 NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
 FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT (APPROX)	EXPOSURE LIMITS MG/M3	SOURCES PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			

OTHER INGREDIENTS:
 REFINED MINERAL OILS >90
 ADDITIVES AND/OR OTHER INGREDIENTS. <10

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA
 NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
 SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
 INHALATION: NOT EXPECTED TO BE A PROBLEM.
 INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 400(204) (ESTIMATED (OIL COC))

FLAMMABLE LIMITS. LEL: NE UEL:

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE

CONDITIONS TO AVOID: EXTREME HEAT

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: SCRAPE UP AND REMOVE. DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.

SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****
---ACUTE---

ORAL TOXICITY (RATS): LD50: > 5 G/KG CONSIDERED TO BE NO MORE THAN SLIGHTLY TOXIC BASED ON SINGLE DOSE LEVEL TESTING AT 5 G/KG.
DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG CONSIDERED TO BE NO MORE THAN SLIGHTLY TOXIC BASED ON SINGLE DOSE LEVEL TESTING AT 2 G/KG.
INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.
EYE IRRITATION (RABBITS): CAUSED NO SIGNIFICANT IRRITATION TO RABBITS.
SKIN IRRITATION (RABBITS): NOT IRRITATING TO RABBITS AFTER 24 HOUR CLOSED PATCH CONTACT.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.
D.O.T. SHIPPING NAME: NOT APPLICABLE
D.O.T. HAZARD CLASS: NOT APPLICABLE
US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.
RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
1,2,3-PROPANETRIOL	56-81-5	2,7,3,17
PHOSPHORIC ACID, TRISODIUM SALT	7601-54-9	17
ZINC (ELEMENTAL ANALYSIS) (C.031 PCT)	7440-66-6	15

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: RR162D1201) MHC: 1 1 NA 0 0 PPEC: US82-
240 APPROVE REVISED: 03/16/83

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****
MOBIL DELVAC 1210

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE: (212) 883-4411
CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC)
USE OR DESCRIPTION: ENGINE OIL

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 4.5 LIQUID ODOR: MILD PH: NA
VISCOSITY AT 100 F, SUS: 195.0 AT 40 C, CS: 41.8
VISCOSITY AT 210 F, SUS: 47.5 AT 100 C, CS: 6.6
FLASH POINT F(C): >390(199) (ASTM D-92)
MELTING POINT F(C): NA POUR POINT F(C): -20(-29)
BOILING POINT F(C): > 600(316)
RELATIVE DENSITY, 15/4 C: 0.878 SOLUBILITY IN WATER: NEGLIGIBLE
VAPOR PRESSURE-MM HG 20C: < .1
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

	WT PCT	EXPOSURE LIMITS	SOURCES
	(APPROX)	MG/M3	PPM (AND NOTES)
HAZARDOUS INGREDIENTS:			
NONE			

OTHER INGREDIENTS:
REFINED MINERAL OILS >90
ADDITIVES AND/OR OTHER INGREDIENTS <10

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, D=CSHA
NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: SLIGHT EYE IRRITATION. SLIGHT SKIN IRRITATION.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.
SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.
INHALATION: NOT EXPECTED TO BE A PROBLEM.
INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER(PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 390(199) (ASTM D-92)
FLAMMABLE LIMITS. LEL: .6 UEL: 7.0
EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: EXTREME HEAT
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 300-424-8802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT
TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF
AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH
CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED,
CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED
INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING
BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY
GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS
IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS
AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NORMAL INDUSTRIAL EYE PROTECTION PRACTICES SHOULD BE
EMPLOYED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): LD50: > 5 G/KG SLIGHTLY TOXIC (ESTIMATED) ---
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG SLIGHTLY TOXIC (ESTIMATED) ---
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF
MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY
CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF
THIS PRODUCT.

EYE IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION. ---BASED ON
TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS): MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR
REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR
THE COMPONENTS.

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.

D.O.T. SHIPPING NAME: NOT APPLICABLE

D.O.T. HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE
WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT
SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR,
PART 261D); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF
IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED
WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED
PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
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*** NO INGREDIENT CITATIONS ***

--- KEY TO LIST CITATIONS ---

1 = OSHA Z,	2 = ACGIH,	3 = IARC,	4 = NTP,	5 = NCI,
6 = EPA CARC,	7 = NFPA 49,	8 = NFPA 325M,	9 = DOT HMT,	10 = CA RTK,
11 = IL RTK,	12 = MA RTK,	13 = MN RTK,	14 = NJ RTK,	15 = MI 293,
16 = FL RTK,	17 = PA RTK,			

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT
WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR
PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT
ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL
WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE
USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A
RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING
LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING
PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: MTN545A056) MHC: 1* 1* NA 1* 1* PPEC:
US83-333 APPROVE REVISED: 12/15/83

MOBIL MATERIAL SAFETY DATA BULLETIN

MOBIL OIL CORPORATION P. O. BOX 1031
 ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT. PRINCETON, N.J. 08540 (USA)

***** PRODUCT IDENTIFICATION *****
 MOBILTHERM 603

SUPPLIER:	HEALTH EMERGENCY TELEPHONE:
MOBIL OIL CORP.	(212)883-4411
CHEMICAL NAMES AND SYNONYMS:	TRANSPORT EMERGENCY TELEPHONE:
PETROLEUM HYDROCARBONS	(800)424-9300(CHEMTREC)
USE OR DESCRIPTION:	OTHER DESIGNATION:
HEAT TRANSFER OIL	(TRN 680512)

***** TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE:	VISCOSITY: AT 100 F, SUS	AT 40 C, CS
ASTM 2.0 LIQUID	105.0	20.0
ODOR:	VISCOSITY: AT 210 F, SUS	AT 100 C, CS
MILD	40.0	4.1
RELATIVE DENSITY: 15/4 C	SOLUBILITY IN WATER:	PH:
0.865	NEGLIGIBLE	NA
MELTING POINT: F(C)	POUR POINT: F(C)	
NA	20(-7)	
BOILING POINT: F(C)	FLASH POINT: F(C) (METHOD)	
> 600(316)	>380(193) (ASTM D-92)	
VAPOR PRESSURE:MM HG 20C		
< .1		

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

***** INGREDIENTS *****

WT PCT	TLV(TWA):	MG/M3	PPM
(APPROX)			

HAZARDOUS INGREDIENTS:
 NONE

NON-HAZARDOUS INGREDIENTS:	
REFINED MINERAL OILS	100

NOTE: TLVS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

***** FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT: F(C) (METHOD) FLAMMAPLE LIMITS: LEL UEL
> 390(193) (ASTM D-92) .6 7.0

EXTINGUISHING MEDIA:

CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES:

FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

NONE

***** HEALTH HAZARD DATA *****

THRESHOLD LIMIT VALUE: (IF ESTABLISHED)

5.00 MG/M3 SUGGESTED FOR OIL MIST

EFFECTS OF OVEREXPOSURE:

SLIGHT SKIN IRRITATION.

***** EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT:

FLUSH WITH WATER.

SKIN CONTACT:

WASH CONTACT AREAS WITH SOAP AND WATER.

INHALATION:

NOT EXPECTED TO BE A PROBLEM.

INGESTION:

NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF UNCOMFORTABLE
SEEK MEDICAL ASSISTANCE.

***** REACTIVITY DATA *****

STABILITY: (THERMAL, LIGHT, ETC.) CONDITIONS TO AVOID:

STABLE STRONG OXIDATION

INCOMPATIBILITY: (MATERIALS TO AVOID)

STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

CONDITIONS TO AVOID:

***** SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT:

REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8702.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT:

DISPOSE OF WASTE BY SUPERVISED INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION:

NO SPECIAL EQUIPMENT REQUIRED.

SKIN PROTECTION:

NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION:

NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION:

NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

OTHER:

***** SPECIAL PRECAUTIONS *****

HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** TOXICOLOGICAL DATA *****

ACUTE

ORAL TOXICITY: (RATS)

LD50: > 15 G/KG PRACTICALLY NONTOXIC

DERMAL TOXICITY: (RABBITS)

LD50: > 5 G/KG PRACTICALLY NONTOXIC

INHALATION TOXICITY: (RATS)

NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION: (RABBITS)

EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION: (RABBITS)

MAY CAUSE SLIGHT IRRITATION ON PROLONGED OR REPEATED CONTACT. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SUBACUTE AND MUTAGENICITY (SUMMARY)

CHRONIC OR SPECIALIZED (SUMMARY)

OTHER DATA

FILE CODES:

(FILL NO: MTN4604001) MHC: 0 0 NA 0* 1* PPEC: US83-130 APPROVE 8838

ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT.

REVISED:

MANAGER OF PRODUCT SAFETY INFORMATION, PHONE: 609-737-5596

3/12/84

MOBIL MATERIAL SAFETY DATA BULLETIN

MOBIL OIL CORPORATION P. O. BOX 1031
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT. PRINCETON, N.J. 08540 (USA)

***** PRODUCT IDENTIFICATION *****
MOBIL SHC 634

SUPPLIER: MOBIL OIL CORP. HEALTH EMERGENCY TELEPHONE:
(212)883-4411
CHEMICAL NAMES AND SYNONYMS: SYN. HYDROCARBONS AND ADDITIVES TRANSPORT EMERGENCY TELEPHONE:
(800)424-9300(CHEMTREC)
USE OR DESCRIPTION: GEAR AND BEARING LUBRICANT OTHER DESIGNATION:
(TRN 602912)

***** TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: ASTM 0.5 LIQUID	VISCOSITY: AT 100 F, SUS 2050.0	AT 40 C, CS 385.0
ODOR: MILD	VISCOSITY: AT 210 F, SUS 190.0	AT 100 C, CS 39.0
RELATIVE DENSITY: 15/4 C 0.853	SOLUBILITY IN WATER: NEGLIGIBLE	PH: NA
MELTING POINT: F(C) NA	POUR POINT: F(C) -40(-40)	
BOILING POINT: F(C) > 600(316)	FLASH POINT: F(C) (METHOD) 500(260) (ASTM D-92)	
VAPOR PRESSURE:MM HG 20C < .1		

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

***** INGREDIENTS *****

	WT PCT (APPROX)	TLV(TWA):	MG/M3	PPM
HAZARDOUS INGREDIENTS: NONE				
NON-HAZARDOUS INGREDIENTS: SYNTHETIC OILS	> 95			
ADDITIVES AND/OR OTHER INGREDIENTS.	< 5			

NOTE: TLVS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

Mobil

MOBIL SHC 634

MEN02886

602912

***** FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT: F(C) (METHOD) FLAMMABLE LIMITS: LEL UEL
500(260) (ASTM D-92) .6 7.0

EXTINGUISHING MEDIA:

CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES:

FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

NONE

***** HEALTH HAZARD DATA *****
THRESHOLD LIMIT VALUE: (IF ESTABLISHED)

EFFECTS OF OVEREXPOSURE:

NOT EXPECTED TO BE A PROBLEM.

***** EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT:

FLUSH WITH WATER.

SKIN CONTACT:

WASH CONTACT AREAS WITH SOAP AND WATER.

INHALATION:

NOT EXPECTED TO BE A PROBLEM.

INGESTION:

NOT EXPECTED TO BE A PROBLEM WHEN INGESTED. IF UNCOMFORTABLE
SEEK MEDICAL ASSISTANCE.

***** REACTIVITY DATA *****

STABILITY: (THERMAL, LIGHT, ETC.) CONDITIONS TO AVOID:

STABLE STRONG OXIDATION

INCOMPATIBILITY: (MATERIALS TO AVOID)

STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:

CO.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

CONDITIONS TO AVOID:

Mobil

MOBIL SHC 634

602912 PAGE 3

***** SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT:

REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT:

DISSOLVE WASTE IN A SOLVENT AND DISPOSE BY SUPERVISED INCINERATION IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

***** SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION:

NO SPECIAL EQUIPMENT REQUIRED.

SKIN PROTECTION:

NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

RESPIRATORY PROTECTION:

NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

VENTILATION:

NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

OTHER:

***** SPECIAL PRECAUTIONS *****

HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.

***** TOXICOLOGICAL DATA *****

ACUTE

ORAL TOXICITY: (RATS)

LD50: > 15 G/KG NONTOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY: (RABBITS)

LD50: > 8 G/KG NONTOXIC (ESTIMATED) ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY: (RATS)

NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION: (RABBITS)

EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION: (RABBITS)

EXPECTED TO BE NON-IRRITATING. ---BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SUBACUTE AND MUTAGENICITY (SUMMARY)

CHRONIC OR SPECIALIZED (SUMMARY)

OTHER DATA

FILE CODES:

(FILL NO: RL743J010) MHC: 0* 0* NA 0* 0* PPEC: US79-XXX APPROVE 9205

ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT.

REVISED:

MANAGER OF PRODUCT SAFETY INFORMATION, PHONE: 609-737-5596

3/14/85

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

***** I. PRODUCT IDENTIFICATION *****

MOBILTEMP 78

SUPPLIER:

MOBIL OIL CORP.

HEALTH EMERGENCY TELEPHONE:

(212) 883-4411

CHEMICAL NAMES AND SYNONYMS:

PET. HYDROCARBONS AND ADDITIVES

TRANSPORT EMERGENCY TELEPHONE:

(800) 424-9300 (CHEMTREC)

USE OR DESCRIPTION:

HIGH TEMPERATURE GREASE

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: GRAY-BLACK GREASE ODDOR: MILD PH: NA

VISCOSITY AT 100 F, SUS: >2000.0 AT 40 C, CS: 372.5

VISCOSITY AT 210 F, SUS: 150.0 AT 100 C, CS: 30.7

FLASH POINT F(C): >400(204) (ESTIMATED (OIL COC))

MELTING POINT F(C): NA POUR POINT F(C): NA

SOILING POINT F(C): > 600(316)

RELATIVE DENSITY, 15/4 C: 0.899 SOLUBILITY IN WATER: NEGLIGIBLE

VAPOR PRESSURE-MM HG 20C: < .1

NOTE: MOST PHYSICAL PROPERTIES FOR OIL COMPONENT.

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. INGREDIENTS *****

WT PCT (APPROX)	EXPOSURE LIMITS MG/M3	SOURCES PPM (AND NOTES)
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HAZARDOUS INGREDIENTS:

NONE

OTHER INGREDIENTS:

REFINED MINERAL OILS >90

ADDITIVES AND/OR OTHER INGREDIENTS. <10

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA

NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

***** IV. HEALTH HAZARD DATA *****

EFFECTS OF OVEREXPOSURE: NOT EXPECTED TO BE A PROBLEM.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

EYE CONTACT: FLUSH WITH WATER.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.

INHALATION: NOT EXPECTED TO BE A PROBLEM.

INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 TO 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 400(204) (ESTIMATED (OIL COC))
FLAMMABLE LIMITS. LEL: NE UEL: NE
EXTINGUISHING MEDIA: CO2, FOAM, DRY CHEMICAL
SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED
BREATHING APPARATUS.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE
NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0

***** VII. REACTIVITY DATA *****

STABILITY (THERMAL, LIGHT, ETC.): STABLE
CONDITIONS TO AVOID: STRONG OXIDATION
INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: SILICON DIOXIDE. NITROGEN OXIDES.
SULFUR OXIDES. CARBON MONOXIDE.
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE
AUTHORITIES. U. S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE
REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING
INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE
NUMBER 306-424-9802.
PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: SCRAPE UP AND REMOVE.
DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE
WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT
CHARACTERISTICS AT TIME OF DISPOSAL.
WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED,
CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED
INCINERATION. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING
BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY
GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS
IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS
AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: NO SPECIAL EQUIPMENT REQUIRED.
SKIN PROTECTION: NO SPECIAL EQUIPMENT REQUIRED. HOWEVER, GOOD PERSONAL
HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.
RESPIRATORY PROTECTION: NO SPECIAL REQUIREMENTS UNDER ORDINARY
CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.
VENTILATION: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE
AND WITH ADEQUATE VENTILATION.

***** X. SPECIAL PRECAUTIONS *****

NO SPECIAL PRECAUTIONS REQUIRED.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE---

ORAL TOXICITY (RATS): LD50: > 5 G/KG 0/10 RATS DIED AT THIS DOSE LEVEL. CONSIDERED TO BE NO MORE THAN SLIGHTLY TOXIC BASED ON SINGLE DOSE LEVEL TESTING AT 5 G/KG.

DERMAL TOXICITY (RABBITS): LD50: > 2 G/KG 0/10 RABBITS DIED AT THIS DOSE LEVEL. CONSIDERED TO BE NO MORE THAN SLIGHTLY TOXIC BASED ON SINGLE DOSE LEVEL TESTING AT 2 G/KG.

INHALATION TOXICITY (RATS): NOT APPLICABLE ---HARMFUL CONCENTRATIONS OF MISTS AND/OR VAPORS ARE UNLIKELY TO BE ENCOUNTERED THROUGH ANY CUSTOMARY OR REASONABLY FORESEEABLE HANDLING, USE, OR MISUSE OF THIS PRODUCT.

EYE IRRITATION (RABBITS): CAUSED NO SIGNIFICANT IRRITATION TO RABBITS. EYE IRRITATION SCORES: 0 AT 24 HOURS, 0 AT 48 HOURS, 0 AT 72 HOURS

SKIN IRRITATION (RABBITS): NOT IRRITATING TO RABBITS AFTER 24 HOUR CLOSED PATCH CONTACT. PRIMARY IRRITATION SCORE: 0/8

***** XII. REGULATORY INFORMATION *****

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.

D.O.T. SHIPPING NAME: NOT APPLICABLE

D.O.T. HAZARD CLASS: NOT APPLICABLE

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS.

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 2610); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
1,2,3-PROPANETRIOL	56-81-5	2,7,8,17
PHOSPHORIC ACID, TRISODIUM SALT	7601-54-9	17
ZINC (ELEMENTAL ANALYSIS) (0.031 PCT)	7440-66-6	15

--- KEY TO LIST CITATIONS ---

- 1 = OSHA Z, 2 = ACGIH, 3 = IARC, 4 = NTP, 5 = NCI,
- 6 = EPA CARC, 7 = NFPA 49, 8 = NFPA 325M, 9 = DOT HMT, 10 = CA RTK,
- 11 = IL RTK, 12 = MA RTK, 13 = MN RTK, 14 = NJ RTK, 15 = MI 293,
- 16 = FL RTK, 17 = PA RTK.

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ
FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWS ROAD, FAIRFAX, VA 22037 (703) 849-3265

***** APPENDIX *****

FOR MOBIL USE ONLY: (FILL NO: RR162078101) MHC: 1 1 NA 0 0 PPEC:
US82-240 APPROVE REVISED: 06/27/83

SPARTAN CHEMICAL CO., INC.
MATERIAL SAFETY DATA SHEET

NICHOLS PAPER & SUPPLY COMPANY
ST24545 DEGREASER CSD-43 5GL
NICHOLS PAPER & SUPPLY COMPANY
ST24545 DEGREASER CSD-43 55GL

SECTION I
PRODUCT IDENTIFICATION

MEN02893

PRODUCT NAME OR NUMBER (as it appears on label)

CSD-43 *DEGREASER*

MANUFACTURER'S NAME

Spartan Chemical Co., Inc.

ADDRESS (NUMBER, STREET, CITY, STATE AND ZIP CODE)

110 N. Westwood Ave., Toledo, OH 43607

HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101)

Unrestricted

ADDITIONAL HAZARD CLASSES (AS APPLICABLE)

n/a

CHEMICAL FAMILY

n/a

EMERGENCY TELEPHONE NO.

(419) 531-5551

MANUFACTURER'S D-U-N-S NO.

00-503-6728

FORMULA

n/a

SECTION II - HAZARDOUS INGREDIENTS

CAS REGISTRY NO.	%W	CHEMICAL NAME(S)	TLV mg/M ³	LISTED AS A CARCINOGEN IN NTP, IARC OR OSHA 1910(Z) (SPECIFY)
127-18-4	20-35	Perchloroethylene	335	no
75-09-2	10-20	Methylene chloride	350	no

SECTION III - PHYSICAL DATA

BOILING POINT

Over 300 °F ___ °C

SPECIFIC GRAVITY (H₂O = 1)

0.99

VAPOR PRESSURE - 38

@ 75 °F ___ °C x mm Hg ___ psi

PERCENT SOLID BY

WEIGHT (%)

VAPOR DENSITY (AIR = 1)

Unknown

EVAPORATION RATE (but. ace. = 1)

<1

Nil

SOLUBILITY IN WATER

Negligible

APPEARANCE AND ODOR

Nonviscous, clear liquid

pH

N/a

IS MATERIAL: (LIQUID) SOLID

GAS PASTE POWDER

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT

149. °F .. °C ..

METHOD USED - ASTM - D92

FLAMMABLE LIMITS

Unknown

LEL

UEL

EXTINGUISHING MEDIA

Foam, dry chemical, CO₂ or water fog or spray

SPECIAL FIRE FIGHTING PROCEDURES - Use air supplied breathing equipment for enclosed areas. Cool exposed containers with water spray. Avoid breathing vapor, fumes or smoke.

UNUSUAL FIRE AND EXPLOSION HAZARDS - Do not store or mix with strong oxidants like liquid chlorine or concentrated oxygen.

SECTION V - HEALTH HAZARD DATA

MEN02894

EFFECTS OF OVEREXPOSURE - CONDITIONS TO AVOID THRESHOLD LIMIT VALUE - Not established

May cause skin or eye irritation. Avoid prolonged
bathing of vapors. May cause dizziness or
nausea.

PRIMARY ROUTES OF ENTRY INHALATION SKIN CONTACT OTHER (SPECIFY)

CONDITIONS AGGRAVATED BY USE - Unknown

EMERGENCY AND FIRST AID PROCEDURES - If ingested, do not induce vomiting. Call a physician immediately. In case of skin or eye contact, flood with water for at least 15 minutes. If eye irritation persists, call a physician. If overcome by vapors, remove victim to fresh air and call a physician.

SECTION VI - REACTIVITY DATA

STABILITY: UNSTABLE CONDITIONS TO AVOID
STABLE

INCOMPATIBILITY (MATERIALS TO AVOID)

Strong oxidants

HAZARDOUS DECOMPOSITION PRODUCTS

CO, CO₂, and phosgene

HAZARDOUS MAY OCCUR CONDITIONS TO AVOID

POLYMERIZATION: WILL NOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Over free liquid. Add oil absorbent material to spill area. Advise authorities if product enters sewers or waterways.

WASTE DISPOSAL METHOD - Assure conformity with applicable disposal regulations. Dispose of absorbed material at an approved waste disposal site or facility.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE) - Use hydrocarbon vapor canister or supplied air respirator protection in confined or enclosed areas without adequate ventilation.

VENTILATION: LOCAL EXHAUST (SPECIFY RATE) - X SPECIAL
MECHANICAL (GENERAL) (SPECIFY RATE) Other
If mechanical ventilation is used, use explosion-proof motors.

PROTECTIVE GLOVES (SPECIFY TYPE)
Solvent resistant

EYE PROTECTION (SPECIFY TYPE)
Safety goggles

OTHER PROTECTIVE EQUIPMENT.
None

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Do not store above 120°F. Do not handle or store near strong oxidants. Do not store near open flame.

OTHER PRECAUTIONS - None

Spartan Chemical Co., Inc.
CSD-43
Ref: 29 CFR 1910:1200 (OSHA)

NAME Thomas J. Mitchell
TITLE Assistant Vice President, Research
DATE September 25, 1985



DATE 10/31/80 REVISION 11/11/80
SUPERSEDES 09/01/85 PRODUCT NUMBER 01

MATERIAL SAFETY DATA SHEET

MEN02895

SECTION I - EMERGENCY CONTACTS

AND SAFE HANDLING AND DISPOSAL INFORMATION

ZEP MANUFACTURING COMPANY NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS AREA CODE 404
ZEP MANUFACTURING COMPANY 252-1567, 435-2973, 996-0899, 351-2952, 971-3367
AVANTAGE BY SANITATION LOCAL POISON CONTROL CENTER

TELEPHONE (404)352-1680 TRANSPORTATION EMERGENCY
BETWEEN 8:00A.M. - 5:00P.M. CHEMTREC. TOLL FREE 1-800-424-9300 ALL CALLS RECORDED
EASTERN TIME ZONE) DISTRICT OF COLUMBIA (202)483-7616 ALL CALLS RECORDED

SECTION II - HAZARDOUS INGREDIENTS

DESIGNATIONS	TLV (PPM)	EFFECTS (SEE REVERSE)	% IN PROD.
* SOLVENT NAPHTHA (PETROLEUM), MEDIUM ALIPHATICS ** light aromatic naphtha; CAS# 64742-88-7; RTECS# NONE	100	IRR CBL.	> 90
* PROPYLENE GLYCOL METHYL ETHER ** dipropylene glycol monomethyl ether; CAS# 34590-94-8; RTECS# MB1575000	100	IRR	< 5
* SULFONIC ACIDS, PETROLEUM, SODIUM SALTS ** proprietary sodium petroleum sulfonate; CAS# 68608-26-4; RTECS# NONE; OIL MIST LIMIT = 5 MG/M3		IRR	< 5
* POLYETHOXYLATED (3 MOLE) NONYL PHENOL ** poly(oxy-2-ethanediyl), alpha-(nonylphenyl)-omega-hydroxy; CAS# 9016-45-9; RTECS# NONE		IRR	< 5
* POLYETHOXYLATED (9 MOLE) NONYL PHENOL ** polyloxy-2-ethanediyl), alpha-(nonylphenyl)-omega hydroxy; CAS# 9016-45-9; RTECS# MD0905000		IRR	< 5

SECTION III - HEALTH HAZARD DATA

EFFECTS OF ACUTE OVEREXPOSURE:
THE HYDROCARBONS IN THIS PRODUCT ARE FAT SOLVENTS AND ALTER THE FUNCTION OF NERVES TO PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION WHEN THEY ARE ABSORBED IN TOXIC QUANTITIES. SYMPTOMS OF MILD CNS DEPRESSION INCLUDE STUPOR, DRUNKENNESS, AGITATION, TREMORS, DIZZINESS, NAUSEA AND HEADACHE. SYMPTOMS OF SEVERE CNS DEPRESSION INCLUDE ANAESTHESIA, SIGHING RESPIRATION, CARDIAC DEPRESSION AND UNCONSCIOUSNESS. PULMONARY IRRITATION OR PNEUMONIA CAN OCCUR FROM ASPIRATION OF THIS MATERIAL: DUE TO ITS LOW SURFACE TENSION AND LOW VISCOSITY, AN EXTREMELY SMALL QUANTITY CAN SPREAD OVER THE ENTIRE LUNG SURFACE. RESPIRATORY DISORDERS AND LUNG DISEASES MAY BE EXACERBATED BY INHALATION OF SOLVENT MISTS OR VAPORS.



MATERIAL SAFETY DATA SHEET

SECTION III - HEALTH HAZARD DATA (CONTINUED)

AND SAFE HANDLING AND DISPOSAL INFORMATION

EFFECTS OF CHRONIC OVEREXPOSURE:
CREATED OR PROLONGED EXPOSURE TO THIS MATERIAL CAN RESULT IN THE SAME SYMPTOMS
MAINTENANCE AND SAFETY
SKIN WHICH IS REPEATEDLY DEFATTED BY CONTACT WITH HYDROCARBON SOLVENTS MAY BE MORE SUSCEPTIBLE THAN NORMAL TO IRRITATION, INFECTION, AND DERMATITIS

ESTIMATED TLV: 200 PPM ESTIMATED LD50(MG/KG). NOT ESTABLISHED

FIRST AID PROCEDURES:

SKIN: WASH CONTAMINATED SKIN WITH SOAP OR MILD DETERGENT. APPLY SKIN CREAM WITH LANOLIN. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.
EYES: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.
INHALE: MOVE EXPOSED PERSON TO FRESH AIR AT ONCE. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.
INGEST: IF PRODUCT IS SWALLOWED, DO NOT INDUCE VOMITING. CALL A PHYSICIAN IMMEDIATELY.

SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING: WEAR NITRILE OR NEOPRENE GLOVES WHEN USING.
EYE PROTECTION: GOGGLES OR SAFETY GLASSES ARE STRONGLY RECOMMENDED
RESPIRATORY PROTECTION: IF VENTILATION IS INADEQUATE, WEAR A PROPERLY FITTING MSHA OR OSHA-APPROVED RESPIRATOR.
VENTILATION: VENTILATION SHOULD BE EQUIVALENT TO OUTDOORS. USE EXHAUST FANS AND OPEN WINDOWS IN ENCLOSED SPACES.

SECTION V - PHYSICAL DATA

BILING POINT (F): 310-600F SPECIFIC GRAVITY: 0.88
VAPOR PRESSURE(MMHG): APPROX. 3MM PERCENT VOLATILE BY VOLUME (%): 85
VAPOR DENSITY(AIR=1): APPROX. 4.1 EVAPORATION RATE(BUTYL ACETATE =1): 0.04
SOLUBILITY IN WATER: EMULSIFIABLE PH(CONCENTRATE): N/A
PH(USE DILUTION OF): N/A
APPEARANCE AND ODOR: CLEAR, THIN DARK BROWN LIQUID WITH AROMATIC SOLVENT ODOR

SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT(F) (METHOD USED): 113F (TCC)
FLAMMABLE LIMITS: LEL-N/A UEL N/A
EXTINGUISHING MEDIA: CO2, DRY CHEMICAL, FOAM
SPECIAL FIRE FIGHTING: NONE
UNUSUAL FIRE HAZARDS: NONE



MATERIAL SAFETY DATA SHEET

MEN02897

SECTION VII - REACTIVITY DATA

AND SAFE HANDLING AND DISPOSAL INFORMATION

STABILITY	STABLE
INCOMPATIBILITY (WITH OTHER MATERIALS)	OXIDIZERS
HAZARDOUS DECOMPOSITION	WILL NOT OCCUR
	CO2

SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED.
 ABSORB SPILL WITH AN ABSORBENT MATERIAL (i.e. ZEP-O-ZORB), PICK UP AND DEPOSIT IN A SEALABLE CONTAINER FOR DISPOSAL AS A HAZARDOUS WASTE. THOROUGHLY CLEAN AREA WITH A DETERGENT SOLUTION. RINSE AREA THOROUGHLY WITH CLEAN WATER.

WASTE DISPOSAL METHOD

UNUSED OR COLLECTED, SPENT MATERIAL MAY HAVE TO BE ABSORBED ON AN INERT MATERIAL (ZEP-O-ZORB) AND DISPOSED OF AS A HAZARDOUS WASTE. IN MOST STATES, QUANTITIES TOTALING LESS THAN 220 LBS OF HAZARDOUS MATERIAL PER MONTH CAN BE DISPOSED OF IN A CHEMICAL LANDFILL WITHOUT BEING DECLARED AS A HAZARDOUS WASTE SINCE REGULATIONS VARY CONCERNING THE DISPOSAL OF THESE CHEMICALS, CONSULT LOCAL, STATE AND FEDERAL AGENCIES FOR PROPER DISPOSAL IN YOUR AREA.

FEDERAL HAZARDOUS WASTE NUMBER(S) D001

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING
 'COMBUSTIBLE' STORE AND USE AWAY FROM HEAT, SPARKS, OPEN FLAME, OR ANY SOURCE OF IGNITION.
 DO NOT USE OR STORE NEAR HEAT OR OPEN FLAME. 'COMBUSTIBLE'
 POST "NO SMOKING" SIGNS ACCORDING TO LOCAL REGULATIONS FOR COMBUSTIBLE LIQUIDS.
 KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. STORE OUT OF THE SUN AND AWAY FROM HEAT. ALSO KEEP PRODUCT FROM FREEZING.
 KEEP PRODUCT AWAY FROM SKIN AND EYES.
 DO NOT BREATHE SPRAY MISTS OR VAPORS.
 KEEP OUT OF THE REACH OF CHILDREN.

SECTION X - TRANSPORTATION DATA

DOT PROPER SHIPPING NAME
 DOT HAZARD CLASS
 DOT ID NUMBER DOT LABEL/PLACARD
 EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED



MATERIAL SAFETY DATA SHEET

MEN02898

AND SAFE HANDLING AND DISPOSAL INFORMATION PAGE 1 OF 1

ZEP FORMULA 768
SUPERHEMUL 0713730 PRODUCT NUMBER: 1075

ZEP MANUFACTURING COMPANY
ST IN MAINTENANCE PRODUCTS

SECTION I - EMERGENCY CONTACTS

MANUFACTURING COMPANY: 24 HOURS, WEEKENDS, AND HOLIDAYS: AREA CODE 404
 BOX 2015 605-2976, 996-0679, 252-1587, 351-2952, 445-9226
 ATLANTA, GEORGIA 30301 LOCAL 1150N COMM-FBI CENTER
 TELEPHONE (404)352-1680 TRANSPORTATION EMERGENCY
 BETWEEN 8:00A.M. - 5:00P.M. CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED
 (PACIFIC TIME ZONE) DISTRICT OF COLUMBIA (202)483-7616 ALL CALLS RECORDED

SECTION II - HAZARDOUS INGREDIENTS

CONCENTRATIONS	TLV (PPM)	EFFECTS (SEE REVERSE)	% IN PROD.
MINERAL SPIRITS ** lignoin; aromatic naphtha CAS# 64741-41-9; RTECS# SE7555000 HA PEL 500 PPM	100	CNS CBL	70-80
TETRACHLOROETHYLENE ** perchloroethylene, percl CAS# 127-18-4; RTECS# WX3850000 HA PEL-25 ppm	50	CNS IRR CAR	20-30

IDENTIFIES CHEMICALS LISTED UNDER SARA-SECTION 313 FOR RELEASE REPORTING.

GENERAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED.

SECTION III - HEALTH HAZARD DATA

HEALTH EFFECTS OF OVEREXPOSURE:

INHALATION OF VAPOR CAN PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION CHARACTERIZED BY DIZZINESS, HEADACHE, NAUSEA, CARDIAC AND/OR RESPIRATORY DEPRESSION, STUPOR, UNCONSCIOUSNESS AND DEATH. IN EXTREME CASES, EXPOSURE TO HIGH CONCENTRATIONS OF VAPOR BY DIRECT CONTACT OR INHALATION CAN BE IRRITATING TO MUCOUS MEMBRANES, EYES AND UPPER RESPIRATORY TRACT. SEVERE EYE EXPOSURE TO LIQUID CAN CAUSE REVERSIBLE EYE DAMAGE. SKIN CONTACT MAY CAUSE A BURNING SENSATION AND IRRITATION OF THE SKIN. INGESTION OF THIS PRODUCT OR ASPIRATION OF GASTRIC FLUIDS, MAY CAUSE CHEMICAL PNEUMONITIS. EXPOSURE TO THIS PRODUCT MAY AGGRAVATE EXISTING RESPIRATORY AND CARDIAC CONDITIONS.



MATERIAL SAFETY DATA SH MEN02899

AND SAFE HANDLING AND DISPOSAL INFORMATION

ZEP MANUFACTURING COMPANY
ST IN MAINTENANCE PRODUCTS

SECTION IV - SPECIAL PRECAUTION INFORMATION (CONTINUED)

EFFECTS OF OVEREXPOSURE
EYE OR TRAC... RESPIRATORY OR SKIN ABSORPTION MAY PRODUCE...
THEY DAMAGE... GENERAL... SYSTEM...
... SKIN WHICH IS...
... TO IRRITATION,
... AND DERMATITIS.

THE INGREDIENTS IN THIS PRODUCT HAS BEEN SHOWN TO CAUSE TUMORS IN LABORATORY ANIMALS. THE RELEVANCE OF THESE STUDIES FOR HUMANS HAS NOT BEEN ESTABLISHED.

PERCENTAGE NOT ESTABLISHED. PRIMARY ROUTES OF ENTRY: INH, SKIN
CORROSIVE: NO, IRRITANT: NO, FLAMMABLE: NO, REACTIVE: NO, PERIODICALLY PROTECTIVE: YES, CHRONIC HAZARD: YES

SAFETY PROCEDURE -
WASH CONTAMINATED... APPLY A...
SKIN CREAM WITH... IRRITATION PERSISTS...
IMMEDIATELY FLUSH EYES WITH PLentiful WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.
IF SWALLOWED... IF BREATHING HAS STOPPED, PERFORM RESCUE...
IF SWALLOWED... IF VOMITING OCCURS, KEEP HEAD BELOW HORIZONTAL... IMMEDIATELY.

SECTION IV - SPECIAL PRECAUTION INFORMATION

PROTECTIVE CLOTHING: WEAR RUBBER GLOVES OR USE GLOVES WITH DEMONSTRATED RESISTANCE TO THE INGREDIENTS IN THIS PRODUCT.
EYE PROTECTION: WEAR TIGHT-FITTING, ANTI-FLASH-PROOF SAFETY GOGGLES (CONTACT LENSES SHOULD NOT BE WORN WHEN HANDLING THIS MATERIAL).
RESPIRATORY PROTECTION: IF EXPOSURE IS PROLONGED, WEAR A PROPERLY FITTING MSA OR OSHA-APPROVED RESPIRATOR.
VENTILATION: VENTILATION SHOULD BE EQUIVALENT TO OUTDOORS. USE EXHAUST FANS AND OPEN WINDOWS IN ENCLOSED SPACES.

SECTION V - PHYSICAL AND CHEMICAL DATA

BOILING POINT (F)	250-280	RELATIVE DENSITY	0.92
VAPOR PRESSURE (MMHG)	20-30 @20C	PERCENT VOLATILE BY VOLUME (%)	100
DENSITY (AIR=1)	N/A	EVAPORATION RATE (TOLUENE)	1) 0.06
SOLUBILITY IN WATER	INFILTRABLE	PH (CONCENTRATE)	N/A
		PH (USE DILUTION OF)	N/A
COLOR AND ODOR	Colorless liquid	ODOR	Hydrocarbon

SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT (F) (METHOD USED) 120F (TCC)
FLAMMABLE LIMITS LEL N/A UEL N/A
EXTINGUISHING MEDIA CO2, DRY CHEMICAL, FOAM
PIPE FITTING...
PIPE MATERIAL...



MATERIAL SAFETY DATA SHEET

MEN02900

AND SAFE HANDLING AND DISPOSAL INFORMATION PAGE 3 OF 3

ZEP MANUFACTURING COMPANY
ST IN MAINTENANCE PRODUCTS

DATE: 01/01/00
ZEP FORM 474P
PROJECT PEOPLE

STABILITY	STABLE
HEAT STABILITY (AVOID)	HEAT, OPEN FLAME, SPARK, AND OXIDIZING AGENTS
OXIDIZATION	NO
ACIDOUS DECOMPOSITION	NO
ALKALINE DECOMPOSITION	NO
REACTIVITY	NO
EXPLOSION	NO
FLAMMABILITY	NO
TOXICITY	NO
IRRITATION	NO
CORROSIVENESS	NO
ENVIRONMENTAL HAZARD	NO

SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
IMMEDIATELY EVACUATE AREA AND ISOLATION AND HIGH-HEAT SOURCES. ABSORB SPILL
WITH APPROPRIATE MATERIALS. PICK UP AND PLACE RESIDUE IN A
CONTAINER SPECIALLY DESIGNED FOR THIS PURPOSE. WASH AREA THOROUGHLY WITH A
MILD DETERGENT SOLUTION AND RINSE WITH WATER.

DISPOSAL METHOD

MATERIAL CANNOT BE SENT TO LANDFILL, UNLESS SOLIDIFIED. UNUSABLE PRODUCT AND
CONTAINER SENT TO MAINTENANCE WASTE. MUST BE DISPOSED AS A HAZARDOUS WASTE AT A PERMIT
TREATMENT, STORAGE, AND DISPOSAL FACILITY. UNUSABLE WASTES MAY REQUIRE TREATMENT
BEFORE BEING APPROPRIATE FOR LANDFILL. REFER TO LOCAL TOXIC CHEMICAL OR INDUSTRIAL
WASTE LANDFILL. CONSULT LOCAL, STATE, AND FEDERAL AGENCIES FOR PROPER DISPOSAL
METHODS IN YOUR AREA.

HAZ WASTE CODE: D001, F001, S01, A01

SECTION IX - SPECIAL PRECAUTIONS

- PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING
- KEEP CONTAINER STORED AWAY FROM HEAT, SPARKS, OPEN FLAME, OR ANY SOURCE OF IGNITION
- CONTAINER TIGHTLY WHEN NOT IN USE. PROTECT FROM SUN AND HEAT
- IF CONTAINER OR SHOPS WHICH BECOME CONTAMINATED WITH SUBSTANCE SHOULD BE REMOVED
IMMEDIATELY AND NOT REWORK UNTIL THOROUGHLY CLEANED
- VAPORS ARE HEAVIER THAN AIR AND WILL ACCUMULATE AT LOW POINTS. VENTILATION
MAY INCLUDE FLOOR LEVEL EXHAUSTING
- KEEP PRODUCT AWAY FROM FACE AND EYES
- DO NOT BREATHE SPRAY MIST
- KEEP OUT OF THE REACH OF CHILDREN

SECTION X - TRANSPORTATION DATA

PROPER SHIPPING NAME: NONE
 HAZARD CLASS: N/A
 ID NUMBER: N/A
 DOT PLACARD: NONE
 OSHA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED
 OSHA 40CFR PART 117 SUBSTANCE (POQ IN A SINGLE CONTAINER): NONE

Section 4-Fire and Explosion Hazard Data

Flammability Classification: OSHA None

DOT: Not Regulated

Flash point: NONE

LEL:NA

Extinguishing Method: None Required

Unusual Fire and Explosion Hazards: sealed containers may burst due to build-up of internal steam. Keep cool.

Special Fire Fighting Procedures: Water, CO2, dry chemical.

Section 5-Health Hazard Data

Permissible Exposure Level: See Section 2

Threshold Limit Value: See Section 2

Effects of Overexposure: Prolonged contact with skin can result in irritation and inflammation. WEAR GLOVES. Ingestion will not cause vomiting. DO NOT INGEST. Avoid contact with eyes and mucous membranes. Ingestion could cause damage to mucous membranes.

Emergency and First Aid Procedures:

Skin:wash with soap and water. Apply skin cream. **Eyes:**flush with water for at least 15 minutes. Get medical attention. **Ingestion:** will not induce vomiting. Give citrus juices, diluted vinegar, large amounts of water or milk. Call a doctor.

Section 6-Reactivity Data

Stability:__unstable__XX_stable

Hazardous Polymerization:__may occur__XX_will not occur

Hazardous Decomposition Products: NONE

Conditions To Avoid: NONE

Incompatibility(materials to avoid): Acidic products

Section 7-Spill or Leak procedures

Steps to be taken if material is released or spilled:

Contain and remove with inert absorbent rags or sand.

Eliminate all sources of ignition.

Waste Disposal Method: Dispose according to local, state and federal regulations. Use licensed hazardous waste disposal company.

Biodegradeable.

Section 8-Safe Handling and Use Information

Respiratory Protection: If PEL or TLV is exceeded use NIOSH respirator TC 23C or equivalent.

Ventilation: Provide sufficient mechanical or local exhaust to maintain exposure below PEL or TLV. Follow OSHA 29CFR part 1910.94

Protective Gloves: Neoprene or Nitrile rubber

Eye Protection: Safety Glasses with side shield

Other Protective Clothing: Wear impervious clothing and boots

Hygienic Practices: Wash hands after using. Do not eat while using prdt.
Do not smoke while using product.

Section 9-Special Precautions

Precautions to be taken in Handling and Storing:

Protect from freezing. Store away from heat.

Other Precautions: Do not reuse container. Prevent breathing of vapor or spray mist. Avoid contact with mucous membranes.

Notes and Approvals:

IndustraSolv has compound authorization as an approved degreaser for use in Federal inspected plants operating under the Food and Drug Administration and the Meat and Poultry Inspection Programs.

All ingredients conform to FDA Act CFR 176.170 and CFR 176.180

Meets all Right-to-Know Law Regulations

Members of National Food Processors Association (NFPA)

Members of American Institute of Plant Engineers (AIPE)

Members of Paper Industry Management Association (PIMA)

Ford Motor Company Tox. No. C2-024889

General Motors Corporation Health Control No. 5134

Government Services Association (GSA) Approved for factories dealing with government contracts and installations.

Contains no chemicals known to cause cancer or reproductive toxicity, according to the State of California Proposition 65.

The information accumulated herein is true and accurate. It is not warranted to be, whether originating with manufacturer or not. Recipients are advised to confirm in advance of need that the information is current, applicable and suitable to their specific needs. AMAX Industrial Products div. will under no circumstances be liable for consequential damages.

LISTED SPILLS AND EVENTS AT THE OTSEGO FACILITY

DOCUMENT #53

WHITE WATER LEAKS

DOCUMENT #53A

Jan 16, 1986

Found water spraying about 20 feet
into air + going to river. No leak at
3:00AM but was spraying at 5:00AM.

Estimated flow - 50 gpm = 9000 gallons 'S

Estimated time - 180 min

COD - 3026

S. Solids - 88 mg/l

BOD = 227 Lb

Solids = 7 Lb

1/21/86

Found very small leak going to river just west of dam.

Estimated flow - 5 gpm

= 3600 gallons

Estimated Time - 720 min, max

COD - 3136 mg/l

S. Solids 536 mg/l

BOD = 94 L.B.

Solids = 16 L.B.

Paper tester found a leak going to the river at 2:00 AM. Because of a report of steam rising in that area, the bank had been inspected at 4:00 PM and again at 7:00 PM but no leak was found.

Estimated flow - 20 gpm

Estimated time - Leaking only when pump was running - 270 min.

Total gallons = 5400

COD = 3736 mg/l

S. Solids = 304 mg/l

BOD = 168 Lb.

Solids ~~304~~ = 14 Lb.

3/20/85

Leak found in Influent pipe at
10:00 AM - Not leaking at 3:00 AM
when paper tester went past.
Est. leak started @ 7:00 AM.

Estimated flow - 25 gpm
Estimated time - 180 min

Total gallons = 4500 gal.

COD - Tester down
S. Solids - 304 mg/L

BOD = Tester down
S. Solids = 11 Lb.

Leak found in Influent pipe at
7pm - not leaking at 8pm.
Not leaking at 1:00pm WHEN waste
treatment operator went by.
~~Est.~~ At worst case leak started
at 1pm.

ESTIMATED FLOW - 256 GPM

ESTIMATED TIME - 240 minutes

TOTAL GALLONS - 6000 gal

COD - 8640 / 3370 mg/l BOD

S. SOLIDS - 256 mg/l

BOD - 168 LB.

S. SOLIDS - 13 LB.

4/29/86

Leak (slight trickle) found in
influent pipe at 10:00 AM. Due
to small size it would probably
not have been noticed at night.
Worst case - leak start at 6:00 PM
after paper tester went through.

Estimated flow - 5 gpm
Estimated time - 960 min

Total gallons - 4800

COD - 3370 mg/L
S. Solids - 324 mg/L

BOD - 135 Lb
S. Solids - 13 Lb

5/2/86

A leak was noted in an area which had previously been dug up and left open. This was watched and shut down when the hole filled with water. This was not shut down immediately because at the time we were dipping the surge pond.

5/5/86

The ground was damp around the valve by the dam. This was dug up and a pinhole leak was repaired. Also one of the expansion joints was dug up and replaced with a heavy one. No flow to river

5/22/86

Expansion joint blew out. Okay at 1:00PM
Leaking at 2:00PM.

Estimated flow - 250 gpm

Estimated time - ~~15,000 gal~~ 1 hour

Total gallons - 15,000

COD = 3611 mg/L

S. Solids = 116 mg/L

BOD = 452 Lb

S. Solids = 15 Lb.

6/3/86

The ground was wet near the valve
by the dam. This was dug up,
a very small leak was repaired.

No flow to river

9/9/86

Leak by dam was going to river
Not leaking at 1:00PM but was
running at 2:55PM.

Estimated flow - 15 gpm
Estimated time - 90 minutes

Total gallons - 1350 gallons

COD = 2917 mg/l
S. Solids = 396 mg/l

BOD = 3326
S. Solids = 4516

9/12/86

Very small leak bubbling up at
valve by dam. Water was soaking
away into ground with no flow
getting to river.

9/28/86

Expansion joint by dam was found to be leaking at 5:30. Pumps were sh down at 6.00.

Estimated flow - 40 gpm
Estimated time - 30 min.

Total gallons - 1200 gallons

COD = 3136 mg/l
S. Solids = 275 mg/l

BOD 314 lb.
S. Solids 28 lb.

11/25/86

The line from the SL1 to the main Influent line blew a gasket at 2:00 AM. When the pump came on water would run to the surface and out the storm drain. This was dug up and stopped by 4:00 AM. White water discharge to the river was negligible.

2/11/88

The valve which discharges broke to the surge pond froze, allowing the chest to fill and run out the top. Sand was brought in to stop water from leaving the area around the spill. Before the dyke could be completed approximately 200 gallons of white water ran into the river.

The suspended solids is estimated @ 400mg,
The COD is estimated @ 3611 mg/l

$$\text{BOD} - 3611 \times 8.34 \times .0002 = \underline{6L6}$$

$$\text{Susp. S.} - 400 \times 8.34 \times .0002 = \underline{1L6}$$

5/12/89

On 5/10/89 water from the #7 Vacuum pump discharged to the #1 Machine roof. The water came out the air discharge stack. The cause was a bent discharge line which was damaged by a bobcat. A secondary cause may have been that the deaerater was not put on line when #1 Machine was started up at 4:30PM.

After discussions with Maynard Harris and Lance Card I have estimated the \$kw of water at 5 gpm. The estimated time of flow is 12 hours or less.

$$\text{BOD } 2570 \text{ mg/l} \times 8.34 \times 0.0036 = 7746$$

$$\text{Susp. S. } 95 \text{ mg/l} \times 8.34 \times 0.0036 = 346$$

$$5 \text{ gpm} \times 12 \text{ hrs} \times 60 \text{ min/hr} = 3600 \text{ gallons}$$

*memo*NICHINASHA
CORPORATION

TO: Distribution

DATE: September 11, 1989

SUBJECT: Environmental Incident Report

FROM: Keith Kling *KBK*

On August 10, 1989, we experienced an overflow of the main white water storage chest. Circumstances are as follows.

During the day shift of 8/10/89, both machines were down; #1 for a wire change and #2 for planned maintenance. About 4:50 p.m. #1PM started up. At 3:45 p.m. #2PM started up, but shut down and restarted about 5:15 p.m. When the machines started up, the Wood Hi-D, Kraft Hi-D, and Broke Chests were all nearly full. From about 5:15 p.m. on, the stock flow from #1PM ran 2100 GPM and #2PM ran about 420 GPM. This returned about 2400 GPM to the white water chest. The digester started up at 6:15 p.m. and the secondary fiber system started at 6:30 p.m. Until this time all water from the white water chest had to be removed through the influent pumps. At 5:30 p.m. the main influent pump started and was pumping 1200 GPM. About 10 minutes later, the backup pump came on and the flow went up to 1400 GPM. The flow continued until about 7:00 p.m. when the backup pump plugged. It was cleaned and the flow went up to 1480 GPM. This was inadequate to keep up with the water flow into the chest. This resulted in an overflow out the overflow pipe and eventually, over the south side of the chest.

There were varying reports of how serious the water spill was ranging from no water reaching the river to several hundred gallons per minute being spilled there. The quick response of the front end loader operator seems to have minimized a serious environmental problem both by dyking along the river, and by ditching an area in the parking lot to catch the spill. Even so, an area of the riverbank about 3 feet wide by 10 inches high was stained with white water. It appears that 1000 gallons more or less may have been spilled to the river. Although this type of spill would not put us over our permit limit, it sends the DNR a clear message about our ability to control our process.

The main cause of the spill was high water use from the paper machines while no stock was made up. To help prevent a recurrence of this problem, a notch has been cut into the side of the chest for additional flow capacity. The modification will allow about 1200 GPM overflow. The original overflow allows about 800 GPM and the influent pumps will remove 1200 GPM. This allows for a total of 3200 GPM to be put to the chest without overflowing to the river. Keep in mind that 2000 GPM of this is going back into our basements.

Page 2
KBK - Environemtnal Incident Report

Even with the increased flow capacity back to the basement, the flow balance is marginal. Except in emergency situations, planning around our white water capacity should go into every machine shutdown. Shutting down with the broke chest, Kraft Hi-D, and Wood Hi-D full is an invitation to a spill.

cc: John Bonham
Jim Porter
Mike denOtter
Paul Jachim
Ken Hartman
Jay Thiessen
Al Coleman
Maynard Harris
Ron VanNoord
Luke Arendash
S.J. Rosenthal
Foremen (8)
LBX Books (8)

KBK:amc

TO: Distribution

DATE: October 17, 1989

SUBJECT: Environmental Incident Report

FROM: Keith Kling *KBK*

On October 9, 1989 we again overflowed the south side of the main white water storage chest. Circumstances are as follows.

During the morning of October 9, with both machines running, the digester was shut down to complete some maintenance. The secondary fiber system was also shut down about that time because the Hi-D chest was nearly full. The white water chest level began to rise and reached a critical level about 10:30 a.m. The addition of water to the chest was compounded by broke usage of 950 gpm at #1PM. The chest level was being watched by the Production Foreman and the Digester Operator. As soon as the chest began to run over, the following actions were taken:

1. The secondary fiber system was started back up to use some of the white water.
2. The #1PM was notified of the problem and broke usage was cut from 950 gpm to 550 gpm.
3. The Environmental Supervisor was notified of the overflow and what actions had been taken.

The spillage from the tank was very low, estimated at about 10 gpm. The overflow lasted about 14 minutes. The water ran to the storm drain which goes directly to the river.

The actions taken limited the spill to an insignificant environmental concern. It does however, still underscore a serious potential problem. The following actions could have diminished this problem totally preventing the spill.

1. The appropriate high level tank overflows had been running over for nearly an hour. This indicated a developing problem. At that time, the broke usage at #1PM should have been cut back. Consideration about starting secondary fiber sooner should also have been given.
2. When the three chest overflows all were running over, the only other place the water could go was to the basement or over the south end of the chest. The #2PM U-drain pumps should have been shut off, diverting water from the chest to the basement.

Page 2

KBK - Environmental Incident Report

The last memo on this problem described how closely the water balance in and out of the chest is. It has been decided that the only long term solution will be to increase the size of the third overflow. Provisions are presently being made by Engineering to increase the capacity from 1000 gpm to 3000 gpm. This increase, as well as usage of correct procedures during high water flows, should totally eliminate spills from this chest to the river.

cc: John Bonham
Jim Porter
Mike denOtter
Paul Jachim
Ken Hartman
Jay Thiessen
Al Coleman
Maynard Harris
Jack Bray
Ron VanNoord
Luke Arendash
S.J. Rosenthal
Foremen (8)
LBX Books

KBK:amc

Memo MENASHA CORPORATION

TO: Keith Kling

FROM: Gary Roys *GR*

DATE: April 10, 1991

SUBJECT: White Water Spill 4/7/91

=====

On 4/7/91 at 6:50 a.m., a white water flow was found going to the Kalamazoo River, over the South bank, from secondary fiber. The flow was stopped by 7:20 a.m.

The cause of the white water flow was due to the failure of the "chopper" pump, in the new pulper building. The pump failed when the internal check valve of this pump plugged. The "chopper" pump receives water from the Powerhouse basement sump, and the Secondary Fiber basement. The "chopper" pump then pumps this water into the pulper tub. Presently there is no other outlet for this water from the new pulper building, so when the pump failed, flooding the basement the excess waters flowed out of the west door and eventually to the river.

The "chopper" pump was last inspected at 4:30 a.m. when secondary fiber was shutdown. The down lasted until 5:30 a.m., at which time water would again be pumped to the new pulper sump. It takes about 30 minutes to fill the new pulper basement to the point where water would begin to run on the ground, and some unknown period of time before the white water starts going to the river. The time for flow to the river was about 80 minutes or less, at an estimated flow of 10 GPM. This gives a total volume of 800 gallons. At suspended solids concentrations of 850 mg/l, and BOD of 4672 mg/l, a total of 5# of suspended solids and 31# of BOD were put into the river via this flow.

To prevent another occurrence the following has been initiated:

1. The sump in the new pulper basement will be inspected each hour by the Pulper Operator.
2. A work order has been written to install a high level alarm on this sump.

cc: John Bonham
 Andre Fischbach
 Len Myers
 Al Switzenberg
 Maynard Harris
 Production Crew Managers (4)
 Ken Simons

GER:amc

5/26/91

AES Screen plugged allowing a whitewater to flow back to whi water chest. This overflowed to th basement. The #5 (chopper) pump was plugged so water ran out the west door and to the stor sewer. Rod Evink was watching this and found the plugged pump. The spill ran for 15 minutes or less.

(5/23)

BOD - 3187 mg/l

$$3187 \times 8.34 \times .0015 = 40 \text{ Lb.}$$

TSS - 670 mg/l

$$670 \times 8.34 \times .0015 = 8 \text{ Lb.}$$

Flow = 100 gpm for 15 min.

9/22/91

The whitewater chest overflowed on 9/23/91 at 6:00 AM for a short time, running to the storm drain. This was from a combination of process conditions.

- 1) Primary Inf pump @ 520 gpm
- 2) Kraft H D ↓ 38-14 in 3³/₄ hrs.
- 3) Broke Chest ↓ 34-16 in 2 hrs.
- 4) The #2 U-Drain pumps were not shut down.
- 5) The #1 U-Drain pumps were not shut down.
- 6) The berm at the digester was incomplete
- 7) A fiber crust on the white water chest plugged flow to the surge tank.

9/30/91

U-Drain under detrasher dumpster
plugged on 9/29, running out onto
ground. This was not corrected a.
water began to run to the ru
some time after 7:00 AM on 9
It ran about 10 gpm for an
estimated 1 hour until a ber
was constructed to halt the flo
Total gallorage estimate = 1200 g

10/1/91

The brook chest overflowed about 2:30 AM running into the bermed area south of the digester. The water sorted through the berm and discharged to the storm drain at a rate of $\frac{1}{2}$ gpm. Estimated time was 7 hours.

Total gallons = 210 gal

10/9/91

The secondary fiber basement flooded & ran to the river on 10/9/91 at about 5:30 AM. It was running at a rate of 10gpm for an estimated time of 2 hour. At the maximum the flow would have been 500 gal

Causes were

Hydrandenser Accepts tank overflowing

Tertiary supply tank overflowing

Machine rejects flowing to #3 sump.

~~Machine~~ Secondary fiber will close overflow

14 Ft pulper overflowing

Rejects sorter accepts tank overflowing

Three surplus people cleaning up.

Machine cleaner rejects high

~~At~~ Above problems were putting more water to sewer than chopper pumps could handle

LIQUOR LEAKS

DOCUMENT #53B

 **MENASHA CORPORATION**

November 20, 1985

Department of Natural Resource
P.O. Box 355
Plainwell, MI 49080

Gentlemen:

Around 12:30 A.M. on November 14, spent cooking liquor (chemicals and water used to help break down wood chips into fiber) was found flowing to the Kalamazoo River from the area of a storage tank. The flow was stopped by 1:15 A.M.

Investigation revealed that two valves were opened sometime between 1:00 P.M. and 3:00P.M. on November 13. Previously, these valves were used to divert spent liquor from the digester and a liquor sump to our old liquor pond. This pond had been closed out eariler in the year and through an oversight, these valves and pipe lines were not removed. The spent liquor filled up the berm around the storage tank, eventually overflowing it and flowing to the river.

As a result of this incident, the valves and lines were cut off and welded shut. We have since reviewed our entire spent liquor system for other possible oversights.

Based on normal spent liquor flows and times, we estimate that somewhere between 4,800 and 11,500 gallons of spent liquor reached the river. Based on the visual observation of the path the spent liquor took, we feel the actual flow was in the low end of the calculated range.

Shortly after the spill was discovered, calls were made to the National Response Center and the Michigan Spill Center by John Blauwkamp, our Corporate Environmental Manager.

Samples were collected of the spent liquor and river water at 7 different locations. BOD₅ and D.O. test were run on all river water samples. BOD₅, solids and pH tests were run on the spent liquor. The data follows:

Spent Liquor

pH - 9.3
Suspended solids - 2150 mg/l
Total solids - 97,000 mg/l
BOD₅ - 37,200 mg/l

	D.O.	BOD ₅ (mg/l)
Above Menasha Dam	9.2	1.0
North Street Bridge	10.2	3.0
Otsego Dam	10.6	6.0
Trowbridge Dam	11.6	6.0
M-89 E. of Allegan	11.0	2.0
M-89 N. of Allegan	11.1	3.0
Allegan Dam	10.8	3.0

Note: The sample taken above the spill (Above the Menasha Dam) was the only sample not taken from the main river flow area.

Visual observation of the river samples showed no indication of liquor contamination. Based on the speed of the river, the time of the spill and sample collecting and the distances to the Otsego and Trowbridge dams, it is not unreasonable to assume the higher BOD₅ measurements at these points were due to the spent liquor spill.

By making some assumptions on river flow rate and background river BOD₅, we can get another estimate of the spent liquor spill volume. This works out to between 3000 and 5000 gallons, again indicating that the actual flow was in the low end of our estimated volume range.

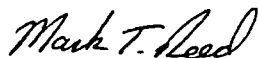
We have not seen or heard of any harmful effects to aquatic life in the river due to the spent liquor spill.

I want to assure you that Menasha is committed to maintaining a clean healthy environment. We have taken action to insure this type of incident does not happen again.

If you have any questions, please call me.

Sincerely,

Menasha Corporation
Otsego Paperboard Division



Mark Reed
Technical Manager

cc: B. Buchanan	T. Oldham
R. L. Janda	G. Roys
J. Blauwkamp	F. Katje
K. Kling	L. Koivumiemi


kj

memo**ALLEGAN
CORPORATION**

TO: File Notes

DATE: November 14, 1985

SUBJECT: Liquor Spill

FROM: J.R. Blauwkamp


3:00 A.M.

Called the National Response Center at 2:30 A.M. Called the Michigan Spill Center at 2:40 A.M. Leaving to take river samples at 3:07 A.M.

Sample #1 - taken from east side of the river just down stream from the Allegan Dam. Sample was taken at 3:25 A.M. about 15 feet from shore.

Sample #2 was taken from center of the bridge at east end of Lake Allegan just northwest of the city where M89 cross the river. The sample was taken at 3:40 AM.

Sample #3 was taken from the center of the river on the bridge where M89 crosses the river on the south side of Allegan right next to the River Side market. The sample was taken at 3:52 A.M.

Sample #4 was taken from the center of the bridge on 26th St. just downstream from the Trowbridge Dam. Sample was taken at 4:03 A.M.

cc: Mark Reed
Keith Kling

kj

8/31/86

The seal went bad on the weak liquor pump allowing about 3 gpm of liquor (5%) to go to the storm drain for 75 min.

$$3 \text{ gpm} \times 75 \text{ min} = 225 \text{ gallons} \\ 20,000 \text{ mg/l BOD} \times 8.34 \times 1,000 \text{ gal} =$$

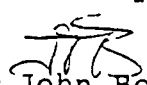
375 Lb BOD

*memo*MILWAUKEE
CORPORATION

TO: Distribution

DATE: January 25, 1988

SUBJECT: Overflow of Weak Liquor Tank

FROM:  John Bonham

On Monday, January 18, approximately 2,000 gallons of weak liquor spilled inside the containment wall around the millside weak liquor tank. Circumstances are as follows.

Approximately 7:15 a.m., SLI personnel noticed that the weak liquor tank level had reached 27 feet. Normally the pump to the tank farm comes on automatically at 26 feet. The pump was switched to manual, but it didn't work. The other pump off the weak liquor tank feeds the evaporator. Since these pumps are not tied together, and the evaporator was not scheduled to come on line until later that morning, the decision was made to let the tank overflow into the SLI basement via the existing overflow pipe. From there, the SLI sump pumps would pump the liquor to the tank farm.

The pumps off of the weak liquor tank were close to being flooded. A seal water line had broken inside the containment wall and filled the containment area inside with water. The pump to the tank farm had water up to the end bell, and the evaporator pump had water on the end bell. Maintenance had rented a pump to empty this water out. While they were trying to start this up, the electricians were looking for an electrical problem with the pumps.

At this point, prior to the liquor reaching the overflow pipe, it began to gush out of a hole on the west side of the tank. The hole was located next to the old overflow line which had been disconnected and capped. It appears to have occurred through corrosion of the mild steel tank.

The leak was spotted immediately. Duane Wills called Mike denOtter and myself, and we headed straight back to the tank. The maintenance personnel were just getting the rented pump started to pump out the water inside the containment wall back to the SLI basement. Duane indicated that he was having the evaporator pump megged so that it could be put on line. I came back up front and notified Jim Porter of the problem. We decided to shut off the washing at the digester, and did this immediately. Just a couple of minutes later Duane called to inform me that the pump to the tank farm was running, and that the tank leak had stopped. Washing was started at the digester about 15 minutes later. A few minutes after that, the liquor pump to the evaporator was started.

There was no maintenance problem found with the tank farm pump. After several attempts to start it resulted in trip outs due to overload, it finally started and has run well since.

Page 2

The leak area was examined on January 19, and found to have a large hole corroded through the tank. The area was cut out and patched on January 20. Ultrasonics thickness testing of the tank is being planned through myself and Al Coleman to identify potential trouble spots. A work order has also been written to tie the two weak liquor tank pumps together, so both can pump either to the tank farm or the evaporator.

The response to this problem was generally good from both maintenance and production people, and overflow was stopped relatively quickly. The standing water in the containment area helped to dilute the liquor and to minimize the potential for soil contamination. Until the floor slab is poured for this area we will be vulnerable to soil contamination from spills. This needs to be completed as quickly as weather allows.

cc: Jim Porter
Al Coleman
Duane Wills
Mike denOtter
Mark Reed
Machine Foremen
Pulpmill Foremen
Burt Saunders
Ken Hartman
Ron Thaxton
Tom Clemmons

/ac

memoMILVASTIA
CORPORATION

TO: Distribution

DATE: February 8, 1988

SUBJECT: Overflow of Weak Liquor Tank

FROM: Keith Kling

KBK

On Wednesday, February 3, approximately 1,500 gallons of weak liquor spilled inside the containment wall around the millside weak liquor tank. Circumstances are as follows:

Ron Thaxton and Dave Genka noticed liquor running from beneath the insulation on the west side of the tank. Ron notified me of the problem at 1:00 p.m.. I immediately called Duane Wills, who had the tank level brought down.

The leak in the tank was found to be at the 24 foot level. A review of the level chart for this tank showed that the tank level was above 24 feet for 2 1/2 hours and reached a level of 25 1/2 feet for a short time.

The problem was found to be three small leaks on the weld of the patch made on January 20. The soundness of the previous repair had not been checked after completion. This problem could have been avoided by checking the repair after completion.

The environmental impact and additional costs to the containment wall project are unknown at this time. The standing water from previous rain and snow melt will help dilute the liquor and minimize contamination to the soil. As soon as thawing occurs, the liquid should be pumped to the weak liquor tank, the area cleaned up, and the floor poured.

KK/cle

cc J. Porter
J. Bonham
A. Coleman
D. Wills
M. denOtter
M. Reed
Machine Foremen
Pulpmill Foremen
B. Saunders
K. Hartman
R. Thaxton
T. Clemmons

TO: Distribution

DATE: February 18, 1988

SUBJECT: Leak in Weak Liquor Tank

FROM: Keith Kling *KBK*

On Monday, February 8, we had another leak in the weak liquor tank allowing a spill of approximately 1000 gallons of weak liquor. Circumstances are as follows:

While making routine inspections during the 11-7 shift, Rich Sweetland found liquor running through the insulation on the west side of the millside weak liquor tank. The level of the tank was immediately lowered until it was below the level of the leak.

On the day shift, the insulation was removed and a small hole was found at about the 16 foot level of the tank. The metal within a foot of the leak was very fragile and could easily be punctured with a light blow from a hammer. Our maintenance people put a patch over the worst area and put the tank back into service. Since that time the tank level has been brought up to 23 feet without further leakage.

The actions taken on this incident were very good and resulted in very little liquor getting to the ground. Due to the two previous leaks, the amount of cleanup necessary is unknown at this time.

In talking to S.J. Rosenthal about this repair, the integrity of this tank must be considered highly questionable. As soon as the floor of the containment area is completed a plan to reinforce this tank should be undertaken.

KK/jj

cc/	J. Porter	K. Hartman
	M. denOtter	T. Clemmons
	A. Coleman	M. Reed
	D. Wills	J. Bonham
	Pulpmill Foremen	Machine Foremen
	LBX Books	

*memo*MEN02941
CORPUS HAI IUN

TO: Distribution

SUBJECT: Environmental Incident Report

DATE: June 2, 1989

FROM: Keith Kling *KBK*

On May 9, there was a spill of weak liquor to the ground at the Powerhouse. Circumstances are as follows.

Kalamazoo Valley Industrial Cleaning Inc. was called in on May 9 to high pressure clean the liquor line from the digester to the weak liquor tank. This job was performed in the late afternoon. About 4:30 p.m. the Powerhouse personnel noticed a substantial amount of weak liquor on the ground and the asphalt by the weak liquor tank. John Bonham and I were notified. We checked it out and immediately set up a sump pump and pumped the liquor into a containment area. After containing the spill, I called Kalamazoo Valley about the problem. Their explanation was that it was standard practice at our plant to break apart the flanges when cleaning the liquor pipe. They said that the pipes were quite dirty this time so there was more material washed to the ground. I informed them that this practice was to be stopped immediately. A meeting to discuss proper procedures was set up and held on May 16.

The following corrective actions were defined and appropriate work orders were written.

1. The entire length of pipe was walked. Cleanout points were defined.
2. A spoolpiece with 2 - 45° cleanouts was designed. This will limit contaminants running out of the pipe.
3. It was agreed that joints will not be opened unless there is a capability of capturing the liquor.
4. A platform is being built at the west cleanout for safety reasons.
5. A ladder will be installed at the cleanout by secondary fiber to provide access.

This incident did not cause a significant contamination problem because most of the area was surrounded by asphalt or cement. Also the quick response by the Powerhouse personnel helped in limiting how far the liquor spread.

Page 2

The main learning to come from this incident is that we can no longer assume past practices are acceptable. Whenever a pipe is opened it must be drained to an area which is contained within our system. When hiring outside contractors, they must be clearly informed of this policy. If questions come up, the Technical Staff should be notified.

cc: John Bonham
Jim Porter
Mike denOtter
Paul Jachim
Ken Hartman
Al Coleman
Don Osland
Andre Fischbach
Maynard Harris
Ron VanNoord
Joe Curry
John Elmore
SJ Rosenthal
Foremen (8)
LBX Books (8)
Jeff Volker

/ac

5/16/91

Liquor leak in line from digester to SL1. Several hundred gallons spilled down side of building onto asphalt and dirt East of secondary fiber. This ran into the turbine cystem. This unit is no longer run so it was captured in the cystem. Al Coleman rented a portable pump and drew water from the cystem to the coal pit all night. On 5/17 I had Cushman Construction dig up and permanently seal the line between the cystem and the river. The cystem has since been pumped down 30 feet several times. This water was pumped to the SL1 basement.

STOCK SPILLS

DOCUMENT #53C

June 15, 1982

Marge Spruit
Water Quality Specialist
State of Michigan Office Bldg.
350 Ottawa St. N.W.
Grand Rapids, MI 49503

Dear Marge;

Shortly before 7 A.M. on May 30, 1982, the surge pond began overflowing to the river. The mill personnel, immediately took steps to reduce the volume ^{of} water going to the surge pond and began increasing the height of the dyke between the surge pond and the river. By 8:30 A.M. the flow to the river had been reduced to a trickle and by 9:00 A.M. it had stopped completely. After initiating actions to stop the flow to the river, we began collecting the required downstream river samples. The results of the test performed on these river samples are attached. After making a preliminary assessment of the situation, I called the DNR's-PEAS number to notify them of the incident. The information given them at that time was as follows:

1. We estimated the size of the spill to about 150,000 gallons based on visual observation of the flow.
2. Based on this flow, we estimated that about 4600 lbs. of B.O.D. and 2000 lbs. of suspended solids had been discharged to the river.
3. The D.O. on the river samples confirmed that this relatively low BOD and suspended solids loading had an undetectable effect on the river.

The following week a mass balance was done on the flows into and out-of the surge pond. This indicated that the actual flow to the river was about 76,000 gallons. Based on this flow, the B.O.D. and suspended solids test done on this water. indicated, that 2641 lbs. of BOD

6349

and 35 lbs. of suspended solids were discharged from the surge pond to the river. For this same day, the combined discharge from outfalls 000 and 002 was 349 lbs. of B.O.D. and 237 lbs. of suspended solids. The total of the discharges from the surge pond and the outfalls was 2990 lbs. of B.O.D. and 272 lbs. of suspended solids. Both of these are less than our monthly average permit limits of 3725 lbs. per day of B.O.D. and 3200 lbs. per day of suspended solids.

Table I gives the results of the tests that were conducted on the river samples. The river samples are listed in geographical order from upstream of our plant to the dam on the downstream end of Lake Allegan. The D.O. and pH profile of the river show that, as expected, the quantities of B.O.D. and suspended solids discharged had an undetectable effect on the river. Due to the heavy rain that occurred earlier that morning, samples 2, 3 and 4 were very muddy looking. As expected, these samples had significantly higher total suspended solids than the rest. The concentration of ^{total} Volatile solids in the samples remained essentially constant.

Samples 5 & 6 were the only ones that had a B.O.D. concentration higher than the upstream sample. Sample 5 was taken about 1/4 of a mile downstream from our normal outfall. Sample 6 would also show the effects of the Otsego's waste treatment system and Meads waste treatment system. Most of this slight increase in B.O.D. loading is probably due to the normal discharges rather than the surge pond overflow.

CAUSES OF THE OVERFLOW

The surge pond overflow was caused by a combination of simultaneous

Sincerely,

Menasha Corporation
Otsego Paperboard Division

John R. Blauwkamp, P.E.
Technical Manager

cc: B. Buchanan
R. L. Janda

Tom Ray

JB/kj

memo


**MENASHA
CORPORATION**

TO: Notes to File

DATE: 11 June 1982

SUBJECT: Surge Pond Spill of 5/28/82

FROM: John Blauwkamp

At about 8 A.M. on May 29, 1982, I received a call from Keith Kling informing me that the surge pond had overflowed to the river. At that time, he estimated that about 150,000 gallons of surge pond water had flowed to the river and caused a rather large wash-out where it ran down the bank into the river. I told Keith to continue getting stuff in shape at the mill and I would go out and take samples from the bridges in the Allegan area. I immediately called Bruce and informed him of the situation. At about 10 A.M. I took the first sample from the power plant at the downstream end of Lake Allegan, I then took a sample from the bridge where 89 crosses the river by Riverside Market in Allegan and from the Trowbridge dam. After delivering these samples to the mill for testing, I got samples from the North Street Bridge and then from the Otsego dam at about 1 P.M..

The sample taken from the power plant appeared quite clear, the samples taken from the two bridges in Allegan appeared very turbid. The sample from the Trowbridge dam was also clear as were the samples from the North Street bridge and the Otsego dam. They managed to stop the flow of white water to the river by about 9 A.M. after they got the heavy equipment operator in to increase the height of the dyke between the surge pond and the river. By the time I returned at about 2 P.M., they had noticeably dropped the level in the surge pond and had both pumps running at that time.

At about 2:30 P.M., I updated Bruce on the situation and made the required phone call to the DNR-PEAS number. I informed them that the spill was of approximately 150,000 in size and that the total B.O.D. discharge to the river was on the order of about 4,600 lbs. and about 2000 of suspended solids. For reference to judge the severity of this amount of B.O.D.'s impact on the river, I informed them that our average B.O.D. discharge limit is 3700 lbs. per day and the suspended solids limit is 3200 lbs. per day. I also gave them the telephone numbers where I could be reached. I also informed them that we had taken river samples from the bridges downstream from the spill. They said if they had any more questions, they would get back to me.

Causes of the Spill

As close as we can determine, the causes of the spill are as follows:

1. The accumulation of stock in the surge pond from previous broke spills decreased its effective volume from 250,000 gallons to about 125,000 gallons.

6347

2. The normal flow of water from the mill to the surge pond is about 100,000 gallons per day.
3. In the 24 hours preceding the spill, 375,000 gallons of broke were discharged from the broke chest to the surge pond.
4. Because all of the water from the white water chests was going into the broke chest, there was no flow of white water from the mill to the main effluent pump for about 12 hours. About 6 A.M. the level in the surge pond was high enough such that the thick stock on top of the surge pond flowed back through the surge tanks overflow pipe into the surge tank. This caused the main effluent pump to turn on but thick stock plugged it. Therefore, the level in the surge pond continued to rise as the broke continued to pour into the surge pond.
5. Eventually the surge pond overflowed onto the road and into the river.
6. When the flow to the river was stopped by increasing the dyke along the river bank, there was about 399,000 gallons of water in the surge pond and on the road. A mass balance on the surge pond indicates that about 76,000 gallons of water was spilled to the river.
7. For the hour between the time that the main effluent pump turned on and became plugged, and when the overflow was detected, the paper tester on duty should have noticed that the effluent pump was running with no flow. He would then have investigated the cause of this problem and detected the high level in the surge pond.
8. The digester operator on duty should have noticed that the surge pond level was very high before it started overflowing the road and alerted the tour foremen to this problem.

Actions to Prevent Recurrence

The actions that have been taken or are planned to prevent recurrence of this problem are as follows:

1. It has been clearly established that it is the paper testers duty to routinely check the main effluent pump for proper operation and check the level in the surge pond. A formal schedule and log sheet has been established for these checks.
2. The alarm system in the laboratory will be modified and made operational again to alert people when the effluent pump is running with no flow.
3. The level sensor on the surge pond will be reinstalled and the surge pond high level alarm will be made operational.
4. A new procedure for reducing broke chest discharges to the surge pond has been implemented.
5. The accumulation of fiber in the surge pond will be removed as soon as possible.

cc: B. Buchanan
M. Carlson
S. Young
R. L. Janda

5/29/82

O ₂ depletion w/ saturation	DO	Temp
Time	7.2	70
1 min	6.7	71
4	5.7	71
10	4.7	71
16	4.0	71
20	3.2	71
25	2.35	71
30	1.5	71
35		

5/30/82

Spill to river from Surge Pond due to influent pump going air bound at 4:50 PM on 5/29/82. When Mr. Switzerberg came in at 7:00 AM 5/30/82 he immediately started the surge pond pump. I called the four boss and had the dike along the river reinforced. It is estimated that 150,000 gallons of water was spilled to the river. Seven samples were taken from the river and tested for DO, PH, Suspended Solids, total Solids, volatile total Solids + BOD

Sample #1 - Taken at the power plant

Time	DO	PH	BOD	DO %	DO % Volatile Solids	Total Solids
11:50 AM	8.0		150			300
3:00 PM	8.0		57			59
4:00 PM	8.0		7.8	7.8	7.8	7.8
4:00 PM	8.0		15 mg/L	5.5	3.0	4.8
4:00 PM	8.0		15 mg/L	2.3	4.8	4.8
4:00 PM	8.0		15 mg/L	4.6	4.8	4.8

(4.7)

5:30 PM	Total Solids	627800	26.9823	0.0481 %
0451 TS		26.9650	26.9650	
0015 % SS		35.9652	0.073	
0066 % Volatile Solids		26.9823	26.9770	99.98 %
		6344	0.0053	1306 %

Sample #2 - Taken at M-89 bridge

North of Allegan. 10:10 AM 5/30/82

11:30 AM	DO	- 8.2	BOD	150	300
3:00 PM	PH	- 8.0	6:00 PM	61	103
	250ml	.1764		7.9	7.6
4:00 PM	SS	<u>.1582</u>		<u>5.0</u>	<u>3.4</u>
		.0182		2.9	4.2
				5.8	4.2

5.0

5:30 PM	Total Solids	65.4171	26.8070		
		<u>26.7873</u>	<u>26.7873</u>		.051%
		38.6298	.0197		

Volatile Solids

$$\frac{26.8070}{.0059} - \frac{26.8011}{.0197} = 99.98\%$$

$$\frac{.0059}{.0197} = 29.94\%$$

Sample #3 - M-89 by riverside market
in Allegan at 10:25 AM - 5/30/82

11:30 AM	DO	- 8.1	BOD	150	300
3:00 PM	PH	- 8.0	6:00 PM	105	106
	250ml	.1860		7.9	7.9
4:00 PM	SS	<u>.1598</u>		<u>4.7</u>	<u>3.4</u>
		.0262		3.2	4.5
				6.4	4.5

5.4

5:30 PM	Total Solids	60.7324	25.6313		
		<u>25.6146</u>	<u>25.6146</u>		.0476%
		35.1178	.0167		

Volatile Solids

$$\frac{25.6313}{.0053} - \frac{25.6260}{.0167} = 99.98\%$$

$$\frac{.0053}{.0167} = 31.74$$

Sample #4 - Taken at 26 St. bridge 10:40 AM 5/30/82

11:30 AM	DO	- 8.6	BOD	150	300
3:00 PM	PH	- 8.0	6:00 PM	149	193
	250ml	.1757		7.8	7.8
4:00 PM	SS	<u>.1596</u>		<u>4.6</u>	<u>2.6</u>
		.0161		3.2	5.2
				6.4	5.2

5.8

6342

Sample four continued.

5:30 PM total Solids 58.4296 28.8407 .048%
 $\frac{28.8265}{29.6031} \frac{28.8265}{.0142}$

Volatile Solids $\frac{28.8407}{28.8360} - \frac{99.98\%}{.0047} = 3309$
 $\frac{.0047}{.0047/0.0112} = 3309$

Sample #5 - Taken at North street bridge in Otsego @ 12:10 PM 5/30/82

1:15 PM DO - 8.3 BOD 150 300
 3:00 PM PH - 8.1 6:00 PM 147 198
 4:00 PM ^{250ml} SS $\frac{.1643}{.1586} \frac{.0023\%}{23mg/L}$ 8.1 7.9
 $\frac{3.9}{4.2} \frac{1.0}{6.9}$ 8.4 6.9
7.6

5:30 PM total Solids 71.9061 32.1795 .0428%
 $\frac{32.1625}{39.7436} \frac{32.1625}{.0170}$ 34.7%

Volatile Solids $\frac{32.1795}{32.1736} - \frac{99.98\%}{.0059} = 34.7\%$
 $\frac{.0059}{.0059/0.170} = 34.7\%$

Sample #6 - Taken at the Otsego dam on river road 1:00 PM 5/30/82

1:15 PM DO - 8.2 BOD 150 300
 3:00 PM PH - 8.0 6:00 PM 200 202
 4:00 PM ^{250ml} SS $\frac{.1671}{.1596} \frac{.003\%}{30mg/L}$ 8.0 7.6
 $\frac{4.6}{9.2}$ 9.2

5:30 PM total Solids 69.2102 27.9702 .0427%
 $\frac{27.9526}{41.2576} \frac{27.9526}{.0176}$

Volatile Solids $\frac{27.9702}{27.9645} - \frac{99.98\%}{.0057/0.0176} = 432.39\%$
6343

Sample #7 - Taken upstream of the
Menasha Dam 12:40 PM 5/30/82

12:55 PM DO - 7.8 BOD 150 300

3:00 PM PH - 8.0 6:00 PM 207 213

4:00 PM $\frac{250\text{ml}}{\text{SS}}$.1627 .0016% 7.7 7.3

.1587 16 mg/l 4.0 2.2

.0040 3.7 5.1

7.4 5.1

(6.2)

5:30 PM total Solids 65.7211 25.8843 .0414%

25.8678 25.8678

39,8533 .0165

Volatile Solids

25.8843 25.8783 - 99.98%

.0060

$\frac{.0060}{.0165} = 36.4$

The Dissolved oxygen tests for the BOD's had to be run on the sample which I put in the incubator because there was not enough sample to set up two sets of bottles.

I set up a blank from the dilution water in bottle 205 which was 7.9 PPM O₂

Bottle 205 was 7.5 after 5 days.

TO: John Bonham

DATE: September 29, 1988

SUBJECT: Spill of 9/23/88

FROM: Gary Roys *GR*

On 9/23/88, an upset on the paper machines caused the broke chest to overflow. Presently the paving and curbing of the area has not been completed, and due to a wash-out created during the previous evening by the rain storm, we discharged about 100 gallons of this water to the Kalamazoo River. The area was diked up to prevent any more of this material from reaching the river.

This water contains a BOD of about 3900 mg/l and a suspended solids content of about 600 mg/l. This would add on about 3 lbs. to our daily BOD discharge and about 1 lb. to suspended solids discharge.

cc: Keith Kling

/ac

TO: Distribution

DATE: February 16, 1988

SUBJECT: Broke Chest Overflow

FROM: Keith Kling *KBK*

On Thursday, February 11, there was a major spill of broke to the ground. Water from this spill also reached the Kalamazoo river. Circumstances are as follows.

About 2:30 a.m. paper piled up in the 2nd dryer section of #1 machine following a break. While the paper was dug out, the tour boss elected to run the stock from the wire to the broke chest. At 2:30 a.m. the broke chest was at 17 ft. and the broke flow was 200 gpm. The broke flow was increased to 325 gpm at 2:30 a.m., 410 gpm at 2:45 a.m. and 500 gpm at 3:10 a.m. When the broke chest reached the 30 ft. level stock was taken off the wire. This occurred at 3:45 a.m.

At 4:30 a.m., 5:15 a.m., and again at 5:30 a.m., the broke chest level jumped about one foot, bringing the level to approximately 35 feet. The cause of these increases appears to have been a combination of flow from the sydrapulper, stock from #2 machine and stock from the ten foot pulper. From the charts it appears that a shower on the sydrapulper may have been on. The ten foot pulper was run until shift change. The operator coming on duty noticed the high broke chest level and shut down the pulper.

Shortly after 8:00 a.m., the #1 machine tried to start up resulting in filling of the broke chest to the point where the overflow valve to the surge pond should have opened (36 feet).

John Bonham checked on applicable charts at 8:30 a.m. after reading of the broke problems in the foreman's log. He found the broke chest level to be at 40 feet. He immediately checked the overflow valve and found it to be in the closed position. There was air leaking from the mechanism at that time. He also checked the ground and found that no broke had been spilled at that point.

The instrument foreman was notified of the valve problem and sent an instrument man out to check it. At 8:45 a.m. the tour foreman asked the instrument foreman about progress toward repair and was told it was not an instrument problem. He was also told that all other millwrights were busy with the #2 machine shutdown and were not available to work on the valve. The tour millwright was then sent to work on the valve by the tour foreman. He got the valve to open but found that the pipe was also froze.

The broke chest continued to receive stock from #1 machine as it tried to start up. At about 9:10 a.m., stock began to run out the top of the chest until about 9:45 a.m. when #1 machine began making paper. Stock piled up between the broke and wood chest

Page 2

and surrounding ground. Water from the stock ran to the road by the surge pond. About 200 gallons of water ran over the bank into the river. Earlier that morning the tour foreman told the pulp mill utility man to build a dyke to contain the water if the tank started to overflow.

This incident was one which was entirely preventable. The following items were all improperly handled.

- 1) When it became obvious that the pile up in the 2nd section would not be quickly resolved, the stock should have been taken off the wire.
- 2) When the stock was taken off the wire the broke chest level continued to come up. This should have been investigated.
- 3) The grinderman should have noticed the high level in the broke chest and shut down the ten foot pulper. The tour foreman should also have been communicating with the grinderman on the chest level problem.
- 4) Any one of several people should have noticed that the overflow valve was not working. It was above the overflow level for 20 minutes and then was noticed by someone not directly connected to production work.
- 5) The effort made by maintenance was not strong enough considering the consequences of a major spill. In the event of imminent spill to the environment, all items except safety are less important than stopping the spill.
- 6) The tour foreman should have had the pulp mill utility man make a dyke immediately rather than wait to see if the chest overflowed. John and I should also have insured this be done.

Obviously, we cannot afford to do this again. Reaction time must be better and good decisions must be made. Since the spill line to the surge pond remains frozen, the production department must be especially reactive to high chest levels. Procedures to keep the chest level down should be reviewed and followed.

cc/ J. Porter
M. den Otter
A. Coleman
D. Wills
Pulpmill Foremen

K. Hartman
T. Clemmons
M. Reed
J. Bonham
Machine Foremen

TO Jim Porter

CC _____

DATE

9/4 1991

AT _____

MESSAGE

MEN02957

SUBJECT Broke Spill

Lep and I set up a sump pump yesterday after your call and took out all the water that would pump. We also had more fines put over the East end. The rain last night filled the area back up. I have contacted Cushman Construction to put a sump into the area for spill & rainwater control. To ~~try~~ get complete control of the situation, production needs to conduct a cleanup of the entire area.

SIGNED

Keith

REPLY

ORIGINATOR WRITE MESSAGE IN UPPER PORTION ONLY
SNAP OUT YELLOW COPY FOR FOLLOW UP

SIGNED

RECEIVER REPLY ON LOWER PORTION RETAIN PINK
COPY - RETURN WHITE COPY TO SENDER

SENDER'S FILE COPY

Tried to Reach you several times
So decided to write a note

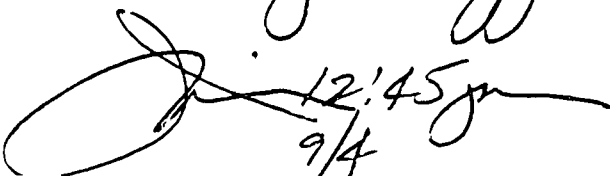
MEN02958

Karth -

As we both discussed, the water going over (under) the berm into the storm drain was a very serious incident. We all must look at ways to ENHANCE our containment system of communication and monitoring etc. I know you will do a thorough job of digging into this and you have my full support and in fact endorsement.

I'm concerned however we still have water from the comparably small puddle in front of the digester still seeping across the parking lot into the storm drain. ~~What~~ Shouldn't we stop this immediately? I noticed it yesterday brought it to John's/your attention. What more needs to be done? Sump Pumps, Sand Bags, Cover storm drain etc. We haven't had a spill for over 30 hours but still are contaminating the river.

How can I help support you further?

Thx -  12:45 pm
9/4

Memo

 MENASHA CORPORATION

TO: Distribution

FROM: Keith Kling *KBK*

DATE: September 6, 1991

SUBJECT: Broke Chest Overflow

=====

On Sunday, September 1, 1991, there was a spill of broke to the ground. Water from this spill also reached the Kalamazoo River. Circumstances are as follows.

Significant machine runnability problems throughout the day resulted in filling of the broke chest. At 11:00 p.m., a berm was built along the south edge of the parking area using wood fines in case the broke chest overflowed. At 11:30 p.m. the broke chest was completely full and began overflowing to the ground. The initial overflow continued for about 45 minutes as the machine tried to start up. The chest level was brought under control until 1:50 a.m. at which time it again started to overflow. The situation was analyzed and direction was given to expand the dike and continue to attempt the startup. The chest overflowed until 4:10 a.m. It again overflowed at 6:15 a.m. for 30 minutes.

The amount of water and stock overflowing from the broke chest was substantial enough to result in two separate containment problems.

1. The dikes were built high enough to stop direct discharge to the south, however, they were inadequate to prevent water from migrating through and under the dike.
2. Stock and water discharging from the east side of the chest ran around the east side of the dike and discharged out the storm drain. I confirmed this the following day when inspecting the area around the end of the discharge pipe.

Samples of the material running to the storm drain were collected on the morning of 9/2/91. The tests showed a BOD of 810 mg/l and a TSS of 55 mg/l. To have exceeded our BOD limit of 3725 Lb/day, a spill of 488,000 gallons would have had to occur. If a flow of 20 gpm were assumed for an 8 hour time period a total flow of 9600 gallons would have been discharged. Added to the BOD discharges from outfall 003, the total discharge would be only 13% of our permitted limit.

In reviewing this incident, I find that the decisions made were inconsistent with Otsego's and Corporate's Environmental Policies.

1. Broke stock overflowed to the ground for nearly the entire 3rd shift, however no one from the Environmental Group was called. I was finally contacted in the morning when Gary Roys saw the spill and called me.

Page 2

2. The decision was made to overflow the chest without looking at all the options. With some minor modifications, a pump was connected to the broke chest overflow valve, allowing us to pump the stock to another location. Doing this earlier would have prevented the entire incident.
3. When it was discovered that the dikes were not holding, someone of authority should have been in the area to direct repairs. Wider dikes and sandbagging of the storm drains would all but have eliminated leakage to the river.

Our Company's policy is that, except for safety, all issues are of lesser importance than environmental concerns. During this incident, that policy was not followed.

STATE OF MICHIGAN



NATURAL RESOURCES COMMISSION

MARLENE J. FLUHARTY
GORDON E. GUYER
O. STEWART MYERS
RAYMOND POUPORE

JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

ROLAND HARMES, DIRECTOR
~~ALLEGRA, EXECUTIVE DIRECTOR~~District 12 Headquarters
P.O. Box 355, Plainwell, Michigan 49080

September 23, 1991

Mr. Keith Kling
Environmental Supervisor
Menasha Corporation
Otsego Paperboard Division
320 N. Farmer Street
Otsego, Michigan 49078-0155

N.L. 09-91-01-019P

Dear Mr. Kling:

SUBJECT: NPDES Permit No. MI0003824

On September 16, 1991, by letter, you informed our office of two (2) losses of stock material into the Kalamazoo River.

The first loss was due to a storage tank overflow on September 2, 1991, and the second was a line rupture on September 12, 1991. According to your letter, cleanup was initiated as soon as each loss was discovered. However, in both instances some of the material did reach the Kalamazoo River.

On September 17, 1991, following the receipt of your letter, I met with you and Paul Jachim to discuss the losses. As indicated at this time, losses of this nature should be reported to us at the time they occur, as required in Part II, Section A.6. of your NPDES Permit.

If you have any questions concerning this matter, please call our office.

Sincerely,

Handwritten signature of C. E. Mogg in black ink.

C. E. Mogg
Surface Water Quality Division
616-685-9886

CEM:clm

OIL TO 002 WEIR

DOCUMENT #53D

memo /  **MENASHA
CORPORATION**

TO: John Bonham

DATE: August 17, 1990

SUBJECT: 002 Oil Violation

FROM: Keith Kling *KBK*

About 9:45 a.m. 8/17/90 Luke Arendash noticed a significant amount of oil on the river which appeared to be coming from 002 discharge. Al Switzenberg and I checked the 002 pond and weir and found both to be contaminated with oil. Al immediately put an oil rope in the weir to capture the oil going to the river. Al, Gary, and I began checking within the mill for the cause of the problem. The sump in #2 basement was found with a 3 inch layer of oil on top of it. This was immediately shut down to prevent further release. In checking the feeds to this system we found that the piping from #2 Machine refiners was open both to the sump and to the mill U-drains. Normal operation is to run this to the U-drains only.

I contacted S.J. Rosenthal and found that the oil in the #2-442 had been changed about 9:00 a.m. I called Larry Weaver who stated that he had drained about 15 gallons of oil to the U-drains. He also stated that in small amounts this is normal operation.

Nearly all the oil was retained in the mill where it will eventually run through the waste treatment system thanks to Luke's observation and quick action by the Technical Staff. It would be a reasonable assumption that 1/2-1 liter of oil went to the river.

I think the following actions are necessary.

1. This was a violation of our permit and must be reported by 8/21.
2. There is obviously a huge gap between what mill people understand and what we require. Some type of training is necessary.
3. Len and I have discussed the need for an oil inventory system. I feel this must be started now.
4. You and I need to discuss what disciplinary actions may be needed in the case.

*SJ + I to meet
on 9/13/90 @ 10:00*

PAPERBOARD DIVISION

MENASHA CORPORATION

August 21, 1990

Surface Water Compliance Section
P.O. Box 30028
Lansing, Mi. 48909

Gentlemen:

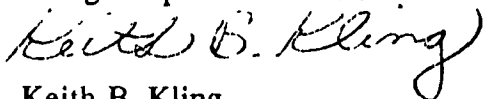
On Friday, August 17 an oil sheen was observed on the Kalamazoo River at our 002 discharge pipe. An examination of our operation revealed that an old cross connection between our process water collection system and our 002 system had been opened. This allowed a small amount of oil to discharge through 002 weir. A conservative estimate of the amount of oil released would be less than one quart. This incident is being reported in accordance with the outfall observation requirement of our permit.

To prevent any recurrence of this problem, the cross connection has been permanently disconnected.

Please contact me if you have any questions.

Sincerely,

Otsego Paperboard Division



Keith B. Kling
Environmental Supervisor

cc: Jim Porter
John Bonham
Pete DeRossi
Gene Mogg

Memo**PAPERBOARD DIVISION** **MENASHA CORPORATION**

TO: File
FROM: Keith Kling *KBK*
DATE: July 27, 1995
SUBJECT: 1990 Oil Spill to 002 Weir

Pursuant to the MDNR request for information regarding PCB discharges to the Kalamazoo River, clarification of details of a 1990 oil spill to the Kalamazoo River is being completed.

The oil used at the #2 Paper Machine 442 refiners has for many years been Mobilgear 629. Review of the MSD Sheet, attached to this memo, indicates no hazardous ingredients. It also indicates that the oil is suitable for burning as a fuel or for reprocessing at a recycling facility. No PCB's would be expected in Mobilgear 629.

As further clarification, this was clearly not a repetitive incident. The occurrence was due to opening of a valve, normally closed, that allowed the spilled oil to reach the river. The valve was in an area routinely inspected by the waste treatment operator. Following the incident, the piping was modified to eliminate the connection.

KBK/alp

Material Safety Data Sheet

MSDS: 611

SDS: 611 - MOBILGEAR 629

Part #: 481 OTSEGO ===== 3/15/93
 Status: Pending Revised: 6/25/91

Formula: NOT GIVEN
 Specification: NOT GIVEN
 Synonyms: NOT GIVEN
 Stock Items: NOT GIVEN

Part Number: NOT GIVEN
 Keyword: NOT GIVEN

Manufacturer
 MOBIL OIL CORP. (PRINCETON)
 P.O. BOX 1031
 PRINCETON, NJ 08540

Phone:
 Emergency: 212-883-4411

Supplier
 MOBIL OIL CORP. (PRINCETON)
 P.O. BOX 1031
 PRINCETON, NJ 08540

Phone:
 Emergency: 212-883-4411

Physical/Chemical Characteristics

Boiling Point: > 600 F (> 316 'C).
 Melting Point: NA
 Freezing Point: NG
 Pour Point: = -11 F (-24 'C).
 Softening Point: NG
 Specific Gravity: NG
 Vapor Pressure: < .1 MM HG 20C.
 at Temperature: 68 F
 Vapor Density: NG
 Percent Volatiles: NG
 Evaporation Rate: NG
 pH: NA
 Molecular Weight: NG
 Viscosity: EQ 715.0cst @ 100 'F, SUS.
 Solubility in Water ..: NEGLIGIBLE.
 Odor/Appearance/Other Characteristics:
 MILD ODOR/ASTM 5.5 LIQUID/RELATIVE DENSITY, 15/4 'C: 0.9/SEE TEXT FOR INFO.

Fire and Explosion Data

Closed Cup Flash Pt. .: NG
 Open Cup Flash Point .: = 442 F 228'C, ASTM D-92.
 Fire Point: NG
 Auto Ignition: NG
 Lower Explosion Limit : = .6
 Upper Explosion Limit : = 7.0

Shipping Regulations

UN/NA Number: NG
 DOT Hazard Class: NOT APPLICABLE
 Shipping Label: NOT GIVEN
 Shipping Name: NOT APPLICABLE

Material Safety Data Sheet

MSDS: 611 - MOBILGEAR 629

Plant #: 481 OTSEGO ===== Page 2

Prepared

Preparer's Name & Title:

MOBIL OIL CORP., ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, (703) 849-32

Preparation Date: 3/08/86

Component(s):

REFINED MINERAL OILS

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: > 95%

CAS No.: NOT GIVEN

ADDITIVES AND/OR OTHER INGREDIENTS.

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: < 5%

CAS No.: NOT GIVEN

HAZARDOUS INGREDIENTS: NONE.

OSHA Pel: NG ppm

ACGIH TLV: NG ppm

STEL: NG ppm

Percent of Product: NG

CAS No.: NOT GIVEN

Text Section(s)

PRODUCT IDENTIFICATION

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

CHEMICAL NAMES AND SYNONYMS: PET. HYDROCARBONS AND ADDITIVES.

USE OR DESCRIPTION: GEAR LUBRICANT.

TRANSPORT EMERGENCY TELEPHONE: (800) 424-9300 (CHEMTREC).

TYPICAL CHEMICAL AND PHYSICAL PROPERTIES

SEE DATA PAGES FOR ADDITIONAL INFORMATION.

Material Safety Data Sheet

MSDS: 611

SDS: 611 - MOBILGEAR 629

Plant #: 481 OTSEGO ===== Page 3

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES.

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

VISCOSITY AT 210 DEG. F., SUS: 70.5; AT 40 DEG. C., CS: 143.0; AT 100 DEG. C, CS: 14.1.

INGREDIENTS

SEE COMPONENT PAGE(S) FOR ADDITIONAL INFORMATION.

KEY TO SOURCES: A=ACGIH-TLV, A*=SUGGESTED-TLV, M=MOBIL, O=OSHA.

NOTE: LIMITS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: SLIGHT SKIN IRRITATION.

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: FLUSH WITH WATER.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER.

INHALATION: NOT EXPECTED TO BE A PROBLEM.

INGESTION: NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF GREATER THAN 1/2 LITER (PINT) INGESTED, IMMEDIATELY GIVE 1 OR 2 GLASSES OF WATER AND CALL A PHYSICIAN, HOSPITAL EMERGENCY ROOM OR POISON CONTROL CENTER FOR ASSISTANCE. DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

Material Safety Data Sheet

MSDS: 611

SDS: 611 - MOBILGEAR 629

Plant #: 481 OTSEGO ===== Page 4

SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE.

NFPA HAZARD ID: HEALTH: 0, FLAMMABILITY: 1, REACTIVITY: 0.

REACTIVITY DATA

STABILITY (THERMAL, LIGHT, ETC.): STABLE.

CONDITIONS TO AVOID: EXTREME HEAT.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SPILL OR LEAK PROCEDURE

ENVIRONMENTAL IMPACT: REPORT SPILLS AS REQUIRED TO APPROPRIATE AUTHORITIES. U.S. COAST GUARD REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL TO COAST GUARD TOLL FREE NUMBER 800-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: ADSORB ON FIRE RETARDANT TREATED SAWDUST, DIATOMACEOUS EARTH, ETC. SHOVEL UP AND DISPOSE OF AT AN APPROPRIATE WASTE DISPOSAL FACILITY IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

WASTE MANAGEMENT: PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT ANY GOVERNMENT APPROVED WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

Material Safety Data Sheet

MSDS: 611

MSDS: 611 - MOBILGEAR 629

Plant #: 481 OTSEGO ===== Page 6

REGULATORY INFORMATION

TSCA INVENTORY STATUS: ALL COMPONENTS REGISTERED.

US OSHA HAZARD COMMUNICATION STANDARD: PRODUCT ASSESSED IN ACCORDANCE WITH OSHA CFR 1910.1200 AND DETERMINED NOT TO BE HAZARDOUS. . .

RCRA INFORMATION: THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D); DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY, AND IS NOT FORMULATED WITH THE METALS CITED IN THE EP TOXICITY TEST. HOWEVER, USED PRODUCT MAY BE REGULATED.

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

*** NO INGREDIENT CITATIONS ***

KEY TO LIST CITATIONS:

1 = OSHA Z,	2 = ACGIH,	3 = IARC,	4 = NTP,	5 = NCI,
6 = EPA CARC,	7 = NFPA 49,	8 = NFPA 325M,	9 = DOT HMT,	10 = CA RTK,
11 = IL RTK,	12 = MA RTK,	13 = MN RTK,	14 = NJ RTK,	15 = MI 293,
16 = FL RTK,	17 = PA RTK,			

SPECIAL NOTES

INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPARTMENT, PRINCETON, NJ.

FOR FURTHER INFORMATION, CONTACT:
MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
3225 GALLOWES ROAD, FAIRFAX, VA 22037 (703) 849-3265.

Material Safety Data Sheet

MSDS: 611

SDS: 611 - MOBILGEAR 629

Plant #: 481 OTSEGO ===== Page 7

APPENDIX:

FOR MOBIL USE ONLY: (FILL NO: RL1221E) MHC: 1* 1* NA 0* 1* PPEC: A
RD860221 APPROVE REVISED: 03/08/86.

End of MSDS

**DIESEL FUEL LEAK
FROM MDS
VEHICLE**

DOCUMENT #53E

*Memo***PAPERBOARD DIVISION**

TO: Distribution

FROM: Len Myers *LM*

DATE: May 10, 1993

SUBJECT: Environmental Incident Report

 MENASHA CORPORATION

Dist.: Tom Oldham
 Al Coleman
 Dave Merkel
~~Keith Kling~~
 Gary Roys
 Al Switzenberg
 Andre Fischbach
 Fred Wolf
 Crew Managers (8)

=====

On May 6, 1993 at approximately 7:00 a.m., a Michigan Disposal truck hit a large piece of concrete which was protruding from the ground west of the weak liquor tank berm. The concrete broke the fuel line connection causing a leakage of diesel fuel. The Michigan Disposal driver took immediate action to contain the spill and stop the leakage to the storm drain located south of the Powerhouse by berming the drain with boiler ash and sand with assistance from Powerhouse personnel. Wood fines were brought from the Chipyard and spread over the remaining leakage. The leakage from the truck's fuel line was contained by the use of a pail. Michigan Disposal sent their mechanic here and made the repair to the fuel line. The piece of concrete was removed and the contaminated wood fines and dirt were removed by the front end loader and placed in a 10 yard dumpster furnished by Michigan Disposal. The amount of the fuel to reach the storm drain was less than 2 gallons. The Michigan Disposal driver reported that it had just begun to trickle into the drain when the spillage was contained. Quick reaction from the Michigan Disposal driver, Powerhouse, and Production personnel prevented a possible State or Federal reportable incident.

**BUSPERSE 39
CHEMICAL SPILL**

DOCUMENT #53F



TO: Distribution

DATE: November 1, 1989

SUBJECT: Environmental Incident Report

FROM: Keith Kling *KBK*

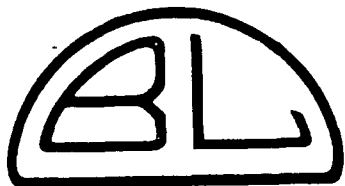
On October 29, a barrel of Busperse 39 chemical was dropped from the bucket of the rented front end loader as it was being moved. As the chemical was being taken down the drive on the south side of the mill, the bucket on the loader dropped down allowing the barrel to roll out. The bucket then hit the barrel, cutting it. The pulpmill utility man immediately picked up the barrel and took it to the washup slab at waste treatment. About 1/2 gallon of chemical ran onto the asphalt. This was cleaned up and the area was thoroughly rinsed down.

The barrel was rather badly damaged and the chemical ran from the barrel into the bucket and onto the washup slab.

Quick response by the pulp mill utility man prevented this from becoming a serious and expensive incident. All the spilled chemical was captured by asphalt or the washup slab. Busperse 39 is sodium polyacrylate and would have immediately been tied up by the calcium in the aeration pond.

The cause of the incident was that the rented front end loader will not hold adequate hydraulic pressure to consistently hold up the bucket. It has been decided that no chemicals will be moved with the rental unit due to this problem. Use of our unit has been very efficient and safe, therefore that practice will continue.

cc: John Bonham
Jim Porter
Paul Jachim
Ken Hartman
Al Coleman
Mike denOtter
Don Ausland
Andre Fischbach
Maynard Harris
Ron Van Noord
Joe Curry
Luke Arendash
SJ Rosenthal
Foremen (8)
LBX Books (8)
Jeff Volker
Jay Thiessen
Donny Rop
Jack Forbes



MATERIAL SAFETY DATA SHEET

24 HOUR EMERGENCY NUMBER:
(901) 767-2722

Buckman Laboratories, Inc.
1256 North McLean Boulevard
Memphis, TN 38108
(901) 278-0330

Product Name: Busperse 39 Date: 2/6/89
Hazard(s) as defined by OSHA Hazard Communication Standard:
Eye and Skin Irritant

COMPONENTS

<u>Chemical Name</u>	<u>% by wt</u>	<u>TLV</u>
Sodium polyacrylate CAS Registry Number: 9003-04-7	39	N/A
Water	61	N/A

PHYSICAL DATA

Appearance: Translucent, pale yellow Density (g/mL, 25°C): 1.29
Odor: Slight pH (neat): 9.0
Boiling point: Above 212 °F pH (100 ppm in water):
Solubility: Miscible in water 7 - 9

FIRE AND EXPLOSION DATA

Flash point: None below 212 °F Flammable limits: N/A
Extinguishing Media: Water fog, carbon dioxide, foam, dry
chemical
Special Firefighting Procedures: None

REACTIVITY DATA

Stability: Stable Incompatibility: None
Hazardous Decomposition Products: None

HEALTH HAZARD DATA

Acute Effects: Not tested, but not expected to be hazardous
based on similar products.
Irritant Effects: Expected to be irritating to skin and eyes
due to alkalinity.
Sensitization Effects: None expected based on components.
Carcinogenic Potential: Not listed in any of OSHA Standard,
Section 1910.1200 sources as carcinogenic; not tested by
Buckman Laboratories, Inc.
Other Health Effects: None known.

HANDLING PRECAUTIONS

Rubber gloves and safety glasses or goggles are required. Body-protective clothing and shoes are recommended. Eye-wash fountains in the work place are recommended.

EMERGENCY AND FIRST AID INSTRUCTIONS

Eye exposure: Flush with clean, cool water for 15 minutes. See a physician.
Skin exposure: Wash with soap and water. See a physician if irritation occurs. Remove and wash contaminated clothing.
Inhalation: Remove to fresh air.

SPILL, LEAK, AND DISPOSAL PROCEDURES

Large spills: Dam area to prevent spill from spreading.
Pump into appropriate containers. Dispose of as below.
Small spills: Flush liquid to sewer with copious amounts of water.
Product disposal: Product is NOT a hazardous waste. It can be disposed of in any approved landfill.
Container disposal: Offer for recycling or triple rinse and dispose of in an approved landfill.

REGULATORY CLASSIFICATIONS

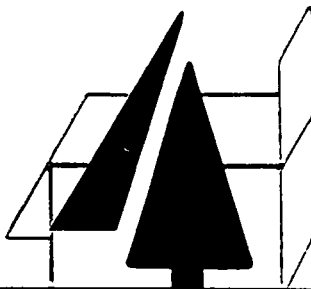
DOT Shipping: Nonhazardous.
EPA Registration: Not applicable.
TSCA Inventory: All components are included in the Inventory.
FDA Regulation(s): 21 CFR 173.310, 176.170
California Proposition 65: No components of this product are listed.
SARA 302 Extremely Hazardous Substances List: No components of this product are listed.
SARA 312 Hazard Classifications: Immediate (Acute) Hazard
SARA 313 Toxic Chemicals List: No components of this product are listed.

The information on this Material Safety Data Sheet reflects the latest information and data that we have on hazards, properties, and handling of this product under the recommended conditions of use. Any use of this product or method of application which is not described in the Product Data Sheet is the responsibility of the user.

This Material Safety Data Sheet was prepared to comply with the OSHA Hazard Communication regulations.

NPCA/HMIS Rating: Health 2; Flammability 1; Reactivity 0.
NFPA Rating: Health 2; Flammability 1; Reactivity 0.

Busperse 39
2/6/89



BUCKMAN LABORATORIES

Products for the Pulp and Paper Industry

Busperse® 39

- Water-soluble, anionic scale inhibitor and dispersant
- Excellent dispersant that makes for a cleaner paper machine
- Versatile product for use in paper and paperboard mills, pulp mills, and bleach plants
- Effective over a broad range of conditions

Busperse 39 is an anionic, low-molecular-weight, water-soluble polyelectrolyte that can inhibit the formation of scale deposits caused by calcium, magnesium, barium, aluminum, and other polyvalent metal ions in pulp and paper mill process systems. It is used to control scale in pulp digesters, heat exchangers, pulp washing and screening operations, multiple-effect recovery evaporators and multi-stage bleach plants.

Busperse 39 is also employed as a scale inhibitor and dispersant on paper and paperboard machines. In addition, it is an excellent dispersant for coatings or dilute slurries of clay or titanium dioxide.

The product is allowed for use in the manufacture of paper and paperboard under 21 CFR § 176.170 of the U.S. Food and Drug Administration regulations.

Busperse 39 can be fed into the system directly from the shipping container by use of a chemical-metering pump. It can also be dispensed in suitable measuring containers or by means of drip-feed devices. It should be added to the system at a point of good agitation.

Your Buckman representative will make specific dosage recommendations depending on your particular needs.

Product characteristics

Density at 25 °C (77 °F)	1.29 g/mL
Approximate weight per U.S. gallon	10.75 lb
Approximate volume per kilogram	775 mL
Approximate volume per pound	350 mL
pH (100 ppm in water)	8-9

Benefits of Busperse 39 treatment

The use of Busperse 39 to reduce scale in evaporators can increase production in a pulp mill that is evaporator-limited. The extended running time between cleanings and increased efficiency that come with its use save money in a recovery system. Its use can also eliminate scale that reduces efficiency in pulp washers or a bleach plant. In a digester it can improve the performance of the heat exchangers and increase production by controlling scale deposition there.

In a paper mill scale can reduce product quality, accelerate corrosion, and decrease production. Application of Busperse 39 helps optimize the efficiency of a paper machine system by eliminating scale throughout: stock lines, vacuum pumps, screens, headboxes, forming fabrics, and consistency regulators are all cleaner.

Packaging and handling

Busperse 39 is packed in nonreturnable drums. Materials of construction suitable for storing and handling the product include stainless steel, polyethylene, polypropylene, Teflon, Penton, molded nylon, silicone rubber, PVC, Tygon, Plexiglas, neoprene, Vitron, Hypalon, Buna-N, and EPDM rubber.

The container should be closed when not in use. Busperse 39 may solidify at extremely low temperatures, but it easily returns to a liquid upon warming. Freeze-thaw cycles will not harm the product.

Improper handling of this product can be injurious to workers. Observe all safety precautions shown on the label and in the Material Safety Data Sheet.

ASH SPILL

DOCUMENT #53G

memo MLI
CORPORATION

TO: Distribution

DATE: August 25, 1988

SUBJECT: Environmental Incident Report

FROM: Keith Kling

KBK

On August 21, a load of flyash was picked up by Michigan Disposal. The load was properly tarped to be hauled. Upon stopping on Portage Road, water from this box splashed over the front, washing flyash onto the street. Kalamazoo City Police were called and the Michigan Disposal driver received a ticket. Michigan Disposal had to send a street sweeper to the area to clean up the contamination.

This incident appears to have been caused by a non-functioning level indicating probe in the ash solo. When the ash solo is empty, the feed screws and associated water spray are supposed to be shut down. In this case, the silo was emptied before the waste box was full, so the screws and water kept running.

From available information, the level probe was installed and functioned for only a short time. Due to problems with the programming, the unit was finally abandoned by wiring around it.

The following steps are being taken to insure that this incident is not repeated.

1. The level control probe will be repaired and tested by August 31.
2. Michigan Disposal has been directed not to pick up any dumpsters which contain free water. In the event this occurs, the water will have to be pumped off to the coal pit prior to removal.

This event could have easily been avoided by communication of the problems being experienced with the level probe. Disabling the probe without a specific repair plan was directly responsible for this incident. Intentionally bypassing of environmental equipment can easily result in fines or criminal prosecution and such actions will not be tolerated.

cc: Jim Porter
John Bonham
Al Coleman
Duane Wills
Mike denOtter
Lee Holmes
Ken Hartman
Ron VanNoord
Foremen (8)
Tom Oldham
LBK Books (8)

/ac

LIME SLURRY TANK OVERFLOW

DOCUMENT #53H

memo /  MILVANIA
CORPORATION

TO: Distribution

DATE: March 17, 1988

SUBJECT: Overflow of Lime Slurry Tank

FROM: Keith Kling *KBK*

On several occasions over the last two weeks there have been overflows of the lime slurry tank resulting in spills to the storm sewer. Circumstances are as follows.

On 3/2, Dick Andrews noticed the lime tank overflowing when backflushing the lime filters. He shut this operation down and called supervisory personnel. An inspection of the lime slurry tank and pump did not reveal a specific problem at that time. In the following days there were at least three occasions where the tank spilled over. On 3/9 the switch for the pump was repaired and the pump was disassembled and cleaned. Since that time it has been working better, but the tank has still run over a small amount at least twice.

In this particular instance, the effect on the environment has been negligible. Lime is the preferred treatment in most rivers to combat acidic water problems. This does not however, minimize the impact that any spill has on Menasha employees or other peoples attitudes when such things happen.

The work done in the past couple weeks on the pump and switch has helped some. A purchase order has been written to put a one foot containment wall around the lime slurry tank. This will direct any overflows back into the building. This should be completed within the next couple of weeks.

The efforts of Dick Andrews and Newt Covalt in noticing this problem and making appropriate people aware of it were appreciated.

/kls

cc: J. Porter Pulpmill Foremen
M. denOtter Machine Foremen
A. Coleman T. Clemmons
D. Wills T. Oldham
N. Covalt J. Bonham
K. Hartman LBX Books
D. Andrews

ovflwlimtk.88

FUEL OIL UNDER #2
MACHINE FLOOR

DOCUMENT #531

*Memo***PAPERBOARD DIVISION** **MENASHA CORPORATION**

TO: File

FROM: Keith Kling *KBK*

DATE: July 28, 1995

SUBJECT: Kerosene Smell in #2 Basement

Construction in the basement of #2 paper machine was being completed in May as part of the scheduled July machine upgrade. When breaking up a section of concrete floor in the basement beneath the headbox area, a fuel oil smell was noticed. The soil beneath the floor had a clean appearance, but had an obvious fuel oil smell. A sample was sent to WME and Total Petroleum Hydrocarbons of 5110 mg/kg were found. The soils in the construction area were excavated and landfilled at Westside Recycling & Disposal Facility.

From discussions with workers here in the 1960's, it was determined that kerosene had been used in this area for several years to treat foam. The foam would sometimes overflow the stuff box and carry kerosene onto the floor. Over the years, some of the kerosene obviously penetrated the concrete. Kerosene has not been used in Menasha's papermaking processes since the early 1970's.

PAPERBOARD DIVISION

MENASHA CORPORATION

May 19, 1995

Mr. Tom Wilson
Landfill Management
Westside Recycling & Disposal Facility
Roberts Road
Three Rivers, MI 49093

RE: DISPOSAL OF CONTAMINATED SOIL

Dear Mr. Wilson:

Our facility has a small amount of petroleum hydrocarbon contaminated soil for disposal which was generated from the excavation area. We have twenty (20) cubic yards of contaminated soil for disposal. This material is non-hazardous and is suitable for disposal in a Type II disposal facility.

Enclosed is a copy of the analytical report for your review.

BFI Waste Systems will transport the waste to your facility for disposal.

Should you have any questions, please contact me at your convenience.

Sincerely,

OTSEGO PAPERBOARD DIVISION



Al Switzenberg
Waste Treatment Operator

AS/alp

Enclosure

c: Dave Merkel
Keith Kling
Len Myers
Larry Hill
BFI Waste Systems

Otsego Mill
320 N Farmer St
PO Box 155
Otsego MI 49078-0155
1-616-692-6141
1-616-692-2060 (Fax)



MEN02987

CLIENT: Menasha Corporation
320 North Farmer
Otsego, Michigan 49078

Attn: Keith Kling

DATE: May 10, 1995

ANALYSIS OF: Soil Sample

REPORTED BY: Robert K. Zahray
Robert K. Zahray, Laboratory Manager

DATE RECEIVED: Received from client on May 8, 1995.

Sample ID: Soil Sample

Lab ID: 9505082-01

TEST	RESULT	UNITS	ANALYZED	BY	METHOD	MDL
Tot. Pet. Hydrocarbons	5,110	mg/kg dry wt	05/10/95	GCB	EPA 418.1	25
Total Solids	99.5	% of sample	05/10/95	GCB	APHA 2540 B.	NA

**CHEMICALS USED
AT THE OTSEGO
MILL**

DOCUMENT #54

Revision Date: 5/7/86

MANUFACTURER

CHEMICAL

BETZ

Betz 115L
 Betz 1165L
 Betz CS1925
 Betz P81
 Betz P95
 Betz CS 1989

Buckman

Busan 25
 Busan 40
 Busan 90
 Busan 110
 Busan 881
 Busperse 36
 Busperse 39
 Busperse 46
 Busperse 47
 Busperse 49
 Busperse 229
 Busperse 231
 Busperse 252

Calgon

Ausino Fombio-Kastel C383 Resin
 BC4
 BL409
 BDC3000
 Burlock 2220
 FP Burlock
 C-1 Antifoam
 CL50
 CL56
 CL68
 CL95
 CL361
 EL1440
 H7706
 K-91
 KNL1400
 LS32
 L652E
 L675
 LP15S
 LS32
 MB405
 pHreeGuard 1200
 Resin aid 160
 SL34
 253
 2426WT

Solvox Mfg.

Solvox 145
Solvox 664
Solvox 909

FUELS

Ridderman & Sons

Gasoline - Leaded
Gasoline - unleaded
No. 1 fuel oil

E.M. Sergeant

No. 5 Fuel Oil

Petrolane Gas Service

Propane, Liquid

GASKETS

Barclay, Ayers & Bertsch

Flexatallic gaskets
Flexite Super Turbo (414)

Bond Supply

Asbestos Manhole gaskets
Asbestos handhole gaskets
Asbestos gasket material
Permatex form gasket 1 and 2

CLEANERS, LUBRICANTS, SOLVENTS, SEALERS, PUTTY, ADHESIVES

Beaver Research

Silicone Sealant
Hi-P Contact Cleaner
Foaming degreaser - S722
Beaver 57A degreaser
Beaver-Emulsifiable Vegetation Killer
Scum remover
Supreme Bowl Cleaner
One shot drain opener
Sani Bea bowl cleaner
Geronimo drain opener
Rim Sticks (System III)
UFO deodorant blocks (system III UFO)
Ice melt
Fantastic
Master Lube
KleerVu Glass Cleaner
Instant Kleen Germicidal Cleaner
Chain and Cable Lube
Open Gear Lube
Knock out bug spray
Belt dressing
Silicone Lube
Yellow E-Z stripper paint
Lavish S.S. Cleaner
Battery Terminal Cleaner
Safety Solvent #1
Clear Acrylic Spray-Terand Ind.

Bond Supply

WD 40
Dow Corning Silicone Sealer

Crown Alloys Co. type Cut 202
 Atom ARC type 7018
 Code ARC 308MR stock NO. 1330-4005
 Crown Alloys Co - Royal 182
 Murex Type A electrode AWs, A5.1, E601
 stock #'s 1318-3693 thru 3696
 1318-3707, 3708
 Murex Speedex U
 Murex 6013D
 Murex 611C
 Stoddy 6 for DC electric applications

Rolloed Alloy

RA83-04 Code M
 Welding electrode RA 330-04
 Crown Alloys - Crown 125 FC

Teledyne McKay

AC/DC Stainless Steel electrode 316/316H

Welder Supply

Fleetweld Type E6010-641 CL
 Fleetweld 180-1E67 VIII 1/8D, 1 25LL
 Fleetweld 180 - 3/32C W1628
 Fleetweld 59 - 1/8 D 1118V, 5/32 TGS-ZZ328
 Fleetweld 47 221 AE
 Stay-51LV 45 - solder

Young

AUTOMOTIVE

Crompton Automotive

NAPA Fast Flush 1500
 Mac's Cooling System Cleaner 1400

McLeods Auto Parts

Gunk - hydro Seal
 Gunk - Dot 3 for disc or drum breaks
 Diesel Fuel Anti Gel (Goldeagle)
 Champion Anti Freeze - Coolant

Radiator Speciality Co.

Thrust Quck Starting Fluid

AGRICULTURAL

Fohigro

Anhydrous Ammonia
 28% Liquid Ammonia
 Polyphosphate 10-34-0

SE

Laboratories Pdts

Bell's (MBL) Metal Based Grease

Corning

Molykote BR2 Plus Grease

Industrial Gasket & Shim

IGS Turbo Seal Grade R

Vederhoed

Chevron SRI Grease 2

Mobil

Mobil Temp Grease 8738-0, WB18 AOAU
 Mobilith AW2
 Mobilith SHC 460

Pratt & Lambert	Effecto Rust Inhibitor Primer Red C3405
Degraco	Para - rock enamel chlorinated Rubber 36604 Deep Base Ever coat Paint a carpet model 854
FoxValley Marking Systems	Super Stripe Traffic Paint
Koch Asphalt Co.	Plastic Roof Cement Winter Wet Plastic Roof Cement
Insul-X Products Corp.	Insulx Insulume Aluminum Paint All Check Rust WCP-100B-Wash coat primer Pt. B WCP100-A Wash coat primer Pt.A IE-200 series Instant Enamel MP900 - speedy metal primer (red&gray) IP 1210,1215 instant metal primer IM1000 series -instant metal coat G2310 - Galvin -Y OE201, 215, 221, 231, 234 - instnt enamel (leadcd)
Nelson Paint Co.	EI 30-9 light green aerospot EI 30-6 red aerospot EI 30-1 yellow aerospot EI 30-4 blue aerospot
Port City Paints	Floor Enamels -570 Deep base Colors - Beige, Motor blue, & light blue -Utility Enamels 600 white 650 black 617 bright red 613 green 3016 Red Oxide Primer -Aluminum Enamel -Acryoin-Pistachio -floor enamel 500 series -900 series - interior late flat -#50 Reducer
Sherwin - Williams	-Industrial Maintenance Tile-clad II Enamel Part A(no lead) Tile-Clad II enamel Part A (lead) Tile-Clad II Hardner Part B
Tremco Inc	Tremco Rust Paint Alum., white, glass black (Tremclad)
Valspar Co.	Mobil Alum. Paint Heat Resist. 37A10R
Stiles Paint	Int. & Ext. high gloss enamel white AX-36, C-18, L-Y12 L-Y12
Rust Oleum	Rust Oleum 412 Flat Black

E. I. duPont de Nemours

DuPont Corlar Dual - Build epoxy enamel,
VG-Y-8339

MISCELLANEOUS

Amway

See Spray Lens Cleaner

DeGroots Office Supply

Cannon Toner
DeGroots Corona Cleaner
KC Platen Cover Cleaner

Dwyer

Colored Guage Oil Red & Green

Eaton

Airflex

EPCO Services

Philterkoal

FMC

Soda Ash

Gun Valley Chemical

Roundup Herbicide

Jacklin Steel Co.

Carbon, Alloy, and Tool Steels
Stainless Steel
Aluminum Alloys

Kal Blue

Ammonium hydroxide Sol #2, 24deg. Be

Michigan Shippers

Stencil Ink

Midwest Indust. Sup.

Ice Free Switch

Nederhoed Oil

Oil Dry

Office & Equipment

Liquid Paper
Liquid Paper Solvent

Onox Inc.

Onox Solution

Safety Services

K Lens M

Xerox

Silicone Fuser Oil 8R79
055 Dry ink plus
4000/4500 Developer

Current MSDS Sorted by Manufacturer

MSDS Product Name / Manufacturer Name

Plant #: 481 OTSEGO ===== 3/20/95

- 566 SCOTCH-GRIP PLASTIC ADHESIVE 1099
3M
- 4649 801 INDUSTRIAL AND MARINE SOLVENT
A.W. CHESTERTON CO.
- 7281 725 NICKEL ANTI-SEIZE COMPOUND (AEROSOL)
A.W. CHESTERTON CO.
- 8903 STYLE TWO
A.W. CHESTERTON CO.
- 9733 805 HEAVY DUTY MACHINERY CLEANER
A.W. CHESTERTON CO.
- 9756 818 RAPID CURE STEEL PUTTY PLUS PART A
A.W. CHESTERTON CO.
- 9757 818 RAPID CURE STEEL PUTTY PLUS PART B
A.W. CHESTERTON CO.
- 10316 346 DESCALER AND CHEMICAL CLEANER
A.W. CHESTERTON CO.
- 10317 790 REBUILDING & GRADING COMPOUND TOP COAT RESIN PART A
A.W. CHESTERTON CO.
- 10318 790 REBUILDING & GRADING COMPD TOP COAT CURING AGENT PART B
A.W. CHESTERTON CO.
- 10319 790 REBUILDING & GRADING COMPOUND TOP COAT AGGREGATE PART C
A.W. CHESTERTON CO.
- 10320 791 RESURFACING COMPOUND TOP COAT RESIN PART A INCLUD. RED
A.W. CHESTERTON CO.
- 10321 791 RESURFACING COMPOUND TOP COAT CURING AGENT PART B
A.W. CHESTERTON CO.
- 10322 791 RESURFACING COMPOUND TOP COAT AGGREGATE PART C
A.W. CHESTERTON CO.
- 559 OXYGEN
AGA GAS, INC.

Current MSDSs Sorted by Manufacturer
MSDS Product Name / Manufacturer Name
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560 NITROGEN
AGA GAS, INC.

9155 CARBON DIOXIDE AND ARGON IN HELIUM
AGA GAS, INC.

564 ARGON OR LAR (IN CRYOGENIC LIQUID STATE)
AIR PRODUCTS AND CHEMICALS, INC.

593 NITROGEN
AIR PRODUCTS AND CHEMICALS, INC.

9734 SODA ASH
ALLIED CORP. (MORRISTOWN)

627 ATOM ARC COVERED LOW HYDROGEN ELECTRODES
ALLOY RODS CORP.

704 300 SERIES ARCALOY AC-DC STAINLESS STEEL COVERED ELECTRODES
ALLOY RODS CORP.

8917 NICKEL-ARC 55, 99, 550 ELECTRODES FOR CAST IRON WELDING
ALLOY RODS CORP.

540 AMOCO 1000 FLUID
AMOCO OIL CO.

1391 AMOCO GASOLINE
AMOCO OIL CO.

1392 AMOCO NO. 1 FUEL OIL
AMOCO OIL CO.

9105 AMWAY SEE SPRAY LENS CLEANER
AMWAY CORP.

622 HALON 1301, FREON FE 1301
ANSUL FIRE PROTECTION, WORMALD U.S., INC.

711 FORAY
ANSUL FIRE PROTECTION, WORMALD U.S., INC.

9154 NITROGEN
ANSUL FIRE PROTECTION, WORMALD U.S., INC.

Current MSDS Sorted by Manufacturer
DS Product Name / Manufacturer Name
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590 RYDLYME RID-LIME
APEX ENGINEERING PRODUCTS CORP. (PLAINFIELD)

6965 BITUMINOUS COAL
ARCH MINERAL CORP.

9731 SIGHT SAVERS BRAND DISPOSABLE CLEANING STATIONS
BAUSCH & LOMB

214 FANTASTIC
BEAVER RESEARCH CO.

215 GEAR PLATE OPEN GEAR LUBE
BEAVER RESEARCH CO.

216 GERONIMO
BEAVER RESEARCH CO.

217 INSTANT KLEEN
BEAVER RESEARCH CO.

218 KLEER VU
BEAVER RESEARCH CO.

219 KNOCK OUT
BEAVER RESEARCH CO.

222 HI-P CONTACT CLEANER
BEAVER RESEARCH CO.

226 SANI-BEA PORCELAIN AND BOWL CLEANSER
BEAVER RESEARCH CO.

229 SURFACE SCUM REMOVER
BEAVER RESEARCH CO.

4750 BOOT HILL
BEAVER RESEARCH CO.

8672 POWER WATZ
BEAVER RESEARCH CO.

8673 SLICK
BEAVER RESEARCH CO.

u r r e n t M S D S s S o r t e d b y M a n u f a c t u r e r
3DS Product Name / Manufacturer Name
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8889 SUPER BEA KLEEN
BEAVER RESEARCH CO.

8920 CLEAR ACRYLIC COATING
BEAVER RESEARCH CO.

9723 BOLT BUSTER NC
BEAVER RESEARCH CO.

9724 HI-P II
BEAVER RESEARCH CO.

9725 BEA SLIK SILICONE RELEASE
BEAVER RESEARCH CO.

9831 GEAR PLATE NC
BEAVER RESEARCH CO.

9974 BELT DRESSING 702
BEAVER RESEARCH CO.

10119 S-711
BEAVER RESEARCH CO.

10470 INSTA-SHINE
BEAVER RESEARCH CO.

10818 BEAVER CLEANER 57B
BEAVER RESEARCH CO.

8890 LEMON SHEEN 84408
BEAVER RESEARCH CO. (MI)

8767 ELECTRODE FILLING SOLUTION
BECKMAN INSTRUMENTS, INC.

1550 POLYMER 1100
BETZ INDUSTRIAL DIV.

5774 DISSOLVED OXYGEN, 0-100PPB CODE 1276
BETZ INDUSTRIAL DIV.

6329 HARDNESS INDICATOR CODE 290
BETZ INDUSTRIAL DIV.

Current MSDS Sorted by Manufacturer
MSDS Product Name / Manufacturer Name
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7280 POLYMER 2198
BETZ INDUSTRIAL DIV.

7727 BALANCE POLYMER 6427B
BETZ INDUSTRIAL DIV.

8729 AMINO ACID REAGENT CODE 2012
BETZ INDUSTRIAL DIV.

8738 CONDUCTIVITY STD. 2875 MHOS CODE 347
BETZ INDUSTRIAL DIV.

8739 ACID REAGENT CODE 2011
BETZ INDUSTRIAL DIV.

8741 SULFURIC ACID N/50 CODE 202
BETZ INDUSTRIAL DIV.

8742 SULFURIC ACID SOLUTION, 10N CODE 2033
BETZ INDUSTRIAL DIV.

8743 MOLYBDATE POWDER PILLOWS CODE 2010
BETZ INDUSTRIAL DIV.

8744 SULFITE INDICATOR CODE 219
BETZ INDUSTRIAL DIV.

8746 MICRO HARDNESS TITRANT CODE 834
BETZ INDUSTRIAL DIV.

8748 BETZ PURPLE INDICATOR CODE 519
BETZ INDUSTRIAL DIV.

8751 POTASSIUM CHLORIDE CRYSTALS CODE 626
BETZ INDUSTRIAL DIV.

8752 SODIUM HYDROXIDE, 1N CODE 255
BETZ INDUSTRIAL DIV.

9112 OPTI-MEEN 80273
BETZ INDUSTRIAL DIV.

10277 PHOSPHATE STANDARD 10 MG/L CODE 1869
BETZ INDUSTRIAL DIV.

C u r r e n t M S D S S o r t e d b y M a n u f a c t u r e r
MSDS Product Name / Manufacturer Name
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10566 MAGNI-FORM 304P
BETZ INDUSTRIAL DIV.

10579 FERROVER IRON REAGENT
BETZ INDUSTRIAL DIV.

1534 RESINS INX32
BETZ LAB., INC.

1537 AFS BOILER
BETZ LAB., INC.

4730 IONIC STRENGTH ADJUSTOR CODE 1599
BETZ LAB., INC.

4733 BETZ 494
BETZ LAB., INC.

7507 BETZ LAYUP-1
BETZ LAB., INC.

8730 HARDNESS TITRATING SOLUTION CODE 292
BETZ LABORATORIES, INC.

8732 CONDUCTIVITY STD. 1150 MHOS CODE 281
BETZ LABORATORIES, INC.

8749 MOLYBDATE REAGENT FOR PO4 CODE 2044
BETZ LABORATORIES, INC.

8750 PHENOLPHTHALEIN INDICATOR CODE 212
BETZ LABORATORIES, INC.

8753 POTASSIUM IODIDE-IODATE CODE 237
BETZ LABORATORIES, INC.

10866 CORR-SHIELD 736
BETZ LABORATORIES, INC.

553 CORROGEN
BETZ LABS, INC.

1541 BETZ KI-2
BETZ LABS, INC.

Current MSDS Sorted by Manufacturer
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8731 291 HARDNESS BUFFER
BETZ LABS, INC.

8740 1566 UNIVERSAL HARDNESS BUFFER SOLN
BETZ LABS, INC.

8745 CITRIC ACID POWDER PILLOW 25ML CODE 2013
BETZ LABS, INC.

10567 BALANCED POLYMER 6496
BETZ LABS, INC.

10675 2317 DPD 2 FREE CHLORINE
BETZ LABS, INC.

1532 CUSTOM CLEAN B-CC A136
BETZ PAPER CHEM, INC.

1533 CUSTOM CLEAN N-CC A 135
BETZ PAPER CHEM, INC.

8926 KRYLON 1306 WORKABLE FIXATIF SPRAY COAT
BORDEN, INC., CONSUMER PRODUCTS DIV.

11047 WET OR DRY PLASTIC ROOF CEMENT
BREWER CO. (THE)

1748 BUSPERSE 47
BUCKMAN LAB., INC.

1509 ALL-MET DESCALER
BURMAH TECHNICAL SERVICES, INC., WATER MANAGEMENT DIV.

5308 METASOL D3T
CALGON CORP.

537 NICKEL-SAFE ICE MACHINE CLEANER
CALGON CORP., CALGON VESTAL LAB. DIV.

8925 GAS LEAK DETECTOR 4180
CALGON CORP., CALGON VESTAL LAB. DIV.

7743 NP-210/250/270/300/350/400/500 TONER
CANON U.S.A., INC.

urrent MSDS Sorted by Manufacturer
SDS Product Name / Manufacturer Name
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7862 NP-120/125 TONER
CANON U.S.A., INC.

10323 CERTANIUM 701 3/16"
CERTANIUM ALLOYS & RESEARCH CO.

10324 CERTANIUM 707-SP GOLD 3/16
CERTANIUM ALLOYS & RESEARCH CO.

10248 140 SOLVENT
CHEMCENTRAL CORP. (BEDFORD PK)

7819 CHEMSWAB CS25
CHEMTRONICS, INC.

8888 ATL AIR TOOL LUBRICANT-PART #765-1400
COILHOSE PNEUMATICS

10030 AJAX CLEANSER
COLGATE PALMOLIVE CO.

9070 CON-COIL
CONTINENTAL RESEARCH CORP. (TX)

8736 RESOLVE MICROSCOPE IMMERSION OIL
CORNWELL CORP., STEPHENS SCIENTIFIC DIV.

921 CROWN CUT 202
CROWN ALLOYS

6964 NO. 6 FUEL OIL
CRYSTAL REFINING CO.

10578 ANSI 61 LIGHT GRAY
CUSTOM-PAK PRODUCTS, INC.

8711 DERUSTO RUST PREVENTIVE ENAMEL SPRAY
DAP INC.

8797 DERUSTO C-GLO FLUORESCENT ENAMEL SPRAY
DAP INC.

8251 SBS SWARFEGA HEAVY DUTY GEL HAND CLEANSER
DEB CANADA

Current MSDSs Sorted by Manufacturer
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10423 GP-X YELLOW MARKER
DIAGRAPH CORP.

7716 S.S. SILICONE SEALANT AND ADHESIVE, CLEAR
DOW CORNING CORP. (48686)

7858 DOW CORNING 200 FLUID, 50 CS
DOW CORNING CORP. (MIDLAND)

914 DRI-SLIDE 4,8,32 FL. OZ; 1,5 GAL; 100, 350#
DRI-SLIDE, INC.

8918 GRAVEL MIX, SAND MIX, MORTAR MIX
DRY MIX CRETE & SUPPLY CO.

9095 DURACELL ALKALINE BATTERY
DURACELL INC.

528 RED GAGE OIL
DWYER INSTRUMENTS INC.

624 FREON 22
E.I. DUPONT DE NEMOURS & CO., (INC.)

1012 HYDROCHLORIC ACID, MURIATIC ACID
E.I. DUPONT DE NEMOURS & CO., (INC.)

576 ISOPAR M
EXXON CHEMICAL AMERICAS, DIV. OF EXXON CHEMICAL CORP.

10258 VIC-SOL MINERAL SPIRITS
EXXON CO., U.S.A.

9128 669 NAPHTHA
EXXON CORP., EXXON CHEMICAL AMERICAS DIV.

5537 EZE 465A
EZE PRODUCTS, INC.

605 FEL-PRO C5-A LUBRICANT
FEL-PRO CHEMICAL PRODUCTS, L.P.

542 PRIME NEATSFOOT OIL COMPOUND
FIEBING CO., INC.

Current MSDS Sorted by Manufacturer
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8927 STP OIL TREATMENT
FIRST BRANDS CORP.

10467 FIVE STAR STRUCTURAL CONCRETE
FIVE STAR PRODUCTS, INC.

4628 SODIUM CARBONATE
FMC WYOMING CORP.

1350 SUPER STRIPE/SUPER SUPREME TRAFFIC PAINT YELLOW
FOX VALLEY SYSTEMS, INC.

4741 NO DUST SWEEPING COMPOUND
FRANK MILLER & SONS INC.

578 STYLE 98 BRAIDED PACKING
GARLOCK, INC., COMPRESSION PACKING DIV.

1044 GARLOCK PIPE THREAD COMPOUND TYPE A
GARLOCK, INC., MECHANICAL PACKING DIV.

8757 LEAK DET. LOW TEMP.
GARMAN CO., INC.

577 SODA ASH
GENERAL CHEMICAL CORP. (PARSIPPANY)

589 LIQUID PAPER CORRECTION FLUID WHITE & COLORS LPCF-4, -8, -9
GILLETTE MEDICAL EVALUATION LAB. (GAITHERSBURG)

616 THINNER FOR LIQUID PAPER CORRECTION FLUID
GILLETTE MEDICAL EVALUATION LABS. (GAITHERSBURG)

8770 NOCHROMIX, CRYSTAL
GODAX LABORATORIES, INC.

7598 M P EN UNDC
GRAHAM PAINT & VARNISH CO.

7599 GRHM PLY H/D WH
GRAHAM PAINT & VARNISH CO.

8604 ELITE ALK SAT EN NEUT BS
GRAHAM PAINT & VARNISH CO.

Current MSDS Sorted by Manufacturer
SDS Product Name / Manufacturer Name
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9797 COR RESIST PRMR BS CT WH
GRAHAM PAINT & VARNISH CO.

9798 ACPX 5 HG ACRY SFTY YEL
GRAHAM PAINT & VARNISH CO.

623 GREAT LAKES HALON 1211
GREAT LAKES CHEMICAL CORP.

4703 MULTI-PURPOSE LUBRICANT DRI-SLIDE
GUARDSMAN PRODUCTS, INC.

1703 ADHESIVE X-3801
H.B. FULLER CO. (VADNAIS HEIGHTS)

2101 PHOSVER 3 PHOSPHATE REAGENT
HACH CO. (AMES)

8708 NITRIVER 3 NITRITE REAGENT
HACH CO. (AMES)

8709 NITRAVER 6 NITRATE REAGENT POWDER PILLOWS
HACH CO. (AMES)

8710 FILTRATION AID SOLUTION
HACH CO. (AMES)

8760 DIGESTION SOLUTION FOR COD 0-1500 PPM RANGE
HACH CO. (AMES)

8761 SODIUM THIOSULFATE STANDARD SOLUTION, STABILIZED, 0.0250 N
HACH CO. (AMES)

8769 NITRIFICATION INHIBITOR FORMULA 2533
HACH CO. (AMES)

9352 CARDISORBER
HAYS REPUBLIC CORP.

9353 CO ABSORBER / CUPROUS CHLORIDE
HAYS REPUBLIC CORP.

9354 SEEZ 02
HAYS REPUBLIC CORP.

C u r r e n t M S D S s S o r t e d b y M a n u f a c t u r e r
SDS Product Name / Manufacturer Name
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10966 PVC CEMENT CLEAR MEDIUM
HERCULES CHEMICAL CO., INC.

10967 HERCULES PVC PRIMER MEK/ACETONE FORMULA
HERCULES CHEMICAL CO., INC.

9822 HEXAFLOC SB-61
HEXAGON CHEMICAL CO.

10325 HEXAFLOC 320
HEXAGON CHEMICAL CO.

11061 HEXAFLOC RM-24
HEXAGON CHEMICAL CO.

11073 HEXAKLEEN PC-1200
HEXAGON CHEMICAL CO.

9145 SODA BLEACH
HIGH-PO-CHLOR, INC.

8758 LEAK LOCK
HIGHSIDE CHEMICALS, INC.

596 SAFETY BOOSTERS
HILTI CONSTRUCTION CHEMICALS, INC.

9149 CF 124 FILLER FOAM
HILTI CONSTRUCTION CHEMICALS, INC.

9150 CF 120-R1 CLEANER
HILTI CONSTRUCTION CHEMICALS, INC.

900 TURBO 414
INDUSTRIAL GASKET & SHIM CO., INC.

5009 WELD-ON 711 FOR PVC PLASTIC PIPE
INDUSTRIAL POLYCHEMICAL SERVICE

1734 XL-700
INGERSOLL-RAND

1449 INSL-X
INSL-X PRODUCTS CORP.

Current MSDSs Sorted by Manufacturer

MSDS Product Name / Manufacturer Name

Plant #: 481 OTSEGO ===== Page 13

8768 MICRO LIQUID LABORATORY CLEANER
INTERNATIONAL PRODUCTS CORP. (BURLINGTON)

526 STEEL BLUE DX-100
ITW DEVCON

608 DEV TAP
ITW DEVCON CORP.

609 STAINLESS STEEL PUTTY RESIN ST
ITW DEVCON CORP.

1324 STAINLESS STEEL PUTTY HARDENER ST
ITW DEVCON CORP.

8766 CALCIUM CHLORIDE, ANHYDROUS
J.T. BAKER CHEMICAL CO.

10805 POTASSIUM PHOSPHATE DIBASIC
J.T. BAKER INC.

674 ACETIC ACID, GLACIAL
J.T. BAKER, INC.

629 STAY SILV ALUMINUM BRONZE FLUX
J.W. HARRIS CO., INC.

9075 FAST-VAC VACUUM PUMP OIL
J/B INDUSTRIES, INC.

1220 HPC-NON SOLVENT DEGREASER
JANGULA CLEANING SALES & SERVICE

9732 ARMORCOID
JOHN L. ARMITAGE & CO.

910 JB-80
JUSTICE BROTHERS, INC.

3720 3068 RAPIDOEZE
KOH-I-NOOR RAPIDOGRAPH, INC.

4745 BALL PAINT MARKERS ALL COLORS
LA-CO INDUSTRIES, INC./MARKAL CO.

Current MSDS Sorted by Manufacturer
DS Product Name / Manufacturer Name
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595 CARBON DIOXIDE
LIQUID AIR CORP. (WALNUT CREEK)

6027 NITROGEN
LIQUID AIR CORP. (WALNUT CREEK)

9113 100 PPM CARBON MONOXIDE, 0.35% PENTANE AND 19% ...SEE TEXT..
LIQUID AIR CORP. (WALNUT CREEK)

4859 OXYGEN
LIQUID AIR CORP. (WALNUT CREEK, CA)

9103 SULFUR DIOXIDE
LIQUID AIR CORP. (WALNUT CREEK, CA)

9104 10-100 PPM HYDROGEN SULFIDE IN NITROGEN
LIQUID AIR CORP. (WALNUT CREEK, CA)

9117 COMPRESSED AIR
LIQUID AIR CORPORATION

9730 PENTANE
LIQUID AIR CORPORATION

1820 SOLDER
LITTON/KESTER SOLDER

532 ADHESIVE/SEALANT 271
LOCTITE CORP. (NEWINGTON)

533 ADHESIVE/SEALANT 242
LOCTITE CORP. (NEWINGTON)

534 PST PIPE SEALANT
LOCTITE CORP. (NEWINGTON)

535 BEARING MOUNT GRADE B
LOCTITE CORP. (NEWINGTON)

1824 GASKET ELIMINATOR 515 SEALANT
LOCTITE CORP. (NEWINGTON)

4735 SUPERBONDER 495 GENERAL PURPOSE INSTANT ADHESIVE
LOCTITE CORP. (NEWINGTON)

Current MSDS Sorted by Manufacturer
MSDS Product Name / Manufacturer Name
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4736 RC 680 RETAINING CMPD HI STRENGTH
LOCTITE CORP. (NEWINGTON)

4874 PST H TEMP ANTI-GALLING PIPE SLNT
LOCTITE CORP. (NEWINGTON)

7175 LOCQUIC PRIMER T (AEROSOL)
LOCTITE CORP. (NEWINGTON)

582 FORM-A-GASKET SEALANT #2
LOCTITE CORP., PERMATEx INDUSTRIAL CORP. DIV. (AVON)

1780 FORM-A-GASKET NO.1 SEALANT
LOCTITE CORP., PERMATEx INDUSTRIAL CORP. DIV. (AVON)

4734 SPRAY-A-GASKET HIGH TACK ADHESIVE SEALANT
LOCTITE CORP., PERMATEx INDUSTRIAL CORP. DIV. (AVON)

610 THREAD SEALANT WITH TEFLON
LOCTITE CORP., PERMATEx INDUSTRIAL CORP. DIV. (NEWINGTON)

769 NOKORODE SOLDERING PASTE
M. W. DUNTON CO.

1831 HYDROGEN PEROXIDE SOLUTION, 30%
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

5829 SODIUM HYDROXIDE
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

6122 SULFURIC ACID 96%
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

8726 REAGENT ALCOHOL
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

8727 ACETONE
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

8728 SILICIC ACID
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

8733 TOLUENE
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

Current MSDSs Sorted by Manufacturer
MSDS Product Name / Manufacturer Name
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8737 SODIUM HYDROXIDE, 0.02 TO 0.1 NORMAL VOLUMETRIC SOLUTIONS
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

8759 HYDROCHLORIC ACID, 37%
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

9959 NITRIC ACID 70%
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

10674 PHOSPHORIC ACID
MALLINCKRODT, INC., SCIENCE PRODUCTS DIV.

906 C.P. (CHEMICALLY PURE) HYDRATE
MARBLEHEAD LIME CO.

10387 GAMCOPE 301
MARSTON BENTLEY, INC. (TX)

8911 SET 45
MASTER BUILDERS, INC.

669 TRIM SOL
MASTER CHEMICAL CORP.

7809 DIETHYL TOLUAMIDE, DEET
MCLAUGHLIN GORMLEY KING COMPANY

903 SPENT CARBONATE SOLUTION
MENASHA CORP.

905 SODA ASH SODIUM CARBONATE SLI PRODUCT
MENASHA CORP.

1189 WOOD DUST
MENASHA CORP.

8368 AMMONIA ABSORBER FILTER
MICHLIN DIAZO PROD. CORP.

8922 MICHLIN 1 STEP FILM ERADICATOR 201
MICHLIN DIAZO PROD. CORP.

9177 AQUA AMMONIA
MICHLIN DIAZO PROD. CORP.

C u r r e n t M S D S s S o r t e d b y M a n u f a c t u r e r
MSDS Product Name / Manufacturer Name
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1119 CRA-150
MICRONIZED PRODUCTS (PTY) LTD.

7589 CRA-150-M
MICRONIZED PRODUCTS (PTY) LTD.

3161 POR-ROK ANCHORING CEMENT
MINWAX CONSTRUCTION PRODUCTS DIV.

381 F-1321P
MITCO, INC.

3158 MOBIL DTE 25
MOBIL OIL CORP.

611 MOBILGEAR 629
MOBIL OIL CORP. (PRINCETON)

613 MOBIL DTE OIL EXTRA HEAVY
MOBIL OIL CORP. (PRINCETON)

1281 MOBILFLUID 423
MOBIL OIL CORP. (PRINCETON)

1283 MOBIL EXTRA HECLA SUPER CYLINDER OIL MINERAL
MOBIL OIL CORP. (PRINCETON)

7810 MOBIL HYDRAULIC OIL 13
MOBIL OIL CORP., ENVIRONMENTAL AFFAIRS AND TOXICOLOGY DEPT.

584 MOBILGEAR 632
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

585 MOBIL SHC 629
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

586 MOBIL EXTRA HECLA SUPER CYLINDER OIL
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

612 MOBIL DTE 26
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

1282 MOBIL DELVAC 1300 SUPER
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

C u r r e n t M S D S s S o r t e d b y M a n u f a c t u r e r
SDS P r o d u c t N a m e / M a n u f a c t u r e r N a m e
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1827 MOBIL DTE OIL BB
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

2613 MOBIL DTE 13M
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

2863 MOBIL SHC 634
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

3133 MOBIL SHC 630
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

3159 MOBILGEAR 630
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

3224 MOBILITH SHC PM
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

5343 MOBIL SHC 626
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

5723 MOBIL DTE OIL MEDIUM
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

5724 MOBILGEAR SHC 220
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

5725 MOBILITH SHC 100
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

6540 MOBIL MULTI-PURPOSE ATF
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

7744 MOBIL DTE 797 OIL
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

7746 SOCONY OVEN CONVEYOR LUBRICANT
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

7811 MOBIL SHC 632
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

7812 MOBIL DELVAC 1330
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

C u r r e n t M S D S S o r t e d b y M a n u f a c t u r e r
DS Product Name / Manufacturer Name
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7813 MOBIL DELVAC 1
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

9960 MOBILFLUID 424
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

9961 MOBIL PAPER MACHINE OIL L
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

10584 MOBILUX EP 111
MOBIL OIL CORP., ENVIRONMENTAL HEALTH AND SAFETY DEPT.

6373 SAFETY ABSORBENT AND OIL AND GREASE ABSORBENT
MOLTAN CO.

10974 PHOSPHORIC ACID 80% TECHNICAL
MONSANTO CO.

9755 ENVIRO-FUEL
MONTCALM FIBRE CORP.

1508 AMMONIUM POLYPHOSPHATE SOLUTION
MORRAL CHEMICAL CO.

1169 MORTON ROCK SALT
MORTON INTERNATIONAL (CHICAGO)

7715 N-P-K CLEAR LIQUIDS FERTILIZER
MUELLER BEAN CO., AG PRODUCTS DIVISION

1396 NALCO 8610 FOAM CONTROL CHEMIC
NALCO CHEMICAL CO. (NAPERVILLE)

1398 NALCO 8686 SCALE INHIBITOR
NALCO CHEMICAL CO. (NAPERVILLE)

7590 NALCO 7667 LIQUID
NALCO CHEMICAL CO. (NAPERVILLE)

8707 NALCO 7627 PITCH DISPERSANT
NALCO CHEMICAL CO. (NAPERVILLE)

9663 92PF207
NALCO CHEMICAL CO. (NAPERVILLE)

Current MSDSs Sorted by Manufacturer
SDS Product Name / Manufacturer Name
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9670 NALCO 92PF200 BOILOUT ADDITIVE
NALCO CHEMICAL CO. (NAPERVILLE)

538 BIG TEX
NCH CORP., MANTEK DIV.

8929 ELECTRA-SEAL 1986
NCH CORP., MANTEK DIV.

5995 PIG REPAIR PUTTY #PTY201, PTY202, AND PTY209
NEW PIG CORP.

6014 HAZ-MAT PIG PILLOW HR7015
NEW PIG CORP.

6015 HAZ-MAT PIG ABSORBENT SOCKS 124CR, HA1010, HA2010...SEE TEXT
NEW PIG CORP.

9722 SUPER PIG ABSORBENT SOCKS #PIG210, #PIG211, #PIG212.SEE TEXT
NEW PIG CORP.

10326 PIG PAN 2410P & 2410PP-01 WITH PROPYLENE FILLER
NEW PIG CORP.

5994 PIG MATS #MAT201, #MAT202, #MAT203, #MAT204 AND MAT220
NEW PIG CORP. (TIPTON)

6013 HAZARDOUS MATERIALS PIG-UP PULP HA8010
NEW PIG CORP. (TIPTON)

8912 CHEMPLEX #2/MS
NONFLUID OIL CORP.

601 RUBBER & SHELLAC BONDED ABRASIVE WHEELS
NORTON CO., ORGANIC PRODUCTS DIV.

775 RUBBER & SHELLAC BONDED GRINDING WHEELS
NORTON CO., ORGANIC PRODUCTS DIV.

9728 50% CAUSTIC SODA-DIAPHRAGM
OCCIDENTAL CHEMICAL CORP. (TX)

2246 ORION APPLICATION SOLUTION PH 4.01 BUFFER
ORION RESEARCH INC.

Current MSDSs Sorted by Manufacturer

MSDS Product Name / Manufacturer Name

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- 8669 ORION APPLICATION SOLUTION PH 7.00 BUFFER
ORION RESEARCH INC.
- 8670 ORION APPLICATION SOLUTION PH 10.01 BUFFER
ORION RESEARCH INC.
- 8671 ORION APPLICATION SOLUTION - PH ELECTRODE STORAGE SOLUTION
ORION RESEARCH INC.
- 8734 D/J REF ELECTRODE INNER FILL SOLUTION
ORION RESEARCH INC.
- 8735 IODIDE REAGENT FOR RESIDUAL CHLORINE
ORION RESEARCH INC.
- 10012 ALKALINE REAGENT 10N NAOH
ORION RESEARCH INC.
- 7742 SILICON DIOXIDE
OTTAWA INDUSTRIAL SAND CO.
- 9966 THUMBABLE SEALER/CAULK
PANDUIT
- 9967 RUST STOPPER
PDI, INC.
- 10351 JET SPRAY GUMOUT CARBURETOR & CHOKE CLEANER
PENNZOIL CO., GUMOUT DIV.(PITTSBURGH)
- 7859 CS85 CLEANING SOLUTION/CLEANING SOLUTION (101931-1)
PERFECTDATA CORP.
- 7860 TF SOLUTION/CLEANING SOLUTION (550028-1)
PERFECTDATA CORP.
- 591 PETROLANE PROPANE
PETROLANE
- 10964 STYLE 7075, 825 DEGREES F COMPRESSED GRAPHITE SHEET
PHELPS INDUSTRIAL PRODUCTS, INC.
- 8874 YELLOW UTILITY ENAMEL 0612
PORT CITY PAINT

Current MSDS Sorted by Manufacturer
MSDS Product Name / Manufacturer Name
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8875 MINERAL SPIRITS 096700
PORT CITY PAINT

8884 ORANGE UTILITY ENAMEL 0615
PORT CITY PAINT

8886 RED OXIDE PRIMER 3016
PORT CITY PAINT

8887 WHITE BASE (MACHINERY ENAMEL) 4040
PORT CITY PAINT

8900 WHITE (FLOOR ENAMEL) 0500
PORT CITY PAINT

1422 WHITE UTILITY ENAMEL
PORT CITY PAINTS, INC.

1423 BLACK UTILITY ENAMEL
PORT CITY PAINTS, INC.

1424 BRIGHT RED UTILITY ENAMEL
PORT CITY PAINTS, INC.

1425 GREEN UTILITY ENAMEL
PORT CITY PAINTS, INC.

8885 BLUE UTILITY ENAMEL #614
PORT CITY PAINTS, INC.

7707 POWER UP NNL 690
POWER UP MANUFACTURING LTD.

9153 LIQUID CAUSTIC SODA, 50%
PPG INDUSTRIES, INC. (PPG PL)

1709 PRO-HIDE PLUS ALKYD ENAMEL PRO-WHITE
PRATT & LAMBERT, INC.

11087 DOWNY - LIQUID FABRIC SOFTENER REGULAR CONCENTRATION
PROCTER & GAMBLE, BAR SOAP & HOUSEHOLD CLEANING PROD. DIV.

592 PURAFIL MEDIA
PURAFIL, INC. (NORCROSS)

urrent MSDS Sorted by Manufacturer
SDS Product Name / Manufacturer Name
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1638 ACETYLENE
PURITY CYLINDER GASES INC.

607 DOT 3-STANDARD HEAVY DUTY BRAKE FLUID
RADIATOR SPECIALTY CO.

916 LIQUID WRENCH NO. 1 PENETRANT NON-AEROSOL
RADIATOR SPECIALTY CO.

901 PHILTERKOL
READING ANTHRACITE COAL CO.

8904 SILICONE SEALANT 0816, 0817, 0820, 0826, 0827...SEE TEXT...
RED DEVIL INC.

10583 SPENKEL L191-40K
REICHHOLD CHEMICALS, INC., (PENSACOLA)

8776 SILVER NITRATE, RCC CAT. NO. 7000, 0.100 NORMAL
RICCA CHEMICAL CO.

615 RIDGID DARK THREAD CUTTING OIL
RIDGE TOOL CO.

9144 NICKEL BASE ALLOYS
ROLLED ALLOYS, INC.

7808 PERMANONE TICK REPELLANT
SAFETY TECH CO.

9726 NICKEL CADMIUM BATTERY
SAFT AMERICA INC.

760 ROLL-ON STAMP PAD INKER
SANFORD CORP.

8227 EXPO DRY ERASE MARKERS BROAD TIP
SANFORD CORP.

8755 EXPO CLEANER FOR DRY ERASE SURFACES
SANFORD CORP.

597. SBS-21 BORAX-BASE HAND SOAP
SBS PRODUCTS, INC.

Current MSDS Sorted by Manufacturer

SDS Product Name / Manufacturer Name

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- 10564 NON-ASBESTOS WOVEN GREEN GRIPPER WOVER
SCAN-PAC MFG., INC.
- 9631 #238 MOLY ULTRA MINING GRADE #2
SCHAEFFER MFG. CO.
- 9123 CARBON MONOXIDE IN AIR
SCOTT SPECIALTY GASES, INC.
- 10303 ML 4002
SEPCO
- 10368 QUICK DRY MINERAL SPIRITS SHELL SOL 340 HT
SHELL OIL CO., ENVIRONMENTAL AFFAIRS
- 9143 EXTREMULTUS SPRAY CONDITIONER
SIEGLING AMERICA, INC.
- 8914 SOUTHERN URETHANE 90 STYLE 700
SOUTHERN URETHANE & PACKING CO.
- 1733 ZIP-STRIP PAINT & VARNISH REMOVER 72000
STAR BRONZE CO.
- 8808 STATIC BUSTER CONDUCTIVE CLEANER
STAT-TECH INTERNATIONAL CORP.
- 10469 TRAVABON
STOCKHAUSEN, INC.
- 8921 TIN/LEAD SOLDER ALLOY (FABRICATIONS/FORMS) M/L 020
TARACORP/IMACO, INC.
- 7717 UREA AMMONIUM NITRATE
TERRA INTERNATIONAL, INC.
- 1701 SBS BAR SOAP
THE ANDREW JERGENS CO.
- 2062 LIQUID-PLUMR
THE CLOROX CO., (OAKLAND)
10028. PINE-SOL CLEANER
THE CLOROX CO., (OAKLAND)

C u r r e n t M S D S s S o r t e d b y M a n u f a c t u r e r
MSDS Product Name / Manufacturer Name
Plant #: 481 OTSEGO ===== Page 25

9975 GLID-GUARD HIGH SOLIDS EPOXY 5430 SERIES
THE GLIDDEN CO. (CLEVELAND)

9979 GLID-GUARD METALLITE HI-BUILD 5475
THE GLIDDEN CO. (CLEVELAND)

9980 GLID-GUARD METALLITE HI-BUILD 5476
THE GLIDDEN CO. (CLEVELAND)

10104 GLID-GUARD HIGH SOLIDS EPOXY 5430 SERIES, 5434
THE GLIDDEN CO. (CLEVELAND)

1840 FLEETWELD 5P
THE LINCOLN ELECTRIC CO.

8256 COVERED ELECTRODE E6011 MUREX 6011 TYPE A
THE LINCOLN ELECTRIC CO.

8901 MUREX 6013 TYPE U
THE LINCOLN ELECTRIC CO.

8902 FLEETWELD 47
THE LINCOLN ELECTRIC CO.

1446 RED AEROSPOT
THE NELSON PAINT CO.

1447 LIGHT GREEN AEROSPOT
THE NELSON PAINT CO.

1448 BLUE AEROSPOT
THE NELSON PAINT CO.

10917 LEAD-FREE YELLOW AERO SPOT E&I 30-13
THE NELSON PAINT CO.

10950 GLARE KLEEN TX1219, TX1319
THE TEXWIPE CO.

1325 K-LENS-M LENS CLEANER
THE WILKINS CO., INC.

4650 POLYROOF
TREMCO

C u r r e n t M S D S s S o r t e d b y M a n u f a c t u r e r
SDS Product Name / Manufacturer Name
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10312 TRI-LUMIN
TRI-CHEM CORP. (MADISON HGTS)

10313 SPECIAL PATCH PART A
TRI-CHEM CORP. (MADISON HGTS)

10314 SPECIAL PATCH PART C
TRI-CHEM CORP. (MADISON HGTS)

10315 SPECIAL PATCH PART B
TRI-CHEM CORP. (MADISON HGTS)

8919 TEMPEST 16 OZ PROPANE CYLINDER
TURNER INDUSTRIES, INC.

1637 NAPHTHOL SPIRITS 66/3
UNION OIL CO. OF CALIFORNIA, UNOCAL CHEMICALS DIV.

1120 DARASPRAY 6313
W.R. GRACE & CO., DEARBORN DIV. (LAKE ZURICH)

1889 WD-40 BULK LIQUID
WD-40 CO.

1337 NUCHAR WV-IS SPECIALTY TREATED ACTIVATED CARBON
WESTVACO, CHEMICAL DIV., CARBON DEPT.

10973 FURNACE CEMENT
WILLIAM H. HARVEY CO.

9823 BITUMINOUS COAL
WOODRUFF COAL CO.

599 1020/1035/1045/1040/1048/1050/2510/2830 PHOTORECEPTOR
XEROX CORP.

625 1025/1038/2510 BLACK TONER
XEROX CORP.

701 SILICONE FUSER OIL, FUSER LUBRICANT
XEROX CORP.

702 2510 BLACK DEVELOPER
XEROX CORP.

Current MSDS Sorted by Manufacturer

MSDS Product Name / Manufacturer Name

Plant #: 481 OTSEGO ===== Page 27

703 ANTI-STATIC FLUID
XEROX CORP.

744 FORMULA A CLEANER, LIQUID CLEANING KIT, EXTERIOR CLEANER
XEROX CORP.

1358 1012/5012/5014/DRY INK CARTRIDGE
XEROX CORP.

3376 ANTI-STATIC FLUID, DOCUMENT HANDLER ANTI-STATIC FLUID
XEROX CORP.

7863 1065/1075/1090/4050../5100/DOCUTECH../4235 PHOTORECEPTOR
XEROX CORP.

8285 5012/5014 PHOTORECEPTOR CARTRIDGE
XEROX CORP.

8806 1065/5018/5028/5034/5046/5047/5065 DEVELOPER
XEROX CORP.

6284 XEROX FUSER AGENT
XEROX CORP. (ROCHESTER)

8283 1020/1035/2830 DRY INK PLUS
XEROX CORP. (ROCHESTER)

8284 1020/1035/2830 DEVELOPER
XEROX CORP. (ROCHESTER)

8807 1065/5046/5047/5065 DRY INK
XEROX CORP. (ROCHESTER)

1153 ZEP TKO
ZEP MFG. CO.

1277 METER MIST COUNTRY GARDEN
ZEP MFG. CO.

1278 DOUBLE PLAY
ZEP MFG. CO.

1279 ZEP FS FORMULA 386 2441
ZEP MFG. CO.

C u r r e n t M S D S s S o r t e d b y M a n u f a c t u r e r
S D S P r o d u c t N a m e / M a n u f a c t u r e r N a m e
P l a n t # : 4 8 1 O T S E G O ===== Page 28

End of Report

ON-SITE LANDFILL DISPOSAL POLICY

DOCUMENT #55

*memo***MENASHA
CORPORATION****TO:** Landfill Operators**DATE:** 7 April 1980**SUBJECT:** Landfill Operating Guidelines**FROM:** John Blauwkamp

To insure compliance with the new Solid Waste Disposal Regulations, the following operating guidelines should be followed as closely as possible.

1. The gate or cable must be kept locked after normal working hours.
2. Each days waste must be compacted into a layer not more than 2 foot thick.
3. Each days waste must be covered with at least 6" of sand or gravel before the end of each working day.
4. Each day's cell will be about 16' wide and as long as necessary.
5. Each lift will be one cell thick (2 feet), two cells wide (32'), and extend the length of the landfill as shown in figure 1. Variations in the order that the cells are constructed in a lift (such as working from both ends towards the middle) can be used when convenient.
6. Only one lift will be under construction at any given time.
7. Lifts will be constructed in a step wise manner as illustrated in figure 2.
8. The curvature of the top of the lifts should be as steep as we can safely drive the truck up. The maximum allowable slope is 3 to 1. This would correspond to the center of the landfill being 65' higher than the edges.
9. The lifts must be constructed such that when the final cover is applied and the landfill is full it will form a pyramid. The slopes of the final cover should be such that the drainage pattern is as shown in figure 3.
10. As soon as 3 lifts have been brought to final grade, the final cover will be applied and the area seeded to prevent erosion.
11. The only materials that can be disposed of are:
 1. rejects from the hydropulper
 2. digester squeezings rejects
 3. fly ash
 4. waste paper from the mill
 5. broken concrete

If anyone from the mill wishes to dump any other mill waste in the landfill they must get permission from the Technical Director or the General Manager.

12. If anyone (this includes Menasha employees) wishes to dump anything such as household trash, garbage or any other personel junk they must be refused permission to do so.

13. If any unauthorized dumping is noticed, it should be reported immediately to Russ Fisher, the Technical Manager, or the General Manager. Do Not cover up the evidence. All possible efforts will be made to have the responsible parties prosecuted for trespassing and illegal dumping.

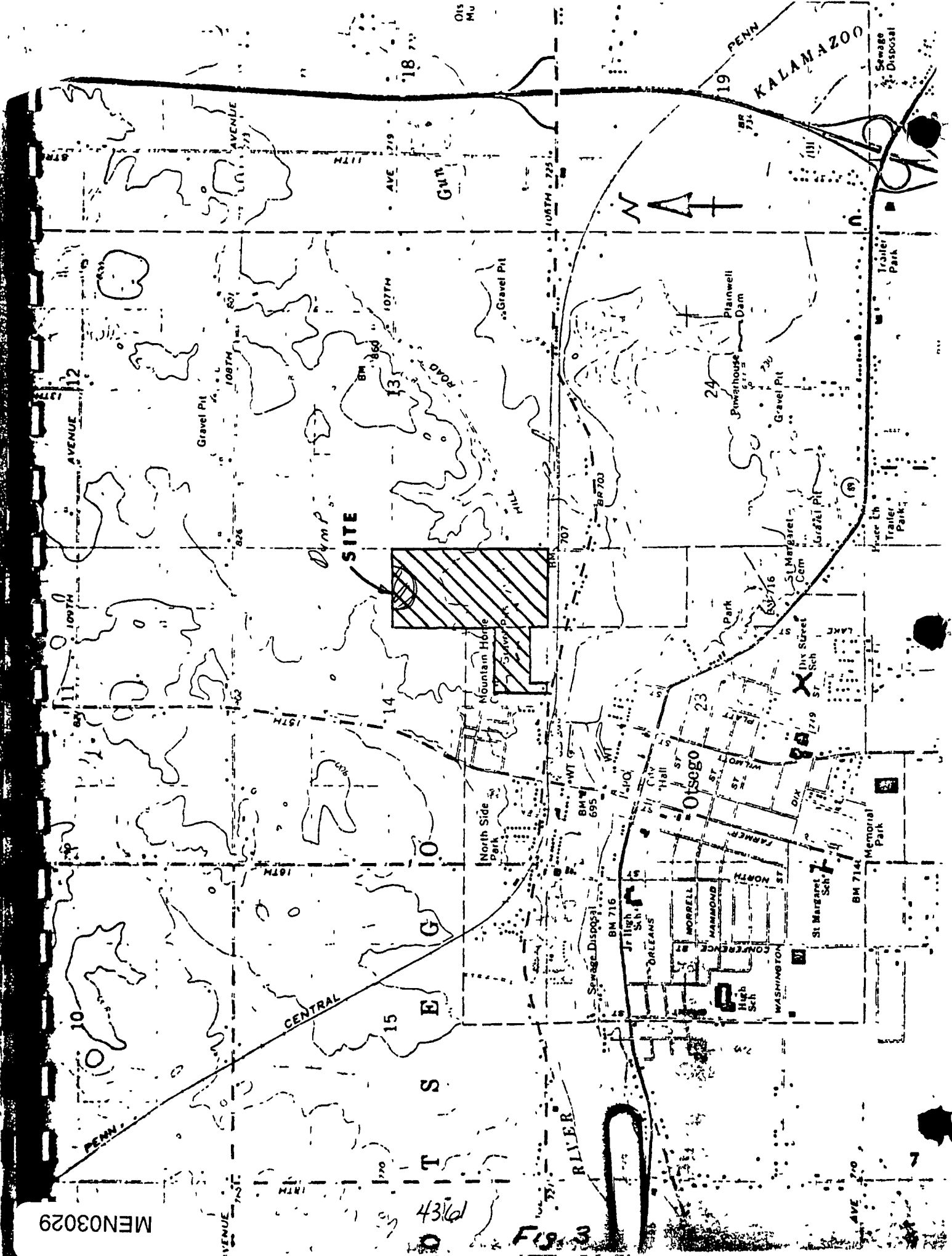
JB/kj

cc: B. Gale
S. Young
J. Hays
R. Fisher (5)
Tour Foreman(8)
A. Brindley
G. Roys
K. Kling
R. Gulbranson

MEN03029

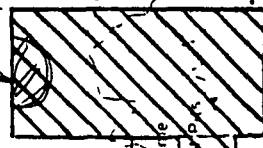
4362

Fig. 20



SITE

DUMP



Mountain Horse
Stables

North Side
Park

Jr High
Sch

ORLEANS

MORRELL
HARMON

CONFERENCE

WASHINGTON

St Margaret Sch

Memorial Park

Dix Siret Sch

St Margaret
Cem

Gravel Pit

Plainwell
Dam

Powhouse

Gravel Pit

Trailer Park

Trailer Park

Trailer Park

Sewage
Disposal

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memo


**MENASHA
CORPORATION**

TO: All Heavy Equipment Operators
& Dump Truck Drivers

DATE: 4/15/83

SUBJECT: Menasha Land Fill Closure

FROM: Jim Porter

It has been brought to my attention that our landfill will be closed sometime around May of 1984. An extensive closure plan has been prepared and this memo shall serve as notice for your role in this effort. Please follow the guidelines below:

1. All material to be landfilled should be placed in the hole on the eastern $\frac{1}{2}$ of the dump. This side must be filled in and graded level with the east bank of the landfill and sloped southward, level with the south bank.
2. No new material should be placed in the west $\frac{1}{2}$ of the landfill.
3. The steep portions of the west $\frac{1}{2}$ should be graded off to provide a more gentle slope. Excess material should be pushed to the east side.
4. Stay 20 feet away from the north road. The height of the fill should be only slightly higher than the elevation of the road.
5. Areas outside the perimeter of the landfill should be kept clean. All material should be placed within the banks of the landfill.
6. Only the following materials should be placed in the landfill:
 - a. Secondary Fiber Rejects
 - b. Fly Ash
 - c. Concrete and Other Construction Debris
 - d. Wood Products
 All other waste should go to the trash compactor or metal bin by the vehicle maintenance area.
7. Follow all other normal landfill operation guidelines.

Additional steps will become necessary as we get closer to the actual closing of the landfill next year. Following the steps listed above will make grade work at time of closing much easier.

JP/dv

→ J. Blauwkamp
B. Buchanan

M. Carlson
Production Foremen

4/6/83