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Automatic Transmission Fluid (ATF)

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\* M S D S \*

\* Canadian Centre for Occupational Health and Safety \*

\* \* \* \* \* Issue : 2001-1 (February, 2001) \*

\*\*\* IDENTIFICATION \*\*\*

MSDS RECORD NUMBER : 2314190

PRODUCT NAME(S) : BP AUTRAN ATF + 3  
AUTOMATIC TRANSMISSION FLUID; ATF;  
LUBRICATING OIL

PRODUCT IDENTIFICATION : MSDS No. 12752 US/ENGLISH  
CAS NUMBER: 72623-86-0

DATE OF MSDS : 2000-01-11

CURRENCY NOTE : This MSDS was provided to CCOHS in  
electronic form on 2000-05-31

\*\*\* MANUFACTURER INFORMATION \*\*\*

MANUFACTURER : BP Lubricants

ADDRESS : 28100 Torch Parkway  
Warrenville Illinois  
U.S.A. 60555-4015  
Telephone: 630-434-6377 (OTHER PRODUCT  
SAFETY INFORMATION)

EMERGENCY TELEPHONE NO. : 312-856-2200 (HEALTH INFORMATION, USA)  
703-527-3887 (SPILL INFORMATION,  
CHEMTREC, USA)

\*\*\* MATERIAL SAFETY DATA \*\*\*

BP AUTRAN ATF + 3

MATERIAL SAFETY DATA SHEET

BP AUTRAN ATF + 3

MSDS No. 12752 US/ENGLISH

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**Automatic Transmission Fluid (ATF)**

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**SECTION 1           CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

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MANUFACTURER/SUPPLIER:	EMERGENCY HEALTH INFORMATION:
BP Lubricants	1 (800) 447-8735
28100 Torch Parkway	
Warrenville, Illinois 60555-4015	EMERGENCY SPILL INFORMATION:
U.S.A.	1 (800) 424-9300 CHEMTREC (USA)
	OTHER PRODUCT SAFETY INFORMATION:
	1 (630) 434-6377 (USA)

SUBSTANCE: BP AUTRAN ATF + 3

TRADE NAMES/SYNONYMS:  
AUTOMATIC TRANSMISSION FLUID; ATF; LUBRICATING OIL

CREATION DATE: Jan 11 2000

REVISION DATE: Jan 21 2000

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**SECTION 2           COMPOSITION, INFORMATION ON INGREDIENTS**

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COMPONENT: HYDROTREATED NEUTRAL OIL-BASED LUBRICATING OIL  
CAS NUMBER: 72623-86-0  
EC NUMBER (EINECS): 276-737-9  
PERCENTAGE: 77.0-87.0

COMPONENT: POLYALKYL METHACRYLATE  
CAS NUMBER: Not assigned.  
EC NUMBER: Not assigned.  
PERCENTAGE: 2.6-13.0

COMPONENT: MEDIUM ALIPHATIC SOLVENT NAPHTHA  
CAS NUMBER: 64742-88-7  
EC NUMBER (EINECS): 265-191-7  
PERCENTAGE: 1.0-7.0

(See Section 8, "Exposure Controls, Personal Protection", for exposure guidelines)

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**SECTION 3           HAZARDS IDENTIFICATION**

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NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=1 REACTIVITY=0

EMERGENCY OVERVIEW:  
COLOR: red  
PHYSICAL FORM: oil  
ODOR: hydrocarbon odor  
MAJOR HEALTH HAZARDS: Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

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## Automatic Transmission Fluid (ATF)

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### POTENTIAL HEALTH EFFECTS:

#### INHALATION:

High vapor concentrations can cause headaches, dizziness, drowsiness, and nausea, and may lead to unconsciousness.

#### SKIN CONTACT:

Causes mild skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

#### EYE CONTACT:

Causes mild eye irritation.

#### INGESTION:

Ingestion causes gastrointestinal irritation and diarrhea.

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## SECTION 4 FIRST AID MEASURES

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INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash exposed skin with soap and water. Remove contaminated clothing and thoroughly clean and dry before reuse. Get medical attention if irritation develops.

EYE CONTACT: Flush eyes with plenty of water. Get medical attention if irritation persists.

INGESTION: If swallowed, drink plenty of water. Get immediate medical attention. Induce vomiting only at the instructions of a physician. Do not give anything by mouth to unconscious or convulsive person.

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## SECTION 5 FIRE FIGHTING MEASURES

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FIRE AND EXPLOSION HAZARDS: Slight fire hazard.

EXTINGUISHING MEDIA: carbon dioxide, regular dry chemical, regular foam, water

FIRE FIGHTING: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Water or foam may cause frothing.

FIRE FIGHTING PROTECTIVE EQUIPMENT: Firefighters should wear full bunker gear, including a positive pressure self contained breathing apparatus.

FLASH POINT: >351 F (>177 C) (COC)

FLAMMABILITY CLASSIFICATION: Not Flammable.

#### HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition products or combustion: aldehydes, hydrocarbons, oxides of carbon, oxides of calcium, oxides of sulfur, oxides of zinc

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## Automatic Transmission Fluid (ATF)

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### SECTION 6 ACCIDENTAL RELEASE MEASURES

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Stop leak if possible without personal risk. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Keep unnecessary people away, isolate hazard area and deny entry. Large spills: Dike for later disposal. Cover with plastic sheet or tarp to minimize spreading and protect from contact with water. Prevent spreading by diking, ditching, or absorbing on inert materials.

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### SECTION 7 HANDLING AND STORAGE

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STORAGE: Avoid extremes in storage temperatures. Store in a cool, dry, well-ventilated area. Store away from heat, ignition sources, and open flame in accordance with applicable regulations. Keep container tightly closed. Do not store in unlabeled containers.

HANDLING: Keep away from all ignition sources. Use only with adequate ventilation. Do not eat, drink or smoke in areas of use or storage. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Wash thoroughly after work using soap and water. Remove contaminated clothing and thoroughly clean and dry before reuse.

SPECIAL PRECAUTIONS: Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

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### SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

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#### EXPOSURE LIMITS:

HYDROTREATED NEUTRAL OIL-BASED LUBRICATING OIL:

MINERAL OIL MIST:

5 mg/m3 OSHA TWA

5 mg/m3 ACGIH TWA (Notice of Intended Changes 1993-1994)

10 mg/m3 ACGIH STEL (Notice of Intended Changes 1993-1994)

5 mg/m3 MEXICO TWA

10 mg/m3 MEXICO STEL

MEDIUM ALIPHATIC SOLVENT NAPHTHA:

MINERAL OIL MIST:

5 mg/m3 OSHA TWA

5 mg/m3 ACGIH TWA (Notice of Intended Changes 1993-1994)

10 mg/m3 ACGIH STEL (Notice of Intended Changes 1993-1994)

5 mg/m3 MEXICO TWA

10 mg/m3 MEXICO STEL

VENTILATION: Use with adequate ventilation. Control airborne concentrations below the exposure guidelines.

EYE PROTECTION: Do not get in eyes. Wear eye protection.

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## Automatic Transmission Fluid (ATF)

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CLOTHING: Avoid repeated or prolonged contact. Wear protective clothing if prolonged or repeated contact is likely.

GLOVES: Wear protective gloves if prolonged or repeated contact is likely.

PROTECTIVE MATERIAL TYPES: neoprene, nitrile butadiene rubber (NBR)

RESPIRATOR: Use with adequate ventilation.

Avoid breathing vapor or mist.

If ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter.

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### SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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PHYSICAL STATE: liquid

COLOR: red

PHYSICAL FORM: oil

ODOR: hydrocarbon odor

BOILING POINT: Not available

FREEZING POINT: Not available

VAPOR PRESSURE: Not available

VAPOR DENSITY: Not available

SPECIFIC GRAVITY (water=1): 0.910 @ 16 C

BULK DENSITY: 0.910 g/cm<sup>3</sup>

WATER SOLUBILITY: Not available

PH: Not available

VOLATILITY: Not available

ODOR THRESHOLD: Not available

EVAPORATION RATE: slower than ether

VISCOSITY: 7.4-7.7 cSt @ 100 C

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

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### SECTION 10 STABILITY AND REACTIVITY

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REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

INCOMPATIBILITIES: strong oxidizing materials

HAZARDOUS DECOMPOSITION:

Thermal decomposition products or combustion: aldehydes, hydrocarbons, oxides of carbon, oxides of calcium, oxides of sulfur, oxides of zinc

POLYMERIZATION: Will not polymerize.

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### SECTION 11 TOXICOLOGICAL INFORMATION

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EYE IRRITATION: Testing not conducted. See Other Toxicity Data.

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SKIN IRRITATION: Testing not conducted. See Other Toxicity Data.

DERMAL LD50: Testing not conducted. See Other Toxicity Data.

ORAL LD50: Testing not conducted. See Other Toxicity Data.

INHALATION LC50: Testing not conducted. See Other Toxicity Data.

**OTHER TOXICITY DATA:**

Specific toxicity tests have not been conducted on this product. Our hazard evaluation is based on information from similar products, the ingredients, technical literature, and/or professional experience.

No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program, the U.S. Occupational Safety and Health Act, or the International Agency on Research on Cancer (IARC).

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**SECTION 12      ECOLOGICAL INFORMATION**

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Ecological testing has not been conducted on this product by BP Amoco.

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**SECTION 13      DISPOSAL CONSIDERATIONS**

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Dispose in accordance with all applicable regulations.

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**SECTION 14      TRANSPORT INFORMATION**

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U.S. DEPARTMENT OF TRANSPORTATION: Not regulated.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: Not regulated.

LAND TRANSPORT ADR/RID: Not regulated.

AIR TRANSPORT IATA/ICAO: Not regulated.

MARITIME TRANSPORT IMDG: Not regulated.

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**SECTION 15      REGULATORY INFORMATION**

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CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR Part 302.4): This product is not reportable under 40 CFR Part 302.4.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR Part 355): This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA TITLE III SECTION 311/312 HAZARDOUS CATEGORIZATION (40 CFR Part 370):

ACUTE: N  
CHRONIC: N  
FIRE: N  
REACTIVE: N

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SUDDEN RELEASE: N

SARA TITLE III SECTION 313 (40 CFR Part 372): This product is not regulated under Section 313 of SARA and 40 CFR Part 372.

STATE REGULATIONS:

California Proposition 65: N

TSCA INVENTORY STATUS: Listed on inventory.

OSHA HAZARD COMMUNICATION STANDARD: Contains a component listed by ACGIH.  
Contains a component listed by OSHA.

EC INVENTORY (EINECS/ELINCS): One or more components not listed on inventory.

JAPAN INVENTORY (MITI): Not determined.

AUSTRALIA INVENTORY (AICS): Not determined.

KOREA INVENTORY (ECL): Not determined.

CANADA INVENTORY (DSL): Listed on inventory.

PHILIPPINE INVENTORY (PICCS): Not determined.

CHINA INVENTORY (IECS): Not determined.

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**SECTION 16      OTHER INFORMATION**

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Prepared by: Product Stewardship and Toxicology

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This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1. NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

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COPPER SULPHATE

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\* M S D S \*

\* Canadian Centre for Occupational Health and Safety \*

\* \* \* \* \* Issue : 2001-1 (February, 2001) \*

\*\*\* IDENTIFICATION \*\*\*

MSDS RECORD NUMBER : 2426887

PRODUCT NAME(S) : COPPER SULPHATE

DATE OF MSDS : 1999-11-17

CURRENCY NOTE : This MSDS was provided to CCOHS in  
electronic form on 2000-09-27

\*\*\* SUPPLIER/DISTRIBUTOR INFORMATION \*\*\*

SUPPLIER/DISTRIBUTOR : CANADA COLORS AND CHEMICALS LIMITED

ADDRESS : 80 Scarsdale Road  
Don Mills Ontario  
Canada M3B 2R7  
Telephone: 416-449-7750

EMERGENCY TELEPHONE NO. : 416-444-2112

SUPPLIER/DISTRIBUTOR NOTE :  
For further information about this product please contact the Canada  
Colors Customer Service Department at 416-449-7750.

\*\*\* MATERIAL SAFETY DATA \*\*\*

MATERIAL SAFETY DATA SHEET : 00004230

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CANADA COLORS AND CHEMICALS LI  
80 SCARSDALE ROAD  
DON MILLS, ONTARIO M3B 2R7  
(416) 449-7750

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SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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MANUFACTURER..... CHEMARKETING INDUSTRIES INC.  
2155 DUNWIN DRIVE, UNIT # 15  
MISSISSAUGA, ONTARIO

L5L 4M1

PRODUCT NAME.....

PRODUCT CODE.....

CHEMICAL FORMULA..... CU.H2O4S.

CHEMICAL FAMILY..... INORGANIC.

MATERIAL USE..... REFER TO TECHNICAL LITERATURE.

EMERGENCY PHONE NO..... (416)-444-2112.



## COPPER SULPHATE

### SECTION 02: COMPOSITION/INFORMATION ON INGREDIENTS

%	CAS / TLV	LD/50, ROUTE, SPECIES	LC/50, ROUTE, SPECIES
COPPER SULPHATE			
100	7758-98-7 1.0 MG/M3	472 MG/KG (ORAL-RAT)	N.AV.

### SECTION 03: HAZARDS IDENTIFICATION

ROUTE OF ENTRY:.....

SKIN CONTACT..... IRRITANT TO WET SKIN.

SKIN ABSORPTION..... NO.

EYE CONTACT..... CORROSIVE. EYE CORROSION WITH CORNEAL OR CONJUNCTIVAL ULCERATION.

INHALATION..... CORROSIVE TO RESPIRATORY TRACT.

INGESTION..... SWALLOWING MAY BE FATAL.MAY CAUSE SEVERE GASTROINTESTINAL TRACT IRRITATION.MAY CAUSE ABDOMINAL PAIN.MAY CAUSE NAUSEA AND VOMITING.

EFFECTS OF ACUTE EXPOSURE..... SEE ABOVE.

EFFECTS OF CHRONIC EXPOSURE..... CORROSIVE TO EYES AND RESPIRATORY TRACT.DUST CAN COLOUR EXPOSED HAIR AND FINGERNAILS.

MEDICAL CONDITIONS AGGRAVATED..... PREEXISTING EYE, SKIN AND RESPIRATORY BY OVEREXPOSURE DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

### SECTION 04: FIRST AID MEASURES

INSTRUCTIONS:..... IN CASE OF SKIN CONTACT.WASH SKIN WITH SOAP AND WATER.REMOVE CONTAMINATED CLOTHING.WASH CLOTHING AND DECONTAMINATE SHOES BEFORE REUSE.OBTAIN MEDICAL ATTENTION, IF IRRITATION PERSISTS.EYE CONTACT: IMMEDIATELY FLUSH WITH LARGE QUANTITIES OF WATER FOR AT LEAST 15 MINUTES AND CALL A PHYSICIAN.INHALATION: REMOVE PATIENT TO FRESH AIR.OXYGEN MAY BE GIVEN BY QUALIFIED PERSONNEL. SEEK MEDICAL ATTENTION IF RESPIRATORY IRRITATION OCCURS OR IF BREATHING IS DIFFICULT.IN CASE OF

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**COPPER SULPHATE**

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INGESTION: . RINSE MOUTH WITH WATER.GIVE  
LARGE QUANTITIES OF WATER OR MILK.CONTACT  
A PHYSICIAN, THE NEAREST HOSPITAL OF THE  
NEAREST POISON CONTROL CENTRE. TELL THE  
PERSON CONTACTED: THE COMPLETE PRODUCT  
NAME, THE TYPE AND AMOUNT OF EXPOSURE,  
DESCRIBE ANY SYMPTOMS AND FOLLOW THE  
ADVICE GIVEN.IF VOMITING OCCURS KEEP HEAD  
BELOW HIPS TO PREVENT ASPIRATION OF LIQUID  
INTO THE LUNGS.IF VOMITING OCCURS, GIVE  
FLUIDS AGAIN.

NOTES TO PHYSICIAN:..... N.AV.

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**SECTION 05: FIRE FIGHTING MEASURES**

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T.D.G. FLAM. CLASS..... NOT REGULATED.  
FLAMMABILITY..... NOT FLAMMABLE.  
IF YES, UNDER WHICH.....  
CONDITIONS?  
EXTINGUISHING MEDIA..... SUITABLE FOR SURROUNDING FIRE.  
SPECIAL PROCEDURES..... FIREFIGHTERS SHOULD WEAR THE USUAL  
PROTECTIVE GEAR; SELF-CONTAINED BREATHING  
APPARATUS.  
  
FLASH POINT (C), METHOD..... N.AP.  
AUTO IGNITION TEMPERATURE..... N.AP.  
UPPER FLAMMABLE LIMIT (% BY..... N.AP.  
VOL.)  
LOWER FLAMMABLE LIMIT (% BY..... N.AP.  
VOL.)  
EXPLOSION DATA.....  
EXPLOSIVE POWER..... N.AV.  
RATE OF BURNING..... N.AV.  
SENSITIVITY TO STATIC..... N.AP.  
DISCHARGE  
SENSITIVITY TO IMPACT..... N.AP.  
UNUSUAL FIRE AND EXPLOSION..... SEALED CONTAINERS MAY RUPTURE FROM  
HAZARDS PRESSURE OF WATER VAPOUR RELEASED FROM  
CRYSTALS BY INTENSE HEAT.AT TEMPERATURES  
ABOVE APPROXIMATELY 110 (C), COPPER  
SULPHATE WILL MELT AND FLOW.AVOID CONTACT  
WITH DIRECT WATER STREAM AS THIS WILL  
CAUSE SPLATTERING.  
  
HAZARDOUS COMBUSTION PRODUCTS..... COPPER OXIDE. SULPHUR DIOXIDE.

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**COPPER SULPHATE**

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**SECTION 06: ACCIDENTAL RELEASE MEASURES**

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LEAK/SPILL.....	WEAR NIOSH/MSHA APPROVED RESPIRATOR (SELF-CONTAINED BREATHING APPARATUS PREFERRED) AND APPROPRIATE PROTECTIVE EQUIPMENT.AVOID DUST ACCUMULATION.SWEEP, SCOOP, OR VACUUM DISCHARGED MATERIAL.COLLECT AND CONTAIN IN SUITABLE DISPOSAL CONTAINERS.NEUTRALIZE. WASH AREA WITH WATER.PREVENT RUNOFF INTO DRAINS, SEWERS, AND OTHER WATERWAYS.
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**SECTION 07: HANDLING AND STORAGE**

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HANDLING PROCEDURES AND..... EQUIPMENT	KEEP CONTAINER CLOSED WHEN NOT IN USE.EMPTY PRODUCT CONTAINERS MAY CONTAIN PRODUCT RESIDUE.FOLLOW LABELED WARNINGS EVEN AFTER CONTAINER IS EMPTIED.DO NOT SWALLOW.AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.AVOID CHRONIC INHALATION OF DUST.AVOID EATING AND DRINKING IN USE.WEAR PROTECTIVE EQUIPMENT DURING HANDLING.USE WITH ADEQUATE VENTILATION.MAINTAIN A GOOD PERSONAL HYGIENE.
STORAGE NEEDS.....	KEEP THE CONTAINER TIGHTLY CLOSED WHEN NOT IN USE.STORE AWAY FROM INCOMPATIBLE MATERIALS.STORE IN A COOL AND WELL-VENTILATED AREA.

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**SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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GLOVES/ TYPE.....	WEAR IMPERVIOUS GLOVES.
RESPIRATORY/TYPE.....	USE NIOSH/MSHA APPROVED EQUIPMENT WHEN AIRBORNE EXPOSURE IS EXCESSIVE.IN DUSTY ATMOSPHERE, USE AN APPROVED DUST RESPIRATOR.
EYE/TYPE.....	GOGGLES. SAFETY GLASSES.
FOOTWEAR/TYPE.....	BOOTS.
CLOTHING/TYPE.....	WEAR AN APRON AND/OR AN OVERALL.
OTHER/TYPE.....	EYE BATH AND SAFETY SHOWER.
ENGINEERING CONTROLS.....	USE PROCESS ENCLOSURE, LOCAL EXHAUST VENTILATION, OR OTHER ENGINEERING CONTROLS TO MAINTAIN AIRBORNE LEVELS BELOW RECOMMENDED EXPOSURE LIMITS.TWA = 1 MG/KG. PROVIDE SUFFICIENT VENTILATION TO CONTROL EXPOSURE LEVELS BELOW AIRBORNE EXPOSURE LIMITS.

## COPPER SULPHATE

### SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE..... POWDER.  
ODOUR..... NO ODOUR.  
ODOUR THRESHOLD..... N.AV.  
VAPOUR PRESSURE (MMHG)..... N.AV.  
  
VAPOUR DENSITY (AIR=1)..... N.AV.  
EVAPORATION RATE..... N  
AV.  
BOILING POINT..... N.AV.  
MELTING POINT (C)..... -4 H2O @ 43 C (110 F).  
PH..... N.AV.  
SPECIFIC GRAVITY (WATER=1)..... 2.284.  
SOLUBILITY IN WATER (% W/W)..... 22.37% @ 0 C. 117.95% @ 100 C.  
COEFFICIENT OF WATER/OIL DIST..... N.AV.

### SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY:.....  
YES..... YES.  
NO, WHICH CONDITIONS?.....  
COMPATABILITY WITH OTHER.....  
SUBSTANCES:  
YES.....  
NO, WHICH ONES?..... MAGNESIUM. CORROSIVE TO MILD STEEL.THE  
ANHYDROUS FORM OF COPPER SULPHATE CAUSES  
HYDROXYLAMINE TO IGNITE, AND THE HYDRATED  
SALT IS VIGOROUSLY REDUCED.  
REACTIVITY CONDITIONS?..... CONTACT WITH INCOMPATIBLES.SOLUTIONS CAN  
BE CORROSIVE TO METALS.  
HAZARDOUS PRODUCTS OF..... SEE HAZARDOUS COMBUSTION PRODUCTS.  
DECOMPOSITION..... MATERIAL IS ACIDIC WHEN DISSOLVED IN  
WATER.THE SOLUTION CAN REACT WITH  
MAGNESIUM TO FORM FLAMMABLE HYDROGEN GAS.  
HAZARDOUS POLYMERIZATION..... WILL NOT OCCUR.

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**COPPER SULPHATE**

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**SECTION 11: TOXICOLOGICAL INFORMATION**

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EXPOSURE LIMIT OF MATERIAL..... SEE SECTION 02.  
LC 50 OF MATERIAL, SPECIES &..... SEE SECTION 02.  
ROUTE  
LD 50 OF MATERIAL, SPECIES &..... SEE SECTION 02.  
ROUTE  
CARCINOGENICITY OF MATERIAL..... NONE.  
REPRODUCTIVE EFFECTS..... N.AP.  
  
MUTAGENICITY..... N.AP.  
TERATOGENICITY..... N.AP.  
IRRITANCY OF MATERIAL..... SEE SECTION 03.  
SENSITIZING CAPABILITY OF..... MAY CAUSE SENSITIZATION TO SOME PEOPLE.  
MATERIAL  
SYNERGISTIC MATERIALS..... N.AV.

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**SECTION 12: ECOLOGICAL CONSIDERATIONS**

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**SECTION 13: DISPOSAL CONSIDERATIONS**

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WASTE DISPOSAL..... IN ACCORDANCE WITH MUNICIPAL, PROVINCIAL  
AND FEDERAL REGULATIONS.

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**SECTION 14: TRANSPORT INFORMATION**

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UN NUMBER..... NA 9109.  
TDG CLASSIFICATION..... 9.2.  
PACKING GROUP..... II.  
SPECIAL SHIPPING INSTRUCTIONS..... N.AP.

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**SECTION 15: REGULATORY INFORMATION**

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WHMIS CLASSIFICATION..... D1B. D2B.  
CPR COMPLIANCE..... THIS PRODUCT HAS BEEN CLASSIFIED IN  
ACCORDANCE WITH THE HAZARD CRITERIA OF THE  
CPR AND THE MSDS CONTAINS ALL THE  
INFORMATION REQUIRED BY THE CPR.

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COPPER SULPHATE

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SECTION 16: OTHER INFORMATION

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N.AV.=NOT AVAILABLE.....  
N.AP.=NOT APPLICABLE.....  
PREPARED BY..... Regulatory Affairs  
DATED..... 11171999

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**DIESEL FUEL**

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\* M S D S \*

\* Canadian Centre for Occupational Health and Safety \*

\* \* \* \* \* Issue : 2001-1 (February, 2001) \*

**\*\*\* IDENTIFICATION \*\*\***

MSDS RECORD NUMBER : 2482868

PRODUCT NAME(S) : LIGHT DISTILLATE

ESSO STOVE OIL (DYED OR CLEAR)

DIESEL ARCTIC (DYED OR CLEAR)

ESSO DIESEL DEW (DYED OR CLEAR)

ESSO DIESEL ARCTIC (DYED OR CLEAR)

ESSO STOVE QUALITY COMMERCIAL FUEL

ESSO STOVE QUALITY FURNACE FUEL

ESSO STOVE QUALITY HEATING OIL (DYED OR CLEAR)

STOVE QUALITY FURNACE FUEL

DIESEL 60 (DYED OR CLEAR)

DIESEL DEW (DYED OR CLEAR)

ESSO DIESEL 60 (DYED OR CLEAR)

ESSO DIESEL LIGHT (DYED OR CLEAR)

STOVE OIL (DYED OR CLEAR)

STOVE QUALITY HEATING OIL (DYED OR CLEAR)

ESSO DIESEL FUEL OIL 50 (DYED OR CLEAR)

DIESEL LOW SULFUR LIGHT (DYED OR CLEAR)

LIGHT DISTILLATE (LOW SULFUR)

STOVE QUALITY COMMERCIAL FUEL

DIESEL FUEL OIL 50 (DYED OR CLEAR)

DIESEL LIGHT (DYED OR CLEAR)

DIESEL LOW SULFUR LIGHT DYED EP

FURNACE LIGHT (DYED OR CLEAR)

PRODUCT IDENTIFICATION : MSDS Number: 08529

DATE OF MSDS : 1998-05-12

CURRENCY NOTE : This MSDS was provided to CCOHS in electronic form on 2000-12-14

**\*\*\* MANUFACTURER INFORMATION \*\*\***

MANUFACTURER : Imperial Oil (Products Division)

ADDRESS : 111 St Clair Avenue West

Toronto Ontario

Canada M5W 1K3

Telephone: 416-968-4111

**\*\*\* SUPPLIER/DISTRIBUTOR INFORMATION \*\*\***

SUPPLIER/DISTRIBUTOR : Imperial Oil (Products Division)

ADDRESS : 111 St Clair Avenue West

Toronto Ontario

Canada M5W 1K3

Telephone: 416-968-4111

**\*\*\* MATERIAL SAFETY DATA \*\*\***

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**DIESEL FUEL**

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Date Prepared: May 12, 1998  
Supersedes: May 18, 1995  
MSDS Number: 08529

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**1. PRODUCT INFORMATION**

Product Identifier: LIGHT DISTILLATE  
ESSO STOVE OIL (DYED OR CLEAR)  
DIESEL ARCTIC (DYED OR CLEAR)  
ESSO DIESEL DEW (DYED OR CLEAR)  
ESSO DIESEL ARCTIC (DYED OR CLEAR)  
ESSO STOVE QUALITY COMMERCIAL FUEL  
ESSO STOVE QUALITY FURNACE FUEL  
ESSO STOVE QUALITY HEATING OIL (DYED OR CLEAR)  
STOVE QUALITY FURNACE FUEL  
DIESEL 60 (DYED OR CLEAR)  
DIESEL DEW (DYED OR CLEAR)  
ESSO DIESEL 60 (DYED OR CLEAR)  
ESSO DIESEL LIGHT (DYED OR CLEAR)  
STOVE OIL (DYED OR CLEAR)  
STOVE QUALITY HEATING OIL (DYED OR CLEAR)  
ESSO DIESEL FUEL OIL 50 (DYED OR CLEAR)  
DIESEL LOW SULFUR LIGHT (DYED OR CLEAR)  
LIGHT DISTILLATE (LOW SULFUR)  
STOVE QUALITY COMMERCIAL FUEL  
DIESEL FUEL OIL 50 (DYED OR CLEAR)  
DIESEL LIGHT (DYED OR CLEAR)  
DIESEL LOW SULFUR LIGHT DYED EP  
FURNACE LIGHT (DYED OR CLEAR)

Application and Use:  
Multi-purpose fuel

**Product Description:**

A complex mixture of aliphatic, olefinic, naphthenic and aromatic hydrocarbons, and additives.

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**REGULATORY CLASSIFICATION**

**WHMIS:**

Class B, Division 3: Combustible Liquids.  
Class D, Division 2, Subdivision B: Toxic Material

**CEPA: CANADIAN ENVIRONMENTAL PROTECTION ACT**

All components of this product are either on the Domestic Substances List (DSL) or are exempt.



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## DIESEL FUEL

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### TDG INFORMATION (RAIL/ROAD):

Shipping Name: FUEL OIL  
Class: 3  
Packing Group: III  
PIN Number: UN1202

Please be aware that other regulations may apply.

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### TELEPHONE NUMBERS

Emergency 24 hr. (519) 339-2145  
Technical Info. (800) 268-3183

### MANUFACTURER/SUPPLIER:

IMPERIAL OIL  
Products Division  
111 St Clair Avenue West  
Toronto, Ontario  
M5W 1K3  
(416) 968-4111

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## 2. REGULATED COMPONENTS

The following components are defined in accordance with sub-paragraph 13(a) (i) to (iv) or paragraph 14(a) of the Hazardous Products Act:

NAME	%	CAS #
Kerosene, straight run	0-100 V/V	8008-20-6 LD50:>5g/kg,oral,rat
Light Atmospheric Gas Oil	0-100 V/V	64741-44-2
Light Hydrocracked Distillate	0-100 V/V	64741-77-1

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## 3. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid  
Specific gravity: not available  
Viscosity: 1.80 cSt at 40 deg C  
Vapour Density: 4  
Boiling Point: 180 to 320 deg C  
Evaporation rate: <1 (1= n-butylacetate)  
Solubility in water: negligible  
Freezing/Pour Point: -39 deg C ASTM D97  
Odour Threshold: not available  
Vapour Pressure: 4 kPa at 38 deg C  
Density: 0.85 g/cc at 15 deg C  
Appearance/odour: White or pale yellow liquid, petroleum odour

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**DIESEL FUEL**

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#### **4. HEALTH HAZARD INFORMATION**

##### **NATURE OF HAZARD**

###### **INHALATION:**

Negligible hazard at normal temperatures (up to 38 deg C).  
High vapour concentrations are irritating to the eyes, nose, throat and lungs; may cause headaches and dizziness; may be anesthetic and may cause other central nervous system effects.  
Avoid breathing vapours or mists.

###### **EYE CONTACT:**

Slightly irritating, but will not injure eye tissue.

###### **SKIN CONTACT:**

Low toxicity.  
Irritating.

###### **INGESTION:**

Low toxicity.  
Small amounts of this liquid drawn into the lungs from swallowing or vomiting may cause severe health effects (e.g. bronchopneumonia or pulmonary edema).

###### **CHRONIC:**

Lifetime skin painting tests indicate that materials of similar composition have produced skin cancer in experimental animals. The relationship of these results to humans has not been fully established.

###### **ACUTE TOXICITY DATA:**

Based on animal testing data from similar materials and products, the acute toxicity of this product is expected to be:

Oral : LD50 > 5000 mg/kg (Rat)  
Dermal : LD50 > 2000 mg/kg (Rabbit)  
Inhalation : LC50 > 2500 mg/m3 (Rat)

###### **OCCUPATIONAL EXPOSURE LIMIT:**

Manufacturer recommends:  
100 ppm based on composition.

Local regulated limits may vary.

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## DIESEL FUEL

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### 5. FIRST AID MEASURES

#### INHALATION:

In emergency situations use proper respiratory protection to immediately remove the affected victim from exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

#### EYE CONTACT:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

#### SKIN CONTACT:

Immediately flush with large amounts of water. Use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. If irritation persists, seek medical attention.

#### INGESTION:

DO NOT induce vomiting since it is important that no amount of the material should enter the lungs (aspiration). Keep at rest. Get prompt medical attention.

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### 6. PREVENTIVE AND CORRECTIVE MEASURES

#### PERSONAL PROTECTION:

The selection of personal protective equipment varies, depending upon conditions of use. In open systems where contact is likely, wear safety goggles, chemical-resistant overalls, and chemically impervious gloves. Where only incidental contact is likely, wear safety goggles, long sleeves, and chemical-resistant gloves. Where concentrations in air may exceed the occupational exposure limits given in Section 4 and where engineering, work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.

#### ENGINEERING CONTROLS:

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

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## DIESEL FUEL

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### HANDLING, STORAGE AND SHIPPING:

Keep containers closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials. In keeping with good personal hygiene practices, wash hands thoroughly after handling the material. Do not handle or store near an open flame, sources of heat, or sources of ignition. Material will accumulate static charges which may cause a spark. Static charge build-up could become an ignition source. Use proper relaxation and grounding procedures. Empty containers may contain product residue. Do not pressurize cut, heat, or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.

### LAND SPILL:

Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible to do so without hazard. Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust. Recover by pumping (use an explosion proof motor or hand pump), or by using a suitable absorbent. Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

### WATER SPILL:

Remove from surface by skimming or with suitable absorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in unconfined waters.

Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

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**DIESEL FUEL**

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**7. FIRE AND EXPLOSION HAZARD**

Flashpoint and method: 40 deg C PMCT ASTM D93

Autoignition: NA    Flammable Limits: LEL: 0.7%    UEL: 6.5%

**GENERAL HAZARDS:**

Combustible Liquid; may form combustible mixtures at or above the flash point.

Toxic gases will form upon combustion.

Static Discharge; material may accumulate static charges which may cause a fire.

**FIRE FIGHTING:**

Use water spray to cool fire exposed surfaces and to protect personnel. Shut off fuel to fire.

Use foam, dry chemical or water spray to extinguish fire.

Respiratory and eye protection required for fire fighting personnel.

Avoid spraying water directly into storage containers due to danger of boilover.

A self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of an SCBA may not be required.

**HAZARDOUS COMBUSTION PRODUCTS:**

Smoke, carbon monoxide, carbon dioxide, oxides of sulphur.

In addition, small amounts of nitrogen oxides will be formed.

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**DIESEL FUEL**

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**8. REACTIVITY DATA**

**STABILITY:**

This product is stable. Hazardous polymerization will not occur.

**INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:**

Strong oxidizing agents. Use product with caution around heat, sparks, pilot lights, static electricity and open flames.

**HAZARDOUS DECOMPOSITION:**

none

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**9. NOTES**

All components of this product are listed on the U.S. TSCA inventory.

Three year WHMIS review.

This MSDS has been revised in Sections 1, 3, 7 and 8.

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**10. PREPARATION**

Date Prepared: May 12, 1998

Prepared by: Lubricants & Specialties  
IMPERIAL OIL  
Products Division  
111 St Clair Avenue West  
Toronto, Ontario  
M5W 1K3  
(800) 268-3183

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**DIESEL FUEL**

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CAUTION: " The information contained herein relates only to this product or material and may not be valid when used in combination with any other product or material or in any process. If the product is not to be used for a purpose or under conditions which are normal or reasonably foreseeable, this information cannot be relied upon as complete or applicable. For greater certainty, uses other than those described in Section 1 must be reviewed with the supplier. The information contained herein is based on the information available at the indicated date of preparation. This MSDS is for the use of Imperial Oil customers and their employees and agents only. Any further distribution of this MSDS by Imperial Oil customers is prohibited without the written consent of Imperial Oil."

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ETHYLENE GLYCOL

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\* M S D S \*  
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\* Canadian Centre for Occupational Health and Safety \*  
\* \* \* \* \* Issue : 2001-1 (February, 2001) \*

\*\*\* IDENTIFICATION \*\*\*

MSDS RECORD NUMBER : 2438150  
PRODUCT NAME(S) : SIPEG40-UHQ  
SIPEG35-UHQ  
SIPEG35-HQ  
SIPEG40-HQ  
1, 3-Benzenedicarboxylic Acid, 5-Sulfo, 1,  
3-Bis (2-Hydroxy-  
Ethyl) Ester, Sodium Salt, Solution in  
Ethylene Glycol  
Isophthalic Acid, 5-Sulfo, Sodium Salt,  
Solution in Ethylene  
Glycol  
EGSIP Solution  
SIPEG  
PRODUCT IDENTIFICATION : MSDS NUMBER: CEC01360  
DATE OF MSDS : 2000-05-25  
CURRENCY NOTE : This MSDS was provided to CCOHS in  
electronic form on 2000-10-30

\*\*\* MANUFACTURER INFORMATION \*\*\*

MANUFACTURER : DuPont Canada, Inc  
ADDRESS : Post Office Box 2200  
Streetsville  
Mississauga Ontario  
Canada L5M 2H3  
Telephone: 800-387-2122 (Product  
Information)  
EMERGENCY TELEPHONE NO. : 613-348-3616 (Transport, 24 HOURS)  
613-348-3616 (Medical, 24 HOURS)

\*\*\* SUPPLIER/DISTRIBUTOR INFORMATION \*\*\*

SUPPLIER/DISTRIBUTOR : DuPont Canada, Inc  
ADDRESS : Post Office Box 2200  
Streetsville  
Mississauga Ontario  
Canada L5M 2H3  
Telephone: 800-387-2122 (Product  
Information)  
EMERGENCY TELEPHONE NO. : 613-348-3616 (Transport, 24 HOURS)  
613-348-3616 (Medical, 24 HOURS)



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**ETHYLENE GLYCOL**

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	SIPEG	
CEC01360	Revised 25-MAY-2000	Printed 18-JUL-2000

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**CHEMICAL PRODUCT/COMPANY IDENTIFICATION**

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**Material Identification**

Corporate MSDS Number	: DU007173
Formula	: (HOCH <sub>2</sub> CH <sub>2</sub> O <sub>2</sub> C) <sub>2</sub> -C <sub>6</sub> H <sub>3</sub> -SO <sub>3</sub> Na
Molecular Weight	: 356.29
CAS Name	: 1,3-Benzenedicarboxylic acid, 5-sulfo, 1,3-bis(2-hydroxy- ethyl)ester, monosodium salt, solution in 1,2-ethanediol

**Tradenames and Synonyms**

SIPEG40-UHQ  
SIPEG35-UHQ  
SIPEG35-HQ  
SIPEG40-HQ  
1,3-Benzenedicarboxylic Acid, 5-Sulfo, 1,3-Bis(2-Hydroxy-Ethyl) Ester, Sodium Salt, Solution in Ethylene Glycol  
Isophthalic Acid, 5-Sulfo, Sodium Salt, Solution in Ethylene Glycol  
EGSIP Solution  
NA-SIPEG

**Company Identification**

**MANUFACTURER/DISTRIBUTOR**

DuPont Canada, Inc.  
P.O. Box 2200  
Streetsville  
Mississauga, Ontario L5M 2H3

**PHONE NUMBERS**

Product Information	: 1-800-387-2122
Transport Emergency	: 1-613-348-3616 (24 HOURS)
Medical Emergency	: 1-613-348-3616 (24 HOURS)

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**ETHYLENE GLYCOL**

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**COMPOSITION/INFORMATION ON INGREDIENTS**

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**Components**

Material	CAS Number	%
	24019-46-3	
1,3-Benbenedicarboxylic Acid, 5-Sulfo, 1,3-Bis(2-Hydroxyethyl)Ester, Monosodium Salt		25-40 WT%
*1,2-Ethanediol	107-21-1	60-75 WT%

CEC01360

DuPont  
Material Safety Data Sheet

Page 2

(COMPOSITION/INFORMATION ON INGREDIENTS - Continued)

\* Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

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**HAZARDS IDENTIFICATION**

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**Potential Health Effects**

Skin contact may cause skin irritation with itching, burning, redness, swelling or rash. Skin permeation may occur in amounts capable of producing the effects of systemic toxicity. There are no reports of human sensitization.

Eye contact may cause eye irritation with discomfort, tearing, or blurring of vision.

Inhalation of Ethylene Glycol may cause irritation of the nose and throat with sneezing, sore throat or runny nose. Gross overexposure may cause pulmonary edema (body fluid in the lungs) with cough, wheezing, abnormal lung sounds, possibly progressing to severe shortness of breath and bluish discoloration of the skin; symptoms may be delayed.

The estimated mean oral lethal dose of Ethylene Glycol in adult humans is 100 mL.

Inhalation or ingestion of Ethylene Glycol may cause headache, nausea. Gross overexposure may cause central nervous system depression with dizziness, confusion, incoordination, drowsiness or unconsciousness, convulsions, altered kidney function which may be accompanied by abnormal urine volume, low back pain, discomfort or edema, kidney failure, deposits of calcium oxalate in the brain, spinal cord and kidneys, liver abnormalities, high blood pressure, irregular heart beat with a strange sensation in the chest,

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## ETHYLENE GLYCOL

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"heart thumping", apprehension, lightheadedness, feeling of fainting, dizziness, weakness, sometimes progressing to loss of consciousness and death, congestive heart failure, retention of acid in the blood, making oxygen less available in the blood stream and leading to symptoms of increased breathing rate, nausea, vomiting, confusion and weakness which may progress to loss of consciousness; low blood sugar, low blood calcium with muscle twitching, involuntary movement of the eyes, facial paralysis. Other effects include fatality. No increases in chromosomal changes were noted in the circulating blood of exposed workers.

Individuals with preexisting diseases of the kidneys may have increased susceptibility to the toxicity of excessive exposures.

### Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

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## FIRST AID MEASURES

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### First Aid

#### INHALATION

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

#### SKIN CONTACT

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

#### EYE CONTACT

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

#### INGESTION

If swallowed, immediately give 2 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

## ETHYLENE GLYCOL

### Notes to Physicians

Ethanol (ETOH) is antidotal and should be administered early in the treatment. Ethanol is a potent inhibitor of Ethylene Glycol metabolism because it is preferentially acted on by liver alcohol dehydrogenase, thus delaying or preventing toxic metabolites from Ethylene Glycol.

Treatment is started after residual ingested substance is removed from the stomach. Ethanol is administered orally or IV with a goal of maintaining a blood alcohol level of approximately 22 mmol/L or 1.0 mg/L.

To prepare antidote, make a solution using 100 mL of 100 proof ethyl alcohol and 1900 mL of water. Give 1.5 mL/kg or 100 mL for an average adult. This may be mixed with orange juice for oral use if necessary. More Ethanol is to be given at 2 hour intervals to achieve and maintain the desired blood alcohol levels. Treatment may be necessary for several days.

The patient should be monitored for metabolic acidosis. Use of appropriate buffering solutions, such as bicarbonate, may be indicated.

Hemodialysis may be required.

### FIRE FIGHTING MEASURES

#### Flammable Properties

Flash Point	: 115.6 C (240.1 F)
Method	: Tag Open Cup - TOC.
Flammable limits in Air, % by Volume	
LEL	: 3.2 %
UEL	: 15.3 %
Autoignition	: 413 C (775 F)

The above data is for pure Ethylene Glycol.

#### Extinguishing Media

Dry Chemical, CO2.

#### Fire Fighting Instructions

Wear self-contained breathing apparatus (SCBA) and full protective equipment.

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## ETHYLENE GLYCOL

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### ACCIDENTAL RELEASE MEASURES

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#### Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Eliminate all sources of ignition - heat, sparks, flame, electricity, impact and friction.

#### Initial Containment

Dike spill. Prevent material from entering sewers, waterways, or low areas.

#### Spill Clean Up

Soak up with sawdust, sand, oil dry or other absorbent material.

#### Accidental Release Measures

The CERCLA Reportable Quantity of Ethylene Glycol is 5,000 lbs.

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### HANDLING AND STORAGE

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#### Handling (Personnel)

Avoid breathing vapors or mist. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling.

#### Storage

Keep away from heat, sparks and flames. Close container after each use.

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### EXPOSURE CONTROLS/PERSONAL PROTECTION

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#### Personal Protective Equipment

##### EYE/FACE PROTECTION

Wear safety glasses or coverall chemical splash goggles.

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## ETHYLENE GLYCOL

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### RESPIRATOR

Where there is potential for airborne exposure, wear appropriate NIOSH approved respiratory protection.

### PROTECTIVE CLOTHING

Where there is potential for skin contact have available, and wear as appropriate, impervious gloves, apron, pants, and jacket.

### Exposure Guidelines

#### Applicable Exposure Limits

1,2-Ethanediol	
PEL (OSHA)	: None Established
TLV (ACGIH)	: Ceiling: 39.4 ppm, 100 mg/m <sup>3</sup> , aerosol, A4
AEL * (DuPont)	: 50 ppm, 8 Hr. TWA, vapor 10 mg/m <sup>3</sup> , 8 Hr. TWA, particulate

\* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

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## PHYSICAL AND CHEMICAL PROPERTIES

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### Physical Data

Boiling Point	: 197.6 C (387.7 F) @ 760 mm Hg (Ethylene Glycol)
Vapor Pressure	: 0.1 mm Hg @ 25 C (77 F) (Ethylene Glycol)
Vapor Density	: 2.14 (Air=1.0) (Ethylene Glycol)
Freezing Point	: -13 C (9 F) (Ethylene Glycol)
% Volatiles	: Negligible

	CEC01360	Solubility in
Water	: 100 %	
pH	: 6-8 @ 558 g/L H <sub>2</sub> O Ethylene Glycol	
Odor	: Mild.	
Form	: Viscous Liquid.	
Color	: Colorless to Light Yellow.	
Specific Gravity	: 1.115 g/cm <sup>3</sup> @ 20 C (68 F) (Ethylene Glycol)	