



**Enclosure 2**

ISOPAR M

ExxonMobil  
Lubricants &  
Petroleum Specialites

DATE ISSUED: 09/19/00

SUPERSEDES DATE: 05/09/00

MATERIAL SAFETY DATA SHEET

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1. PRODUCT AND COMPANY IDENTIFICATION  
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COMPANY: Exxon Mobil Corporation  
ExxonMobil Lubricants & Petroleum  
Specialties Company  
3225 Gallows Road  
Fairfax, VA 22037-0001

PRODUCT NAME	PRODUCT CODE
ISOPAR M	133468 - 00635

PRODUCT CATEGORY  
Hydrocarbon Fluid

MEDICAL EMERGENCY TELEPHONE NUMBER: (713) 656-3424

TRANSPORTATION EMERGENCY TELEPHONE NUMBERS

(BAYTOWN) (281) 834-3296 (CHEMTREC) 1-800-424-9300

Product Information and Technical Assistance: 1-800-443-9966

FAXED MSDSs: 1-800-298-4007 MAILED MSDSs OR OTHER ASSISTANCE: (713)  
656-5949

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2. COMPOSITION/INFORMATION ON INGREDIENTS  
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CAS NO. OF APPROXIMATE OMPONENTS

COMPONENTS CONCENTRATION

Distillates (petroleum), hydrotreated 64742-47-8 100%

light

This product consists predominantly of C12-C15 isoparaffinic hydrocarbons.

SEE SECTION 8 FOR EXPOSURE LIMITS

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### 3. HAZARDS IDENTIFICATION

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#### EMERGENCY OVERVIEW

#### OSHA REQUIRED LABEL INFORMATION

In compliance with hazard and right-to-know requirements, where applicable OSHA Hazard Warnings may be found on the label, bill of lading or invoice accompanying this shipment.

DANGER!

COMBUSTIBLE

Note: Product label may contain non-OSHA related information also.

#### HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	2	0	Recommended by ExxonMobil

#### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity	BASIS
1	2	0	Recommended by ExxonMobil

#### VARIABILITY AMONG INDIVIDUALS

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

#### EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)

High vapor concentrations (greater than approximately 700 ppm, attainable at elevated temperatures well above ambient) are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death.

#### PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

Petroleum Solvents/Petroleum Hydrocarbons - Skin contact may aggravate an existing dermatitis.

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### 4. FIRST AID MEASURES

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#### EYE CONTACT

If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

#### SKIN

In case of skin contact, remove any contaminated clothing and wash skin with soap and water. Launder or dry-clean clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of

the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

#### INHALATION

If overcome by vapor, remove from exposure and call a physician immediately. If breathing is irregular or has stopped, start resuscitation, administer oxygen, if available.

#### INGESTION

If ingested, DO NOT induce vomiting; call a physician immediately.

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### 5. FIRE-FIGHTING MEASURES

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FLASH POINT (MINIMUM)

AUTOIGNITION TEMPERATURE

COMBUSTIBLE - Per DOT 49 CFR 173.120

80.5~C (177~F)

Approximately 254~C (489~F)

ASTM D 93, Pensky Martens Closed Cup

ASTM D 2155

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)

Estimated values: Lower Flammable Limit 1.3% Upper Flammable Limit 8.8%

#### EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES

Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Tenth Edition (1991):

Use dry chemical, foam or carbon dioxide to extinguish the fire. "Water may be ineffective", but water should be used to keep fire-exposed containers cool. If a leak or spill has ignited, use water spray to disperse the vapors and to protect persons attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing of gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

NOTE: The inclusion of the phrase "water may be ineffective" is to indicate that although water can be used to cool and protect exposed material, water may not extinguish the fire unless used under favorable conditions by experienced fire fighters trained in fighting all types of flammable liquid fires.

## DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS

Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

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## 6. ACCIDENTAL RELEASE MEASURES

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### CLEAN WATER ACT / OIL POLLUTION ACT

This product may be classified as an oil under Section 311 of the Clean Water Act, and under the Oil Pollution Act. Discharges or spills into or leading to surface waters that cause a sheen must be reported to the National Response Center (1-800-424-8802).

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

Shut off and eliminate all ignition sources. Keep people away. Recover free product. Add sand, earth or other suitable absorbent to spill area. Minimize breathing vapors. Minimize skin contact. Ventilate confined spaces. Open all windows and doors. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas.

Assure conformity with applicable governmental regulations. Continue to observe precautions for volatile, combustible vapors from absorbed material.

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## 7. HANDLING AND STORAGE

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### HANDLING PRECAUTIONS

This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

Keep product away from ignition sources, such as heat, sparks, pilot lights, static electricity, and open flames.

### "EMPTY" CONTAINER WARNING

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous.

DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH

CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF

IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Do not attempt to refill or clean containers since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION  
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EXPOSURE LIMIT FOR TOTAL PRODUCT BASIS  
152 ppm (1200 mg/m<sup>3</sup>) based on total Recommended by ExxonMobil  
hydrocarbon for an 8-hour workday.

VENTILATION

Use only with ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, or use of flame or other ignition sources.

RESPIRATORY PROTECTION

Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES

Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION

Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT

Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS

To prevent fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system in accordance with (THE) National Fire Protection Association PUBLICATIONS.

Keep containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants. To prevent fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system in accordance with the National Fire Protection Association standard for petroleum products.

In order to prevent fire or explosion hazards, use appropriate equipment. Information on electrical equipment appropriate for use with this product may be found in the latest edition of the National Electrical Code (NFPA-70). This document is available from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

PERSONAL HYGIENE

Minimize breathing vapor or mist. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before re-use. Remove contaminated shoes and thoroughly clean and dry before re-use.

Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE	VAPOR PRESSURE
218-251~C (424-484~F)	Less than 0.1 mm Hg @ 20~C (68~F)
	ASTM D 2879
SPECIFIC GRAVITY (15.6 Deg C/15.6 Deg C)	VAPOR DENSITY (AIR = 1)
0.79 (6.56 lb/gal)	7.3
MOLECULAR WEIGHT	PERCENT VOLATILE BY VOLUME
191	Approximately 50% in 465 minutes
	@ 1 atm. and 25~C (77~F)
pH	EVAPORATION RATE @ 1 ATM. AND 25~C
Essentially neutral	(77~F) (n-BUTYL ACETATE = 1)
	Less than 0.01
	SOLUBILITY IN WATER @ 1 ATM.
POUR, CONGEALING OR MELTING POINT	AND 25 Deg C (77 Deg F)
Not available	Negligible; 0.0001%
VISCOSITY	
2.2-3.2 cSt @ 40 Deg C	
PRODUCT APPEARANCE AND ODOR	
Clear water-white liquid	
Essentially odorless	

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## 10. STABILITY AND REACTIVITY

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This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium hypochlorite, etc., as this presents a serious explosion hazard.

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## 11. TOXICOLOGICAL DATA

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### NATURE OF HAZARD AND TOXICITY INFORMATION

Prolonged or repeated skin contact with this product tends to remove skin oils, possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

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## 12. ECOLOGICAL INFORMATION

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Do not discharge this product into public waters or waterways unless authorized by a National Pollution Discharge Elimination System (NPDES) permit issued by the Environmental Protection Agency (EPA).

Environmental and Ecological data may be available for this product. Write or call ExxonMobil to obtain further information. Refer to Section 6 and Section 15 for Accidental Release information and Regulatory Reporting information.

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## 13. DISPOSAL CONSIDERATIONS

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Options for disposal of this product may depend on the conditions under which it was used. To determine the proper method of disposal, refer to RCRA (40 CFR 261), as well as federal EPA and state and local regulations.

Please refer to Sections 5, 6 and 15 for additional information.

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## 14. TRANSPORT INFORMATION

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### TRANSPORTATION INCIDENT INFORMATION

For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents.

U.S. DOT HAZARDOUS MATERIALS SHIPPING DESCRIPTION

Bulk packagings (capacity greater than 119 gallons)  
Petroleum Distillate, n.o.s., Combustible Liquid, UN 1268, III  
Non-bulk packagings (capacity less than or equal to 119 gallons)  
Not regulated

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15. REGULATORY INFORMATION  
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U.S. FEDERAL REGULATIONS

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH  
VARIOUS STATE AND  
FEDERAL LAWS AND REGULATIONS UNDER VARIOUS ENVIRONMENTAL  
STATUTES:

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355  
(SARA Sections 301-304)

No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372  
(SARA Section 313)

No toxic chemical is present greater than 1% or 0.1% (carcinogen).

HAZARDOUS CHEMICAL REPORTING, EPA REGULATION 40 CFR 370 (SARA  
Sections 311-312)

EPA Hazard Classification Code: Fire

TOXIC SUBSTANCES CONTROL ACT (TSCA)

This product, as manufactured by ExxonMobil, does not contain polychlorinated  
biphenyls (PCB's).

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

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16. OTHER INFORMATION  
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The health and safety information presented herein must be used in conjunction  
with the pertinent standards for training, work practices and facilities  
design established by OSHA, NIOSH, NFPA, API, NEC, NSC, UNDERWRITERS,  
BUREAU

OF MINES, and similar organizations.

The information and recommendations contained herein are, to the best of  
ExxonMobil's knowledge and belief, accurate and reliable as of the date issued.  
ExxonMobil does not warrant or guarantee their accuracy or reliability, and  
ExxonMobil shall not be liable for any loss or damage arising out of the use  
thereof.

The information and recommendations are offered for the user's consideration  
and examination, and it is the user's responsibility to satisfy itself that  
they are suitable and complete for its particular use.

If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section 15 hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by ExxonMobil Lubricants & Petroleum Specialties Company, in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with ExxonMobil's interpretation of the available data.

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Legally required information is given in accordance with applicable 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

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