



602151-00 MOBIL NYVAC FR 200D FLUID
MATERIAL SAFETY DATA BULLETIN

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MOBIL NYVAC FR 200D FLUID
SUPPLIER: EXXONMOBIL OIL CORPORATION
3225 GALLOWS RD.
FAIRFAX, VA 22037

24 - Hour Health and Safety Emergency (call collect): 609-737-4411

24 - Hour Transportation Emergency:
CHEMTREC: 800-424-9300 202-483-7616
LUBES AND FUELS: 281-834-3296

Product and Technical Information:

Lubricants and Specialties: 800-662-4525 800-443-9966
Fuels Products: 800-947-9147
MSDS Fax on Demand: 713-613-3661
MSDS Internet Website: <http://www.exxon.com>, <http://www.mobil.com>

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: DIETHYLENE GLYCOL AND ADDITIVES

GLOBALLY REPORTABLE MSDS INGREDIENTS:

Substance Name	Approx. Wt%
ALKYLENE GLYCOL (111-46-6)	45-55
MORPHOLINE (110-91-8)	1-5

See Section 8 for exposure limits (if applicable).

3. HAZARDS IDENTIFICATION

This product is considered hazardous according to regulatory guidelines
(See Section 15).

EMERGENCY OVERVIEW: Red Liquid. DOT ERG No. : NA

POTENTIAL HEALTH EFFECTS: Central nervous system depression. Exposure to vapor from heated material may cause irritation of the nose and throat. Vapor from heated material may cause temporary blurring of vision. Eye irritation. May cause liver damage. Ingestion of diethylene glycol may result in nausea, vomiting, abdominal cramps, convulsions, edema of the lung, cardiopulmonary effects (metabolic acidosis), pneumonia and kidney failure which could result in death. The lethal dose for humans is about 50 mls.

For further health effects/toxicological data, see Section 11.

4. FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water for at least 15 minutes. Get medical assistance.

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

INHALATION: Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with bag-valve-mask device or use mouth-to-mouth resuscitation.

INGESTION: Seek immediate medical attention. If medical attention will be delayed, contact a Regional Poison Center or emergency medical professional regarding the induction of vomiting or use of activated charcoal. Do not induce vomiting or give anything by mouth to a groggy or unconscious person.

NOTE TO PHYSICIANS: This product contains ethylene and/or diethylene glycol which, if ingested, is metabolized to toxic metabolites by the enzyme alcohol dehydrogenase, for which ethanol and 4-methylpyrazole U.S. drug name Fomepizole, trade name Antizol are antagonists. Administration of oral or intravenous ethanol or intravenous 4-methylpyrazole may arrest further metabolism of this material and thereby ameliorate the toxicity. Use of ethanol or 4-methylpyrazole does not affect toxic metabolites that are already present and is not a substitute for hemodialysis.

5. FIRE-FIGHTING MEASURES

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

SPECIAL PROTECTIVE EQUIPMENT: For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

COMBUSTION PRODUCTS: Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of

incomplete combustion.
 Flash Point C(F): NA
 Flammable Limits (approx.% vol.in air) - LEL: NA, UEL: NA
 NFPA HAZARD ID: Health: 2, Flammability: 1, Reactivity: 0

 6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: 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.

ENVIRONMENTAL PRECAUTIONS: Prevent spills from entering storm sewers or drains and contact with soil.

PERSONAL PRECAUTIONS: See Section 8

 7. HANDLING AND STORAGE

HANDLING: Wash thoroughly after handling. Heating or agitation may produce irritating vapors. Avoid inhalation of vapors. Avoid contact with eyes. Avoid ingestion.

STORAGE: Do not allow water to evaporate from this product.

SPECIAL PRECAUTIONS: Prevent small spills and leakages to avoid slip hazard.

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 container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Substance Name (CAS-No.)	Source	---TWA---		----STEL---		NOTE
		ppm	mg/m3	ppm	mg/m3	
MORPHOLINE (110-91-8)						
Skin	OSHA	20	70	30	105	
Skin	ACGIH	20	71			

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

VENTILATION: Use local exhaust over heating operations. No special requirements under ordinary conditions of use and with adequate ventilation.

RESPIRATORY PROTECTION: Use appropriate respiratory protective equipment during heating operations. Approved respiratory equipment must be used when airborne concentrations are unknown or exceed the TLV. No special requirements under ordinary conditions of use and with adequate ventilation.

EYE PROTECTION: Chemical type goggles should be worn.

SKIN PROTECTION: If prolonged or repeated skin contact is likely, impervious gloves should be worn. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical physical properties are given below. Consult Product Data Sheet for specific details.

APPEARANCE: Liquid
COLOR: Red
ODOR: Slight Glycol
ODOR THRESHOLD-ppm: NE
pH: 9.5
BOILING POINT C(F): > 102(215)
MELTING POINT C(F): NA
FLASH POINT C(F): NA
FLAMMABILITY (solids): NE
AUTO FLAMMABILITY C(F): NE
EXPLOSIVE PROPERTIES: NA
OXIDIZING PROPERTIES: NA
VAPOR PRESSURE-mmHg 20 C: < 17.0
VAPOR DENSITY: 1.3
EVAPORATION RATE (1 =): > 0.9
RELATIVE DENSITY, 15/4 C: 1.088
SOLUBILITY IN WATER: Complete
PARTITION COEFFICIENT: NE
VISCOSITY AT 40 C, cSt: 41.5
VISCOSITY AT 100 C, cSt: 8.2
POUR POINT C(F): < -30(-22)
FREEZING POINT C(F): -59(-75)
VOLATILE ORGANIC COMPOUND: NE

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): Stable.
CONDITIONS TO AVOID: Heat. Heat produces dehydration.
INCOMPATIBILITY (MATERIALS TO AVOID): Active metals Bases.
HAZARDOUS DECOMPOSITION PRODUCTS: Product does not decompose at ambient temperatures.
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL DATA

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): Toxic (LD50: 25 or greater but 200 mg/kg or less). ---Based on testing of similar products and/or the components.

DERMAL TOXICITY (RABBITS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.

INHALATION TOXICITY (RATS): Practically non-toxic (LC50: greater than 5 mg/l). ---Based on testing of similar products and/or the components.

EYE IRRITATION (RABBITS): Irritant. (Draize score: greater than 15 but 35 or less). ---Based on testing of similar products and/or the components.

SKIN IRRITATION (RABBITS): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). ---Based on testing of similar products and/or the components.

OTHER ACUTE TOXICITY DATA: Orally, diethylene glycol is more toxic to humans than animal test data indicates. Probable lethal dose for an adult is about 50 ml. (2 oz.), or 2-3 swallows. Smaller doses may cause kidney degeneration resulting in kidney failure. A saturated atmosphere generated at elevated temperatures caused no deaths in rats exposed for 8 hours.

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---

When pregnant mice or rats were given diethylene glycol (DEG) orally during gestation, no malformations were observed and only minimal developmental toxicity at high levels. In a continuous breeding study with mice administered DEG in the drinking water at .35 to 3.5% for 14 weeks, some effects on development but no effects on reproduction were observed.

---CHRONIC TOXICOLOGY (SUMMARY)---

Diethylene glycol was fed to rats at 2 and 4% for 2 years. At 4% in the diet, half the rats died of kidney damage. At 2% in the diet, some effects on kidney function were observed.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS:

ECOTOXICITY: Not established.

MOBILITY: Not established.

PERSISTENCE AND DEGRADABILITY: Not established.

BIOACCUMULATIVE POTENTIAL: Not established.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: 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.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity. The unused product is not formulated with substances covered by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

14. TRANSPORT INFORMATION

USA DOT: NOT REGULATED BY USA DOT.

RID/ADR: NOT REGULATED BY RID/ADR.

IMO: NOT REGULATED BY IMO.

IATA: NOT REGULATED BY IATA.

15. REGULATORY INFORMATION

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined to be hazardous.

EU Labeling: Product is dangerous as defined by the European Union Dangerous Substances/Preparations Directives.

Symbol: Xn Harmful.

Risk Phrase(s): R22-36.
Harmful if swallowed. Irritating to eyes.

Safety Phrase(s): S26.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Contains: Diethylene Glycol.

Governmental Inventory Status: All components comply with TSCA, AICS and DSL.

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

SARA (311/312) REPORTABLE HAZARD CATEGORIES:

CHRONIC ACUTE

This product contains no chemicals subject to the supplier notification requirements of SARA (313) toxic release program.

The following product ingredients are cited on the lists below:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS *
MORPHOLINE	110-91-8	1, 10, 18, 19, 20, 21, 23, 25, 26
ETHANOL, 2,2-OXYBIS-	111-46-6	23, 25, 26

--- REGULATORY LISTS SEARCHED ---

1=ACGIH ALL	6=IARC 1	11=TSCA 4	16=CA P65 CARC	21=LA RTK
2=ACGIH A1	7=IARC 2A	12=TSCA 5a2	17=CA P65 REPRO	22=MI 293
3=ACGIH A2	8=IARC 2B	13=TSCA 5e	18=CA RTK	23=MN RTK
4=NTP CARC	9=OSHA CARC	14=TSCA 6	19=FL RTK	24=NJ RTK
5=NTP SUS	10=OSHA Z	15=TSCA 12b	20=IL RTK	25=PA RTK
				26=RI RTK

* EPA recently added new chemical substances to its TSCA Section 4 test rules. Please contact the supplier to confirm whether the ingredients in this product currently appear on a TSCA 4 or TSCA 12b list.

Code key:CARC=Carcinogen; SUS=Suspected Carcinogen; REPRO=Reproductive

16. OTHER INFORMATION

USE: FIRE RESISTANT HYDRAULIC FLUID

NOTE: PRODUCTS OF EXXON MOBIL CORPORATION AND ITS AFFILIATED COMPANIES ARE NOT FORMULATED TO CONTAIN PCBS.

Health studies have shown that many hydrocarbons pose potential human health risks which may vary from person to person. Information provided on this MSDS reflects intended use. This product should not be used for other applications. In any case, the following advice should be considered:

INJECTION INJURY WARNING: 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.

Precautionary Label Text:

CONTAINS DIETHYLENE GLYCOL. MAY CONTAIN MORPHOLINE.

DANGER!

MAY BE FATAL IF SWALLOWED. MAY CAUSE EYE IRRITATION. SWALLOWING MAY CAUSE NAUSEA, VOMITING, CENTRAL NERVOUS SYSTEM DEPRESSION, EFFECTS ON THE HEART AND LUNGS, LIVER AND KIDNEY DAMAGE. VAPOR FROM HEATED MATERIAL MAY CAUSE NOSE, THROAT AND LUNG IRRITATION AND TEMPORARY BLURRING OF VISION.

DIETHYLENE GLYCOL MAY CAUSE DEVELOPMENTAL EFFECTS IN THE UNBORN CHILD BASED ON ANIMAL FEEDING STUDIES.

Do not take internally. Avoid contact with eyes. Avoid breathing mist or vapor. Use with adequate ventilation. Keep container closed.

FIRST AID: If swallowed, seek immediate medical attention. If medical attention will be delayed contact a Regional Poison Center or emergency medical professional regarding the induction of vomiting or use of activated charcoal. Do not induce vomiting or give anything by mouth to a groggy or unconscious person. If inhaled, remove to fresh air. In case of contact, immediately flush eyes with plenty of water. Call a physician if irritation persists.

For industrial use only. Not intended or suitable for use in or around a household or dwelling.

Empty container 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.

For Internal Use Only: MHC: 3* 0* 0* 2* 1*, MPPEC: D, TRN: 602151-00,
CMCS97: 977959, REQ: US - MARKETING, SAFE USE: G
EHS Approval Date: 25APR2003

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