

Product Name: ExxonMobil Premium HDME 50™
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SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: ExxonMobil Premium HDME 50™
Product Description: Hydrocarbons and Additives
Product Code: 709032-00
Intended Use: Fuel oil

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION
22777 Springwoods Village Parkway
Spring, TX 77389 USA

**24 Hour Health Emergency
Transportation Emergency Phone
Product Technical Information
MSDS Internet Address**

609-737-4411
800-424-9300 or 703-527-3887 CHEMTREC
800-662-4525
www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Acute inhalation toxicant: Category 4. Carcinogen: Category 1B. Reproductive toxicant (developmental): Category 2.
Specific target organ toxicant (repeated exposure): Category 2.

LABEL:

Pictogram:



Signal Word: Danger

Hazard Statements:

H332: Harmful if inhaled. H350: May cause cancer. H361: Suspected of damaging the unborn child. H373: May cause damage to organs through prolonged or repeated exposure. Blood, Liver, Thymus

Precautionary Statements:

P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P260: Do not breathe mist / vapours. P271: Use only outdoors or in a well-ventilated area. P273:

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Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308 + P313: IF exposed or concerned: Get medical advice/ attention. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P391: Collect spillage. P405: Store locked up. P501: Dispose of contents and container in accordance with local regulations.

Contains: HEAVY VACUUM GAS OIL (PETROLEUM)

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Thermal burn hazard - contact with hot material may cause thermal burns.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Hydrogen sulfide, a highly toxic gas, may be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. May be irritating to the eyes, nose, throat, and lungs.

ENVIRONMENTAL HAZARDS

Expected to be very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

| | | | |
|------------------------|------------|-----------------|---------------|
| NFPA Hazard ID: | Health: 2 | Flammability: 1 | Reactivity: 0 |
| HMIS Hazard ID: | Health: 2* | Flammability: 1 | Reactivity: 0 |

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

| | |
|------------------|---|
| SECTION 3 | COMPOSITION / INFORMATION ON INGREDIENTS |
|------------------|---|

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

| Name | CAS# | Concentration* | GHS Hazard Codes |
|----------------------------------|------------|----------------|---|
| HEAVY VACUUM GAS OIL (PETROLEUM) | 64741-57-7 | > 99 % | H332, H350(1B), H361(D), H373, H400(M factor 1), H410(M factor 1) |

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

| Name | CAS# | Concentration* | GHS Hazard Codes |
|------------------|-----------|----------------|------------------------------------|
| ETHYL BENZENE | 100-41-4 | 0.1 - 1% | H225, H304, H332, H373, H401, H412 |
| HYDROGEN SULFIDE | 7783-06-4 | < 0.1% | H220, H280, H330(2), |

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| | | | |
|-------------|---------|----------|--|
| | | | H400(M factor 1) |
| NAPHTHALENE | 91-20-3 | 1 - 2.5% | H302, H351, H400(M factor 1), H410(M factor 1) |

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. 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. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

EYE CONTACT

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

INGESTION

Seek immediate medical attention.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: The product can form flammable mixtures and can burn only when heated above the flash point. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Aldehydes, Hydrogen sulfide, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >100°C (212°F) [ASTM D-93]

Flammable Limits (Approximate volume % in air): LEL: 1.0 UEL: 6.0

Autoignition Temperature: >250°C (482°F) [ASTM E659]

SECTION 6

ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H₂S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Do not touch or walk through spilled material. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with suitable absorbent.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid all personal contact. Residual fuel oils may require heating and other forms of pre-treatment before use and will normally be stored and handled in facilities fitted with heating systems. Users should ensure their facilities are capable of storing and handling these fuels at or just above an appropriate temperature. Proper temperatures for storage and handling will depend on a number of factors such as the viscosity of the fuel and the specific requirements of the heating plant or engine that will consume the fuel. Users should consult the fuel supplier on appropriate storage and handling temperatures. Harmful amounts of H₂S may be present. The toxic and olfactory (sense of smell) fatigue properties of hydrogen sulfide require that air monitoring alarms and respiratory protection be used where the concentration might be expected to reach a harmful level, such as in an enclosed space, heated transport vessel, or in a spill or leak situation.

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10⁻¹² Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

| Substance Name | Form | Limit / Standard | | | NOTE | Source |
|---|----------------|------------------|-----------------------|---------|------|------------|
| ETHYL BENZENE | | TWA | 435 mg/m ³ | 100 ppm | N/A | OSHA Z1 |
| ETHYL BENZENE | | TWA | 20 ppm | | N/A | ACGIH |
| HEAVY VACUUM GAS OIL (PETROLEUM) | | TWA | 400 mg/m ³ | 100 ppm | N/A | OSHA Z1 |
| HEAVY VACUUM GAS OIL (PETROLEUM) [benzene solubles] | Total oil mist | TWA | 0.1 mg/m ³ | | Skin | ExxonMobil |
| HYDROGEN SULFIDE | | Ceiling | 20 ppm | | N/A | OSHA Z2 |
| HYDROGEN SULFIDE | | Maximum | 50 ppm | | N/A | OSHA Z2 |

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| | | concentration | | | | |
|------------------|--|---------------|----------------------|--------|------|------------|
| HYDROGEN SULFIDE | | STEL | 14 mg/m ³ | 10 ppm | N/A | ExxonMobil |
| HYDROGEN SULFIDE | | TWA | 7 mg/m ³ | 5 ppm | N/A | ExxonMobil |
| HYDROGEN SULFIDE | | STEL | 5 ppm | | N/A | ACGIH |
| HYDROGEN SULFIDE | | TWA | 1 ppm | | N/A | ACGIH |
| NAPHTHALENE | | TWA | 50 mg/m ³ | 10 ppm | N/A | OSHA Z1 |
| NAPHTHALENE | | TWA | 10 ppm | | Skin | ACGIH |

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

Biological limits

| Substance | Specimen | Sampling Time | Limit | Determinant | Source |
|---------------|---------------------------------|---------------|--------------|---|-------------------|
| ETHYL BENZENE | Creatinine in urine | End of shift | 0.15 g/g | Sum of mandelic acid and phenylglyoxylic acid | ACGIH BELs (BEIs) |
| NAPHTHALENE | No Biological Specimen provided | End of shift | Not Assigned | 1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis | ACGIH BELs (BEIs) |

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Positive-pressure, air-supplied respirator in areas where H₂S vapors may accumulate is recommended.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

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Chemical resistant gloves are recommended. If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If contact with material is likely, chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended. If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid

Form: Viscous

Color: Dark Brown

Odor: Petroleum/Solvent

Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): < 1

Density (at 15 °C): 840 kg/m³ (7.01 lbs/gal, 0.84 kg/dm³) - 1200 kg/m³ (10.01 lbs/gal, 1.2 kg/dm³) [ISO 12185]

Flammability (Solid, Gas): N/A

Flash Point [Method]: >100°C (212°F) [ASTM D-93]

Flammable Limits (Approximate volume % in air): LEL: 1.0 UEL: 6.0

Autoignition Temperature: >250°C (482°F) [ASTM E659]

Boiling Point / Range: > 200°C (392°F) [ASTM D86]

Decomposition Temperature: N/D

Vapor Density (Air = 1): N/D

Vapor Pressure: < 0.133 kPa (1 mm Hg) at 20 °C | 0.02 kPa (0.15 mm Hg) at 120 °C - 0.791 kPa (5.93 mm Hg) at 120°C

Evaporation Rate (n-butyl acetate = 1): N/D

pH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): N/D

Solubility in Water: Negligible

Viscosity: [N/D at 40 °C] | > 20.5 cSt (20.5 mm²/sec) at 50°C - 850 cSt (850 mm²/sec) at 50°C

Oxidizing Properties: See Hazards Identification Section.

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OTHER INFORMATION

Freezing Point: N/D

Melting Point: N/D

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| SECTION 10 | STABILITY AND REACTIVITY |
|-------------------|---------------------------------|

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Alkalies, Halogens, Strong Acids, Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

| | |
|-------------------|----------------------------------|
| SECTION 11 | TOXICOLOGICAL INFORMATION |
|-------------------|----------------------------------|

INFORMATION ON TOXICOLOGICAL EFFECTS

| Hazard Class | Conclusion / Remarks |
|--|---|
| Inhalation | |
| Acute Toxicity: (Rat) 4 hour(s) LC50 4100 mg/m3 (Aerosol) | Moderately toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403 |
| Irritation: No end point data for material. | Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. |
| Ingestion | |
| Acute Toxicity (Rat): LD50 > 5000 mg/kg | Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401 |
| Skin | |
| Acute Toxicity (Rabbit): LD50 > 2000 mg/kg | Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 434 |
| Skin Corrosion/Irritation (Rabbit): Data available. | May dry the skin leading to discomfort and dermatitis. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404 |
| Eye | |
| Serious Eye Damage/Irritation (Rabbit): Data available. | May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405 |
| Sensitization | |
| Respiratory Sensitization: No end point data for material. | Not expected to be a respiratory sensitizer. |
| Skin Sensitization: Data available. | Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406 |
| Aspiration: Data available. | Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. |
| Germ Cell Mutagenicity: Data available. | Not expected to be a germ cell mutagen. Based on test data for |

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| | structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 474 475 476 479 486 |
| Carcinogenicity: Data available. | Caused cancer in laboratory animals. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 451 |
| Reproductive Toxicity: Data available. | Caused damage to the fetus in laboratory animals, but the relevance to humans is uncertain. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 416 |
| Lactation: No end point data for material. | Not expected to cause harm to breast-fed children. |
| Specific Target Organ Toxicity (STOT) | |
| Single Exposure: No end point data for material. | Not expected to cause organ damage from a single exposure. |
| Repeated Exposure: Data available. | Concentrated, prolonged or deliberate exposure may cause organ damage. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 410 411 |

TOXICITY FOR SUBSTANCES

| NAME | ACUTE TOXICITY |
|------------------|--|
| ETHYL BENZENE | Inhalation Lethality: 4 hour(s) LC50 17.8 mg/l (Vapor) (Rat); Oral Lethality: LD50 3.5 g/kg (Rat) |
| HYDROGEN SULFIDE | Inhalation Lethality: 4 hour(s) LC50 444 ppm (Gas) (Rat) |
| NAPHTHALENE | Inhalation Lethality: 4 hour(s) LC50 > 0.4 mg/l (Max attainable vapor conc.) (Rat); Oral Lethality: LD50 533 mg/kg (Mouse) |

OTHER INFORMATION

For the product itself:

Target Organs Repeated Exposure: Blood, Liver, Thymus

Residual fuel oil: Carcinogenic in animal tests. Caused mutations In vitro. Dermal exposure to high concentrations resulted in maternal toxicity, decreased fetal weight and fetal survival, and some external fetal malformations. Dermal studies in animals: increased mortality, skin irritation, liver, kidney, thymus, bone marrow, blood and lymphoid tissue toxic effects. Possible allergen and photoallergen.

Contains:

HYDROGEN SULFIDE : Chronic health effects due to repeated exposures to low levels of H₂S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H₂S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage.

NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.

ETHYLBENZENE: Caused cancer in laboratory animal studies. The relevance of these findings to humans is uncertain.

The following ingredients are cited on the lists below:

| Chemical Name | CAS Number | List Citations |
|-------------------------------------|------------|----------------|
| ETHYL BENZENE | 100-41-4 | 5 |
| HEAVY VACUUM GAS OIL (PETROLEUM) | 64741-57-7 | 1, 3, 5 |
| NAPHTHALENE | 91-20-3 | 2, 5 |

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
 2 = NTP SUS

3 = IARC 1
 4 = IARC 2A

5 = IARC 2B
 6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Majority of components -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.
 Majority of components -- Low potential to migrate through soil.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Majority of components -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

ECOLOGICAL DATA

Ecotoxicity

| Test | Duration | Organism Type | Test Results |
|----------------------------|------------|---------------------------------|--|
| Aquatic - Acute Toxicity | 48 hour(s) | Daphnia magna | EL50 1 - >1000 mg/l: data for similar materials |
| Aquatic - Acute Toxicity | 96 hour(s) | Oncorhynchus mykiss | LL50 10 - >1000 mg/l: data for similar materials |
| Aquatic - Acute Toxicity | 72 hour(s) | Pseudokirchneriella subcapitata | EL50 0.1 - 100 mg/l: data for similar materials |
| Aquatic - Chronic Toxicity | 72 hour(s) | Pseudokirchneriella | NOELR <1 mg/l: data for similar materials |

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| | | subcapitata | |
|--|--|-------------|--|

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

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 as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, 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.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (HEAVY HEATING OIL)
Hazard Class & Division: 9
UN Number: 3082
Packing Group: III
Marine Pollutant: Yes
Special Provisions: 16, 99

Footnote: Marine Pollutant designation is applicable only if shipped over water.

SEA (IMDG)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HEAVY HEATING OIL)
Hazard Class & Division: 9
EMS Number: F-A, S-F
UN Number: 3082
Packing Group: III

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Marine Pollutant: Yes

Label(s): 9

Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (HEAVY HEATING OIL), 9, PG III, MARINE POLLUTANT

AIR (IATA)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (HEAVY HEATING OIL)

Hazard Class & Division: 9

UN Number: 3082

Packing Group: III

Label(s) / Mark(s): 9, EHS

Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (HEAVY HEATING OIL), 9, PG III

SECTION 15

REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Acute Toxicity (any route of exposure), Carcinogenicity, Reproductive toxicity, Specific Target Organ toxicity (single or repeated exposure)

SARA (313) TOXIC RELEASE INVENTORY:

| Chemical Name | CAS Number | Typical Value |
|-----------------------------------|------------|---------------|
| ETHYL BENZENE | 100-41-4 | 0.1 - 1% |
| NAPHTHALENE | 91-20-3 | 1 - 2.5% |
| POLYNUCLEAR AROMATIC HYDROCARBONS | | 0.1 - 1% |

The following ingredients are cited on the lists below:

| Chemical Name | CAS Number | List Citations |
|---------------|------------|------------------|
| ETHYL BENZENE | 100-41-4 | 1, 4, 10, 17, 19 |

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| | | |
|-----------------------------------|------------|------------------------------|
| HEAVY VACUUM GAS OIL (PETROLEUM) | 64741-57-7 | 3, 4, 10 |
| HYDROGEN SULFIDE | 7783-06-4 | 1, 4 |
| NAPHTHALENE | 91-20-3 | 1, 4, 10, 13, 16, 17, 18, 19 |
| POLYNUCLEAR AROMATIC HYDROCARBONS | | 18 |

--REGULATORY LISTS SEARCHED--

| | | | |
|---------------|------------------|-------------------|-------------|
| 1 = ACGIH ALL | 6 = TSCA 5a2 | 11 = CA P65 REPRO | 16 = MN RTK |
| 2 = ACGIH A1 | 7 = TSCA 5e | 12 = CA RTK | 17 = NJ RTK |
| 3 = ACGIH A2 | 8 = TSCA 6 | 13 = IL RTK | 18 = PA RTK |
| 4 = OSHA Z | 9 = TSCA 12b | 14 = LA RTK | 19 = RI RTK |
| 5 = TSCA 4 | 10 = CA P65 CARC | 15 = MI 293 | |

Code key: CARC=Carcinogen; REPRO=Reproductive

| | |
|-------------------|--------------------------|
| SECTION 16 | OTHER INFORMATION |
|-------------------|--------------------------|



WARNING: Cancer - www.P65Warnings.ca.gov. Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights.

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

- H220: Extremely flammable gas; Flammable Gas, Cat 1
- H225: Highly flammable liquid and vapor; Flammable Liquid, Cat 2
- H280: Contains gas under pressure; may explode if heated; Pressurized Gas
- H302: Harmful if swallowed; Acute Tox Oral, Cat 4
- H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
- H330(2): Fatal if inhaled; Acute Tox Inh, Cat 2
- H332: Harmful if inhaled; Acute Tox Inh, Cat 4
- H350(1B): May cause cancer; Carcinogenicity, Cat 1B
- H351: Suspected of causing cancer; GHS Carcinogenicity, Cat 2
- H361(D): Suspected of damaging the unborn child; Repro Tox, Cat 2 (Develop)
- H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
- H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
- H401: Toxic to aquatic life; Acute Env Tox, Cat 2
- H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
- H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Section 01: Product Identification Product Name information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and

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examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, republication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0B, 0B, 2, 0, 1, 1

PPEC: E

DGN: 7115871XUS (1019956)

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