

# SAFETY DATA SHEET

ExxonMobil

HEAVY RESIDUAL FUEL (HIGH FLASH)

## Section 1. Identification

<b>Product name</b>	: HEAVY RESIDUAL FUEL (HIGH FLASH) See Section 16 for synonyms.
<b>Product description</b>	: petroleum hydrocarbons
<b><u>Relevant identified uses of the substance or mixture and uses advised against</u></b>	
<b>Identified uses</b>	: Fuel oil
<b>Uses advised against</b>	: This product is not recommended for any industrial, professional or consumer use other than the identified uses above.
<b>Supplier</b>	: Canada Imperial Oil Limited, An Affiliate of Exxon Mobil Corporation P.O. Box 2480, Station M Calgary, ALBERTA T2P 3M9 Canada
<b>24-Hour emergency telephone number</b>	: 1-800-424-9300 / +1 703-741-5970 / +1-703-527-3887 (CHEMTREC)
<b>Supplier General Contact</b>	: 1-800-567-3776
<b>SDS Internet Address</b>	: <a href="http://www.sds.exxonmobil.com">www.sds.exxonmobil.com</a>

## Section 2. Hazards identification

<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Classification of the substance or mixture</b>	: FLAMMABLE LIQUIDS - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

### GHS label elements

**Hazard pictograms**



**Signal word**

: Danger

**Hazard statements**

: H227 - Combustible liquid.  
H315 - Causes skin irritation.  
H332 - Harmful if inhaled.  
H350 - May cause cancer.  
H361 - Suspected of damaging fertility or the unborn child.  
H373 - May cause damage to organs through prolonged or repeated exposure. (blood, bone marrow, liver, spleen, thymus)

### Precautionary statements

**Prevention**

: P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P210 - Keep away from flames and hot surfaces. No smoking.  
P260 - Do not breathe vapor.  
P264 - Wash thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear protective gloves, protective clothing and eye or face protection.

## Section 2. Hazards identification

<b>Response</b>	: P302 + P352 - IF ON SKIN: Wash with plenty of water. P304 + P312, P340 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell. Remove person to fresh air and keep comfortable for breathing. P308 + P313 - IF exposed or concerned: Get medical advice or attention. P332 + P313 - If skin irritation occurs: Get medical advice/attention. P362 + P364 - Take off contaminated clothing and wash it before reuse. P370 + P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO <sub>2</sub> ) to extinguish.
<b>Storage</b>	: P403 + P235 - Store in a well-ventilated place. Keep cool. P405 - Store locked up.
<b>Disposal</b>	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Contains</b>	: light catalytic cracked distillate; catalytic cracked clarified oil heavy fuel oil; residual fuel oil and distillates (petroleum), heavy straight-run
<b>Hazards not otherwise classified</b>	: None known.
<b>Note</b>	: 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

**Substance/mixture** : Mixture

<b>Ingredient name</b>	<b>% by weight</b>	<b>CAS number</b>
light catalytic cracked distillate	≥10 - ≤25	64741-59-9
catalytic cracked clarified oil heavy fuel oil	≥10 - ≤25	64741-62-4
residual fuel oil	≥10 - ≤25	68476-33-5
straight-run middle distillates	≥10 - ≤25	64741-44-2
distillates (petroleum), heavy straight-run	≥10 - ≤25	68915-96-8
hydrogen sulfide	≤0.3	7783-06-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

**Note** : Hydrogen sulfide (H<sub>2</sub>S) may be present in the material in trace quantities (by weight) and, when present, may accumulate to toxic or flammable concentrations in enclosed spaces such as tanks or tanker/railcar headspaces.

## Section 4. First aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs. Get medical attention. Get medical attention following exposure or if feeling unwell.

## Section 4. First aid measures

- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- 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. Get medical attention if symptoms occur. 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. Wash clothing before reuse. Clean shoes thoroughly before reuse. Continue to rinse for at least 10 minutes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Get medical attention. Get medical attention following exposure or if feeling unwell.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Causes skin irritation.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Respiratory and eye irritation, coughing, a sensation of dryness and pain in the nose, and loss of consciousness.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection.
- Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

## Section 4. First aid measures

- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous combustion products** : Aldehydes, hydrogen sulfide, Incomplete combustion products, Oxides of carbon, Smoke, Fume, sulfur oxides

- Special protective actions for fire-fighters** : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Assure an extended cooling down period to prevent re-ignition. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 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.

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

## Section 6. Accidental release measures

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Material will sink. Remove material, as much as possible, using mechanical equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Thermal burn hazard - contact with hot material may cause thermal burns. Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container. Harmful amounts of H<sub>2</sub>S may be present. Avoid breathing vapors, spray or mists. 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.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- 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<sup>-12</sup> 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.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<p>HEAVY RESIDUAL FUEL (HIGH FLASH)</p> <p>light catalytic cracked distillate</p> <p>catalytic cracked clarified oil heavy fuel oil</p> <p>residual fuel oil</p> <p>straight-run middle distillates</p> <p>distillates (petroleum), heavy straight-run</p> <p>hydrogen sulfide</p>	<p><b>ExxonMobil (Company). Absorbed through skin.</b> TWA: 0.1 mg/m<sup>3</sup> Form: Aerosol.</p> <p>None.</p> <p><b>ExxonMobil (Company). Absorbed through skin.</b> TWA: 0.1 mg/m<sup>3</sup>, (benzene solubles) 8 hours. Form: Total oil mist</p> <p><b>ExxonMobil (Company). Absorbed through skin.</b> TWA: 0.1 mg/m<sup>3</sup>, (benzene solubles) 8 hours. Form: Total oil mist</p> <p><b>ExxonMobil (Company). Absorbed through skin.</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Stable Aerosol. TWA: 200 mg/m<sup>3</sup> 8 hours. Form: Vapor.</p> <p>None.</p> <p><b>NIOSH REL (United States, 10/2020).</b> CEIL: 10 ppm 10 minutes. CEIL: 15 mg/m<sup>3</sup> 10 minutes.</p> <p><b>OSHA PEL Z2 (United States, 2/2013).</b> CEIL: 20 ppm AMP: 50 ppm 10 minutes.</p> <p><b>CAL OSHA PEL (United States, 5/2018).</b> STEL: 21 mg/m<sup>3</sup> 15 minutes. STEL: 15 ppm 15 minutes. CEIL: 50 ppm TWA: 14 mg/m<sup>3</sup> 8 hours. TWA: 10 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 10 ppm 8 hours. TWA: 14 mg/m<sup>3</sup> 8 hours. STEL: 15 ppm 15 minutes. STEL: 21 mg/m<sup>3</sup> 15 minutes.</p> <p><b>ACGIH TLV (United States, 1/2022).</b> TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes.</p> <p><b>ExxonMobil (Company).</b> STEL: 10 ppm 15 minutes. STEL: 14 mg/m<sup>3</sup> 15 minutes. TWA: 5 ppm 8 hours. TWA: 7 mg/m<sup>3</sup> 8 hours.</p>

Hydrogen sulfide (H<sub>2</sub>S) may be present in the material in trace quantities (by weight) and, when present, may accumulate to toxic or flammable concentrations in enclosed spaces such as tanks or tanker/railcar headspaces. The ExxonMobil OEL for H<sub>2</sub>S is 5 ppm (8-hr TWA) and 10 ppm for 15 min STEL.

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

### Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

## Section 8. Exposure controls/personal protection

- |                               |  |
|-------------------------------|--|
| <b>Hygiene measures</b>       | : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.  |
| <b>Eye/face protection</b>    | : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Face shield.  |
| <b>Skin protection</b>        |  |
| <b>Hand protection</b>        | : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| <b>Body protection</b>        | : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.  |
| <b>Other skin protection</b>  | : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.  |
| <b>Respiratory protection</b> | : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Positive-pressure, air-supplied respirator in areas where H2S vapors may accumulate is recommended.   |

## Section 9. Physical and chemical properties and safety characteristics

**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.**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- |  |  |
|--|--|
| <b>Physical state</b>  | : Liquid. [Viscous]                        |
| <b>Color</b>   | : Black                                    |
| <b>Odor</b>  | : Petroleum/Solvent                        |
| <b>Odor threshold</b>  | : Not available.                           |
| <b>pH</b>  | : Not applicable.                          |
| <b>Melting point/freezing point</b>                            | : Not available.                           |
| <b>Boiling point, initial boiling point, and boiling range</b> | : Not available.                           |
| <b>Flash point</b>   | : Closed cup: >61°C (>141.8°F) [ASTM D-93] |
| <b>Evaporation rate</b>  | : <1 (butyl acetate = 1)                   |
| <b>Flammability</b>  | : Flammable liquids - Category 4           |
| <b>Lower and upper explosion limit/flammability limit</b>      | : Not available.                           |
| <b>Vapor pressure</b>  | : 0.75 mm Hg [20 °C]                       |
| <b>Relative vapor density</b>                                  | : Not available.                           |
| <b>Relative density</b>  | : 0.97 to 1.15                             |

## Section 9. Physical and chemical properties and safety characteristics

<b>Solubility in water</b>	: Negligible
<b>Partition coefficient: n-octanol/water</b>	: Not applicable.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: 50 to 635 cSt [50 °C]
<b>Particle characteristics</b>	
<b>Median particle size</b>	: Not applicable.
<b>Pour point</b>	: <21°C

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials, Halogens, Alkalies, Strong oxidizers, strong acids
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Test	Species	Result	Duration
light catalytic cracked distillate	LC50 Inhalation Dusts and mists	Rat	4.65 mg/l	4 hours
hydrogen sulfide	LC50 Inhalation Gas.	Rat	444 ppm_m	4 hours

#### Conclusion/Summary

<b>Inhalation</b>	: Moderately toxic. No end point data for material. Based on assessment of the components.
<b>Dermal</b>	: Minimally Toxic. No end point data for material. Based on assessment of the components.
<b>Oral</b>	: Minimally Toxic. No end point data for material. Based on assessment of the components.

#### Irritation/Corrosion

#### Conclusion/Summary

<b>Skin</b>	: Irritating to the skin. No end point data for material. Based on assessment of the components.
<b>Eyes</b>	: May cause mild, short-lasting discomfort to eyes. No end point data for material. Based on assessment of the components.
<b>Respiratory</b>	: Negligible hazard at ambient/normal handling temperatures. 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.

#### Sensitization

#### Conclusion/Summary

## Section 11. Toxicological information

- Skin** : Not expected to be a skin sensitizer. No end point data for material. Based on assessment of the components.
- Respiratory** : Not expected to be a respiratory sensitizer. No end point data for material.
- Mutagenicity**
- Conclusion/Summary** : Not expected to be a germ cell mutagen. No end point data for material. Based on assessment of the components.
- Carcinogenicity**
- Conclusion/Summary** : May cause cancer. No end point data for material. Based on assessment of the components.

### Classification

Product/ingredient name	OSHA	IARC	NTP
light catalytic cracked distillate	-	1	-
catalytic cracked clarified oil	-	2B	-
heavy fuel oil	-	2B	-
residual fuel oil	-	2B	-

### Reproductive toxicity

- Conclusion/Summary** : May damage the unborn child. No end point data for material. Based on assessment of the components.

### Specific target organ toxicity (single exposure)

- Conclusion/Summary** : Not expected to cause organ damage from a single exposure. No end point data for material.

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Target organs
HEAVY RESIDUAL FUEL (HIGH FLASH)	Category 2	blood, bone marrow, liver, spleen, thymus

- Conclusion/Summary** : May cause damage to organs through prolonged or repeated exposure. No end point data for material. Based on assessment of the components.

### Aspiration hazard

- Conclusion/Summary** : Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. Data available.

### Other information

- Contains** : Middle distillates with cracked stocks: Carcinogenic in animal tests. Caused mutations In vitro. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function. HYDROGEN SULFIDE : Chronic health effects due to repeated exposures to low levels of H<sub>2</sub>S 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 H<sub>2</sub>S 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. 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.

## 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.

### Toxicity

#### Conclusion/Summary

- Acute toxicity** : Very toxic to aquatic life.  
**Chronic toxicity** : Very toxic to aquatic life with long lasting effects.

#### Persistence and degradability

- Biodegradability** : Majority of components -- Expected to be inherently biodegradable  
**Atmospheric Oxidation** : More volatile component -- Expected to degrade rapidly in air

#### Bioaccumulative potential

- Conclusion/Summary** : Base oil component -- Potential to bioaccumulate is low.

#### Mobility in soil

- Mobility** : High molecular wt. component -- Low water solubility, expected to sink and migrate into the sediment. Expected to partition to sediment and wastewater solids. More volatile component -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

#### Other ecological information

- Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

- Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.








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

	DOT Classification	TDG Classification	IMDG	IATA
<b>UN number</b>	NA1993	UN3082	UN3082	UN3082
<b>UN proper shipping name</b>	Combustible liquid, n. o.s. (light catalytic cracked distillate, straight-run middle distillates)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (light catalytic cracked distillate, straight-run middle distillates)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (light catalytic cracked distillate, straight-run middle distillates)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (light catalytic cracked distillate, straight-run middle distillates)
<b>Transport hazard class(es)</b>	Combustible liquid.	9	9	9

HEAVY RESIDUAL FUEL (HIGH FLASH)

## Section 14. Transport information

Label(s) / Marks		 	 	 
Packing group	III	III	III	III
Environmental hazards	Yes.	Yes.	Yes.	Yes.

### Additional information

#### DOT Classification

- : Non-bulk packages (less than or equal to 119 gal) of combustible liquids, that are marine pollutants, are not regulated as hazardous materials, unless transported by vessel.
- This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.

#### TDG Classification

- : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark).
- Non-bulk packages of this product are not regulated as dangerous goods when transported by road or rail.

#### IMDG

- : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

#### IATA

- : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

- Transport in bulk according to IMO instruments** : Not applicable.

## Section 15. Regulatory information

- U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**Clean Water Act (CWA) 311:** hydrogen sulfide

- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

- Clean Air Act Section 602 Class I Substances** : Not listed

- Clean Air Act Section 602 Class II Substances** : Not listed

- DEA List I Chemicals (Precursor Chemicals)** : Not listed

- DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
hydrogen sulfide	≤0.3	Yes.	500	-	100	-

## Section 15. Regulatory information

**SARA 304 RQ** : 100000 lbs / 45400 kg [11314.5 gal / 42830.2 L]

### SARA 311/312

**Classification** : FLAMMABLE LIQUIDS - Category 4  
 ACUTE TOXICITY (inhalation) - Category 4  
 SKIN IRRITATION - Category 2  
 CARCINOGENICITY - Category 1B  
 TOXIC TO REPRODUCTION - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

### SARA 313

This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

### State regulations

**Massachusetts** : None of the components are listed.  
**New York** : None of the components are listed.  
**New Jersey** : None of the components are listed.  
**Pennsylvania** : None of the components are listed.  
**Illinois** : None of the components are listed.

### Inventory list

**Australia inventory (AIC)** : All components are listed or exempted.  
**Canada inventory (DSL-NDSL)** : All components are listed or exempted.  
**China inventory (IECSC)** : All components are listed or exempted.  
**Japan inventory (CSCL)** : Not determined.  
**Japan inventory (Industrial Safety and Health Act)** : Not determined.  
**New Zealand Inventory of Chemicals (NZIoC)** : Not determined.  
**Philippines inventory (PICCS)** : Not determined.  
**Korea inventory (KECI)** : All components are listed or exempted.  
**Taiwan Chemical Substances Inventory (TCSI)** : Not determined.  
**United States inventory (TSCA 8b)** : All components are active or exempted.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health	*	2
Flammability		2
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)

## Section 16. Other information



### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method

### History

Date of issue/Date of revision : 30 May 2023

Date of previous issue : No previous edition

Version : 1

Key to abbreviations : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

### THIS SDS COVERS THE FOLLOWING MATERIALS :

BUNKER FUEL OIL; FUEL OIL NO.6; HEAVY FUEL OIL #6 (HIGH FLASH); HEAVY FUEL OIL 6015; HEAVY FUEL OIL 6020; HEAVY FUEL OIL 6020 (HIGH FLASH); HEAVY FUEL OIL 6022; HEAVY FUEL OIL 6025; HEAVY FUEL OIL 6030; HEAVY FUEL OIL 6035; HEAVY FUEL OIL 6300; HEAVY FUEL OIL 7015; HEAVY FUEL OIL 7020; HEAVY FUEL OIL 7025; HEAVY FUEL OIL 7120 CFB; HEAVY FUEL OIL 7130 CFB; HEAVY FUEL OIL BASE; HEAVY FUEL OIL BASE LOW SULPHUR; HFO 6015; HFO 6020; HFO 6022; HFO 6025; HFO 6030; HFO 6035; HFO 6300; HFO 7015; HFO 7020; HFO 7025; HFO 7120 CFB; HFO 7130 CFB; INTERMEDIATE FUEL OIL BASE; NO. 6 FUEL OIL

DOC ID : 1168378

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