



# SAFETY DATA SHEET

SDS ID NO.: 0274MAR019  
Revision Date: 08/03/2016

## 1. IDENTIFICATION

**Product Name:** Marathon Petroleum Fuel Oil  
**Synonym:** Marathon No. 6 Fuel Oil; Bunker C Fuel; No. 6 Fuel Oil; No. 6 Residual Fuel; Marathon No. 5 Fuel Oil; No. 5 Fuel Oil; Marathon No. 4 Fuel Oil; No. 4 Fuel Oil; Marathon Residual Fuel Oil; Bunker C Fuel; Fuel Oil Residual; Slurry Blendstock; No. 6 Fuel Oil; No. 6 Residual Fuel Oil; Residual Fuel Oil; 0159MAR019; 0241MAR019; 0242MAR019  
**Chemical Family:** Hydrocarbon Mixture  
**Recommended Use:** Fuel.  
**Restrictions on Use:** All others.

**Manufacturer, Importer, or Responsible Party Name and Address:**  
**MARATHON PETROLEUM COMPANY LP**  
**539 South Main Street**  
**Findlay, OH 45840**

**SDS information:** 1-419-421-3070  
**Emergency Telephone:** 1-877-627-5463

## 2. HAZARD IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1A
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

**Hazards Not Otherwise Classified (HNOC)**  
May release hydrogen sulfide gas

### Label elements

#### **EMERGENCY OVERVIEW**

**Danger**  
Combustible Liquid

May release highly toxic hydrogen sulfide gas that quickly fatigues the sense of smell  
 Harmful if inhaled  
 Causes skin irritation  
 Suspected of causing genetic defects  
 May cause cancer  
 Suspected of damaging fertility or the unborn child  
 May cause damage to organs (thymus, liver, blood, bone marrow) through prolonged or repeated exposure  
 Very toxic to aquatic life with long lasting effects



**Appearance** Brown To Black Viscous  
Liquid

**Physical State** Liquid

**Odor** Hydrocarbon / Tar

#### Precautionary Statements - Prevention

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Wash hands and any possibly exposed skin thoroughly after handling  
 Avoid release to the environment

#### Precautionary Statements - Response

IF exposed or concerned: Get medical attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
 If skin irritation occurs: Get medical attention  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a POISON CENTER or doctor if you feel unwell  
 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction.  
 Collect spillage

#### Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool  
 Store locked up

#### Precautionary Statements - Disposal

Dispose of contents/container at an approved waste disposal plant

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Heavy or Residual Fuel Oil is a complex mixture of high molecular weight hydrocarbons produced from high temperature treatment of heavy petroleum fractions.

This product was analyzed by MPC and found to contain 0.05-0.6% of the 22 3-7 ring polycyclic aromatic compounds identified as Persistent Bioaccumulative Toxic (PBT) Chemicals subject to reporting under EPA EPCRA Section 313 regulations.

#### Composition Information:

Name	CAS Number	% Concentration
No. 6 Fuel Oil	68553-00-4	30-100
Fuel Oil, Residual	68476-33-5	30-100

Catalytic Cracked Clarified Oil	64741-62-4	0-90
Fuels, Diesel	68334-30-5	0-40
Residues (Petroleum), Vacuum	64741-56-6	0-30
Sulfur Compounds	Mixture	0.5-5
Polycyclic Aromatic Hydrocarbons	Mixture	< 1.0
Naphthalene	91-20-3	0.01-0.2
Hydrogen sulfide	7783-06-4	0-0.01

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

## 4. FIRST AID MEASURES

### First Aid Measures

- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).
- Inhalation:** Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.
- Skin Contact:** Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists. Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties. Destroy contaminated, non-chemical resistant footwear.
- Eye Contact:** Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Gently remove contacts while flushing. Get medical attention if irritation persists.
- Ingestion:** Rinse mouth out with water. If symptoms develop, seek medical attention. If large amounts are swallowed, immediately call a physician.

### Most important signs and symptoms, both short-term and delayed with overexposure

- Adverse Effects:** Hydrogen sulfide can cause respiratory paralysis and death, depending on the concentration and duration of exposure. Do not rely on ability to smell vapors, since loss of smell rapidly occurs. Effects of overexposure include irritation of the nose and throat, nausea, vomiting, diarrhea, abdominal pain and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue), irregular heartbeats, pulmonary edema, weakness and convulsions. Irritating to the skin and mucous membranes. Prolonged and repeated contact may cause defatting and drying of the skin and may lead to irritation and/or dermatitis. Prolonged or repeated exposure may cause damage to organs.

### Indication of any immediate medical attention and special treatment needed

- Notes To Physician:** INHALATION: Inhalation exposure can produce toxic effects. Treat intoxications as hydrogen sulfide exposures. At high concentrations hydrogen sulfide may produce pulmonary edema, respiratory depression, and/or respiratory paralysis. The first priority in treatment should be the establishment of adequate ventilation and the administration of 100% oxygen. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis.

## 5. FIRE-FIGHTING MEASURES

### Suitable extinguishing media

For small fires, Class B fire extinguishing media such as CO<sub>2</sub>, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Firefighting should be attempted only by those who are adequately

trained and equipped with proper protective equipment.

#### Unsuitable extinguishing media

Do not use straight water streams to avoid spreading fire.

#### Specific hazards arising from the chemical

This product has been determined to be a combustible liquid per the OSHA Hazard Communication Standard and should be handled accordingly. May accumulate electrostatic charge and ignite or explode. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the Emergency Response Guidebook 128.

#### Hazardous combustion products

Smoke, carbon monoxide, and other products of incomplete combustion.

#### Explosion data

Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge Yes.

#### Special protective equipment and precautions for firefighters

Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Avoid excessive water spray application. Use water spray to cool exposed surfaces from as far a distance as possible. Keep run-off water out of sewers and water sources.

#### Additional firefighting tactics

FIRES INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after the fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

EVACUATION: Consider initial downwind evacuation for at least 1000 feet. If tank, rail car or tank truck is involved in a fire, ISOLATE for 5280 feet (1 mile) in all directions; also, consider initial evacuation of 5280 feet (1 mile) in all directions.

#### NFPA

Health 1

Flammability 2

Instability 0

Special Hazard -

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions:</b>	Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. All contaminated surfaces will be slippery.
<b>Protective equipment:</b>	Use personal protection measures as recommended in Section 8.
<b>Emergency procedures:</b>	Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate.
<b>Environmental precautions:</b>	Avoid release to the environment. Avoid subsoil penetration.
<b>Methods and materials for containment:</b>	Contain liquid with sand or soil.
<b>Methods and materials for cleaning up:</b>	Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids. Recover and return free product to proper containers. When recovering free liquids ensure all equipment is grounded and bonded. Use only non-sparking tools.

## 7. HANDLING AND STORAGE

**Safe Handling Precautions:**

Avoid repeated and prolonged skin contact. Use appropriate grounding and bonding practices. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking. Use only non-sparking tools. Use personal protection measures as recommended in Section 8. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.

Harmful concentrations of hydrogen sulfide (H<sub>2</sub>S) gas can accumulate in excavations and low-lying areas as well as the vapor space of storage and bulk transport compartments. Stay upwind and vent open hatches before unloading. Sulfur containing products may cause polysulfide deposits (iron sulfide) to form inside iron storage tanks. These pyrophoric deposits, upon exposure to air, can ignite spontaneously.

**Storage Conditions:**

Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area.

**Incompatible Materials**

Strong oxidizing agents.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	ACGIH TLV	OSHA PELs:	OSHA - Vacated PELs	NIOSH IDLH
No. 6 Fuel Oil 68553-00-4	-	-	-	-
Fuel Oil, Residual 68476-33-5	-	-	-	-
Catalytic Cracked Clarified Oil 64741-62-4	-	-	-	-
Fuels, Diesel 68334-30-5	100 mg/m <sup>3</sup> TWA Skin - potential significant contribution to overall exposure by the cutaneous route	-	-	-
Residues (Petroleum), Vacuum 64741-56-6	Asphalt (Bitumen) Fume, as benzene-soluble aerosol, inhalable fraction 0.5 mg/m <sup>3</sup> TWA	-	-	-
Sulfur Compounds Mixture	-	-	-	-
Polycyclic Aromatic Hydrocarbons Mixture	-	-	-	-
Naphthalene 91-20-3	10 ppm TWA Skin - potential significant contribution to overall exposure by the cutaneous route	TWA: 10 ppm TWA: 50 mg/m <sup>3</sup>	10 ppm TWA 50 mg/m <sup>3</sup> TWA 15 ppm STEL 75 mg/m <sup>3</sup> STEL	250 ppm
Hydrogen sulfide 7783-06-4	1 ppm TWA 5 ppm STEL	Ceiling: 20 ppm	10 ppm TWA 14 mg/m <sup>3</sup> TWA 15 ppm STEL 21 mg/m <sup>3</sup> STEL	100 ppm

**Notes:**

The manufacturer has voluntarily elected to provide exposure limits contained in OSHA's 1989 air contaminants standard in its SDSs, even though certain of those exposure limits were vacated in 1992.

**Engineering measures:**

Local or general exhaust required in an enclosed area or when there is inadequate ventilation. Use mechanical ventilation equipment that is explosion-proof.

**Personal protective equipment****Eye protection:**

Use goggles or face-shield if the potential for splashing exists. Wear goggles and faceshield when handling hot material.

<b>Skin and body protection:</b>	Use nitrile rubber, Viton® or PVA gloves for repeated or prolonged skin exposure. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times. Chemical resistant apron or other protective clothing may be needed to avoid skin contact.
<b>Respiratory protection:</b>	Use a NIOSH approved organic vapor chemical cartridge or supplied air respirators when there is the potential for airborne exposures to exceed permissible exposure limits or if excessive vapors are generated. Self-contained breathing apparatus should be used for fire fighting.
<b>Hygiene measures:</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Brown To Black Viscous Liquid
<b>Color</b>	Light to dark brown, Black
<b>Odor</b>	Hydrocarbon / Tar
<b>Odor Threshold</b>	No data available.
<b>Property</b>	<b>Values (Method)</b>
<b>Melting Point / Freezing Point</b>	No data available.
<b>Initial Boiling Point / Boiling Range</b>	204-704 °C / 400-1300 °F (ASTM D86)
<b>Flash Point</b>	> 60 °C / > 140 °F (ASTM D93)
<b>Evaporation Rate</b>	No data available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Flammability Limit in Air (%):</b>	
<b>Upper Flammability Limit:</b>	No data available.
<b>Lower Flammability Limit:</b>	No data available.
<b>Explosion limits:</b>	No data available.
<b>Vapor Pressure</b>	1 mm Hg @160°F (ASTM D323)
<b>Vapor Density</b>	No data available.
<b>Specific Gravity / Relative Density</b>	0.87-1.12 (ASTM D70)
<b>Water Solubility</b>	Negligible
<b>Solubility in other solvents</b>	No data available.
<b>Partition Coefficient</b>	No data available.
<b>Decomposition temperature</b>	No data available.
<b>pH:</b>	Not Applicable
<b>Autoignition Temperature</b>	No data available.
<b>Kinematic Viscosity</b>	> 100 cSt @ 50°C (ASTM D445)
<b>Dynamic Viscosity</b>	No data available.
<b>Explosive Properties</b>	No data available.
<b>VOC Content (%)</b>	No data available.
<b>Density</b>	No data available.
<b>Bulk Density</b>	Not applicable.

## 10. STABILITY AND REACTIVITY

<b><u>Reactivity</u></b>	The product is non-reactive under normal conditions.
<b><u>Chemical stability</u></b>	The material is stable at 70°F, 760 mmHg pressure.
<b><u>Possibility of hazardous reactions</u></b>	None under normal processing.
<b><u>Hazardous polymerization</u></b>	Will not occur.
<b><u>Conditions to avoid</u></b>	Excessive heat, sources of ignition, open flame.

**Incompatible Materials**

Strong oxidizing agents.

**Hazardous decomposition products**

None known under normal conditions of use.

**11. TOXICOLOGICAL INFORMATION****Potential short-term adverse effects from overexposures**

<b>Inhalation</b>	Harmful if inhaled. May release highly toxic hydrogen sulfide gas that quickly fatigues the sense of smell. Concentrations of >1000 ppm will cause immediate unconsciousness and death through respiratory paralysis.
<b>Eye contact</b>	May cause eye irritation.
<b>Skin contact</b>	Irritating to skin. Effects may become more serious with repeated or prolonged contact.
<b>Ingestion</b>	May cause irritation of the mouth, throat and gastrointestinal tract.

**Acute toxicological data**

Name	Oral LD50	Dermal LD50	Inhalation LC50
No. 6 Fuel Oil 68553-00-4	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	>1 - <5 mg/L (Rat) 4 h
Fuel Oil, Residual 68476-33-5	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	>1 - <5 mg/L (Rat) 4 h
Catalytic Cracked Clarified Oil 64741-62-4	4320 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	>1 - <5 mg/L (Rat) 4 h
Fuels, Diesel 68334-30-5	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	4.6 mg/L (Rat) 4 h
Residues (Petroleum), Vacuum 64741-56-6	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	>94.4 mg/m <sup>3</sup> (Rat) 4 h
Sulfur Compounds Mixture	-	-	>5 mg/l (Rat) 4 h
Polycyclic Aromatic Hydrocarbons Mixture	-	-	-
Naphthalene 91-20-3	490 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 340 mg/m <sup>3</sup> (Rat) 1 h
Hydrogen sulfide 7783-06-4	-	-	444 ppm (Rat) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

GAS OILS: Oils similar to this material have been shown to cause adverse effects in the liver and kidneys of laboratory rodents, and an increase in the incidence of fetal resorptions in pregnant laboratory rodents following prolonged and repeated exposure. Long-term repeated (lifetime) skin exposure to similar materials has been reported to result in an increase in skin tumors in laboratory rodents. The international Agency for Research on Cancer (IARC) has concluded that this category of untreated and mildly treated oils are carcinogenic to humans (Group 1).

CATALYTICALLY CRACKED CLARIFIED OIL: Genotoxicity: Findings from in vitro and in vivo studies of this material have been both negative and positive, but the overall weight of evidence suggests this material is genotoxic. Studies of repeated, prolonged dermal exposure in rodents have demonstrated evidence of skin cancer, liver and thymus damage, and anemia. Fetal death and fetal malformations were observed in pregnant rodents following dermal exposure. These findings indicate components of this material may be absorbed through the skin and cause adverse systemic effects. This material may be described as a high-boiling fraction of catalytically cracked petroleum. The International Agency for Research on Cancer (IARC) has identified high-boiling fractions of catalytically cracked petroleum streams as 'untreated or mildly-treated oils' and has classified these oils as Group 1, Carcinogenic to Humans.

MIDDLE DISTILLATES, PETROLEUM: Long-term repeated (lifetime) skin exposure to

similar materials has been reported to result in an increase in skin tumors in laboratory rodents. The relevance of these findings to humans is not clear at this time.

**NAPHTHALENE:** Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from overexposure to naphthalene. Persons with glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have been reported in persons overexposed to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect. Hemolytic anemia has been observed in laboratory animals exposed to naphthalene. Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of naphthalene. Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) in vitro. Naphthalene has been classified as Possibly Carcinogenic to Humans (2B) by IARC, based on findings from studies in laboratory animals.

**POLYCYCLIC AROMATIC HYDROCARBONS:** This product contains polycyclic aromatic hydrocarbons (PAH) at a level of >0.1%. Some PAH's that have been identified in this product such as benzo(a)pyrene, benz(a)anthracene and similar substances have been shown to be carcinogenic in experimental animals. An increased risk of cancer has been observed in workers employed in the aluminum production, coal gasification, coal-tar pitch, coke production and iron and steel industries that had been occupationally exposed to PAH'. Since these kinds of PAHs have been measured at high levels in air samples taken in these industries, The International Agency for Research on Cancer (IARC) has concluded that these PAHs are probably carcinogenic to humans.

**HYDROGEN SULFIDE:** Hydrogen sulfide gas has an unpleasant odor that diminishes with increased exposure. Eye irritation may occur at levels above 4 ppm. Olfactory fatigue occurs rapidly at levels of 50 ppm or higher. Odor is not a reliable warning property. Respiratory effects include irritation with possible pulmonary edema at levels above 50 ppm. At 500 ppm immediate loss of consciousness and death can occur. NIOSH has determined that 100 ppm hydrogen sulfide is immediately dangerous to life and health (IDLH).

### Adverse effects related to the physical, chemical and toxicological characteristics

#### Signs and Symptoms

Hydrogen sulfide can cause respiratory paralysis and death, depending on the concentration and duration of exposure. Do not rely on ability to smell vapors, since loss of smell rapidly occurs. Effects of overexposure include irritation of the nose and throat, nausea, vomiting, diarrhea, abdominal pain and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue), irregular heartbeats, pulmonary edema, weakness and convulsions. Irritating to the skin and mucous membranes. Symptoms may include redness, itching, and inflammation. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking. Prolonged or repeated exposure may cause damage to organs.

#### Sensitization

Not expected to be a skin or respiratory sensitizer.

#### Mutagenic effects

Suspected of causing genetic defects.

#### Carcinogenicity

May cause cancer.

Cancer designations are listed in the table below

Name	ACGIH (Class)	IARC (Class)	NTP	OSHA
No. 6 Fuel Oil 68553-00-4	Not Listed	Possible human carcinogen (2B)	Not Listed	Not Listed
Fuel Oil, Residual 68476-33-5	Not Listed	Possible human carcinogen (2B)	Not Listed	Not Listed
Catalytic Cracked Clarified	Not Listed	Possible human carcinogen	Not Listed	Not Listed



Oil 64741-62-4		(2B)		
Fuels, Diesel 68334-30-5	Confirmed animal carcinogen (A3)	Not Listed	Not Listed	Not Listed
Residues (Petroleum), Vacuum 64741-56-6	Not Listed	Bitumens, occupational exposure to straight-run bitumens and their emissions during road paving Possible human carcinogen (2B)	Not Listed	Not Listed
Sulfur Compounds Mixture	Not Listed	Not Listed	Not Listed	Not Listed
Polycyclic Aromatic Hydrocarbons Mixture	Suspected human carcinogen(A2)	Carcinogenic to humans (1)	Reasonably anticipated to be a human carcinogen	Not Listed
Naphthalene 91-20-3	Confirmed animal carcinogen (A3)	Possible human carcinogen (2B)	Reasonably anticipated to be a human carcinogen	Not Listed
Hydrogen sulfide 7783-06-4	Not Listed	Not Listed	Not Listed	Not Listed

**Reproductive toxicity** Suspected of damaging fertility or the unborn child.

**Specific Target Organ Toxicity (STOT) - single exposure** Not classified.

**Specific Target Organ Toxicity (STOT) - repeated exposure** Thymus. Liver. Blood. Bone marrow.

**Aspiration hazard** Not classified.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** This product should be considered very toxic to aquatic organisms, with the potential to cause long lasting adverse effects in the aquatic environment.

Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
No. 6 Fuel Oil 68553-00-4	72-hr EL50 < 1 mg/l Algae	96-hr LC50 = 3.1 mg/l Sheepshead minnow	-	48-hr LD50 = 2.8 mg/l Grass shrimp
Fuel Oil, Residual 68476-33-5	72-hr EL50 < 1 mg/l Algae	96-hr LC50 = 35 mg/l Fathead minnow (flow-through) 96-hr LC50 = 48 mg/l Zebra danio (semi-static)	-	48-hr EL50 = 1-10 mg/l Daphnia magna
Catalytic Cracked Clarified Oil 64741-62-4	72-hr EL50 < 1 mg/l Algae	96-hr LC50 = 48 mg/l Zebra danio (semi-static)	-	48-hr EL50 = 2.3-4.8 mg/l Daphnia magna
Fuels, Diesel 68334-30-5	-	96-hr LC50 = 35 mg/l Fathead minnow (flow-through)	-	48-hr TLm = 4.1 ppm Grass shrimp
Residues (Petroleum), Vacuum 64741-56-6	-	96-hr LC50 = 48 mg/l Zebra danio (semi-static)	-	-
Sulfur Compounds Mixture	-	-	-	-
Polycyclic Aromatic Hydrocarbons Mixture	-	-	-	-
Naphthalene 91-20-3	-	96-hr LC50 = 0.91-2.82 mg/l Rainbow trout (static) 96-hr LC50 = 1.99 mg/l Fathead minnow (static)	-	48-hr LC50 = 1.6 mg/l Daphnia magna
Hydrogen sulfide 7783-06-4	-	96-hr LC50 = 0.016 mg/l Fathead minnow 96-hr LC50 = 0.013 mg/l	-	-

		Rainbow trout	
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<b><u>Persistence and degradability</u></b>	Not readily biodegradable.
<b><u>Bioaccumulation</u></b>	Has the potential to bioaccumulate.
<b><u>Mobility in soil</u></b>	May partition into air, soil and water.
<b><u>Other adverse effects</u></b>	No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Description of Waste Residues

No information available.

#### Safe Handling of Wastes

Handle in accordance with applicable local, state, and federal regulations. Use personal protection measures as required. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Use appropriate grounding and bonding practices. Use non-sparking tools. No smoking.

#### Disposal of Wastes / Methods of Disposal

The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). Dispose of in accordance with federal, state and local regulations.

#### Methods of Contaminated Packaging Disposal

Empty containers should be completely drained and then discarded or recycled, if possible. Do not cut, drill, grind or weld on empty containers since explosive residues may be present. Dispose of in accordance with federal, state and local regulations.

### 14. TRANSPORT INFORMATION

#### DOT (49 CFR 172.101):

<b>UN Proper Shipping Name:</b>	Combustible liquid, n.o.s. (Fuel Oil)
<b>UN/Identification No:</b>	NA 1993
<b>Transport Hazard Class(es):</b>	Comb liq
<b>Packing Group:</b>	III

#### TDG (Canada):

<b>UN Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S.
<b>UN/Identification No:</b>	UN 3082
<b>Transport Hazard Class(es):</b>	9
<b>Packing Group:</b>	III

### 15. REGULATORY INFORMATION

#### US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b):	This product and/or its components are listed on the TSCA Chemical Inventory.
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#### EPA Superfund Amendment & Reauthorization Act (SARA):

**SARA Section 302:** This product may contain component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
No. 6 Fuel Oil	NA
Fuel Oil, Residual	NA
Catalytic Cracked Clarified Oil	NA
Fuels, Diesel	NA
Residues (Petroleum), Vacuum	NA

Sulfur Compounds	NA
Polycyclic Aromatic Hydrocarbons	NA
Naphthalene	NA
Hydrogen sulfide	500 lb TPQ

**SARA Section 304:** This product may contain component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	Hazardous Substances RQs
No. 6 Fuel Oil	NA
Fuel Oil, Residual	NA
Catalytic Cracked Clarified Oil	NA
Fuels, Diesel	NA
Residues (Petroleum), Vacuum	NA
Sulfur Compounds	NA
Polycyclic Aromatic Hydrocarbons	1 lb final RQ 0.454 kg final RQ
Naphthalene	100 lb final RQ 45.4 kg final RQ
Hydrogen sulfide	100 lb final RQ 45.4 kg final RQ

**SARA:** The following EPA hazard categories apply to this product:

Acute Health Hazard  
Chronic Health Hazard  
Fire Hazard

**SARA Section 313:** This product may contain component(s), which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R).

Name	CERCLA/SARA 313 Emission reporting:
No. 6 Fuel Oil	None
Fuel Oil, Residual	None
Catalytic Cracked Clarified Oil	None
Fuels, Diesel	None
Residues (Petroleum), Vacuum	None
Sulfur Compounds	None
Polycyclic Aromatic Hydrocarbons	0.1 % Supplier notification limit
Naphthalene	0.1 % de minimis concentration
Hydrogen sulfide	1.0 % de minimis concentration

**State and Community Right-To-Know Regulations:**

The following component(s) of this material are identified on the regulatory lists below:

**No. 6 Fuel Oil**

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	SN 4062
Pennsylvania Right-To-Know:	Not Listed
Massachusetts Right-To-Know:	Not Listed
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Not Listed
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous	Not Listed

Substances List:	
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Fuel Oil, Residual	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	SN 4062
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Not Listed
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Flammable
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Catalytic Cracked Clarified Oil	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed
Pennsylvania Right-To-Know:	Not Listed
Massachusetts Right-To Know:	Not Listed
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Not Listed
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants:	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Fuels, Diesel	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Not Listed
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Flammable
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Residues (Petroleum), Vacuum	

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed
Pennsylvania Right-To-Know:	Not Listed
Massachusetts Right-To Know:	Not Listed
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Not Listed
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
<b>Sulfur Compounds</b>	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed
Pennsylvania Right-To-Know:	Not Listed
Massachusetts Right-To Know:	Not Listed
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Not Listed
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants:	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
<b>Polycyclic Aromatic Hydrocarbons</b>	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Carcinogen
New Jersey Right-To-Know:	SN 3758
Pennsylvania Right-To-Know:	Environmental hazard; Special hazardous substance
Massachusetts Right-To Know:	Carcinogen; Extraordinarily hazardous
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Present
Michigan Critical Materials Register List:	10 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances:	Carcinogen; extraordinarily hazardous
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Present
New Jersey - Special Hazardous Substances:	Carcinogen; mutagen; teratogen
New Jersey - Environmental Hazardous Substances List:	SN 3758 TPQ: 500 lb (If you have >500 lbs in combination of any of the listed chemicals, you are to report them under the category heading - N590 (that is, do not report the individual chemicals or their CAS numbers))
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	1 lb RQ (air); 1 lb RQ (land/water)
<b>Naphthalene</b>	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Carcinogen, initial date 4/19/02
New Jersey Right-To-Know:	SN 1322 SN 3758

Pennsylvania Right-To-Know:	Environmental hazard Present (particulate)
Massachusetts Right-To Know:	Present
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Carcinogen
New Jersey - Environmental Hazardous Substances List:	SN 1322 TPQ: 500 lb (Reportable at the de minimis quantity of >0.1%)
Illinois - Toxic Air Contaminants:	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	100 lb RQ (air); 1 lb RQ (land/water)
Hydrogen sulfide	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	SN 1017
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Extraordinarily hazardous
Florida Substance List:	Not Listed
Rhode Island Right-To-Know:	Not Listed
Michigan Critical Materials Register List:	Not Listed
Massachusetts Extraordinarily Hazardous Substances:	Extraordinarily hazardous
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1017 TPQ: 500 lb
Illinois - Toxic Air Contaminants:	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	100 lb RQ (air); 100 lb RQ (land/water)

**Canada DSL/NDL Inventory:** This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

**Canadian Regulatory Information:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the (M)SDS contains all the information required by the Controlled Products Regulations.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
No. 6 Fuel Oil	B3,D2A,D2B	0.1%
Fuel Oil, Residual	B3,D2A,D2B	0.1%
Catalytic Cracked Clarified Oil	B3,D2A,D2B	0.1%
Fuels, Diesel	B3,D2A,D2B	0.1%
Residues (Petroleum), Vacuum	D2B	1%
Sulfur Compounds	Uncontrolled product according to WHMIS classification criteria	-
Polycyclic Aromatic Hydrocarbons	D2A,D2B	0.1%
Naphthalene	B4,D2A	0.1%
Hydrogen sulfide	A,B1,D1A,D2B	1%



**Note:** Not applicable.

## 16. OTHER INFORMATION

Prepared By Toxicology and Product Safety

Revision Date: 08/03/2016

Revision Note:

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is intended as guidance for safe handling, use, processing, storage, transportation, accidental release, clean-up and disposal and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.