SAFETY DATA SHEET

1. IDENTIFICATION

Product Name: Marathon Petroleum Carbon Black Feedstock
Synonym: Catalytic Cracked Clarified Oil; Catalytic Cracked Slurry Oil; Slurry Oil
Product Code: 0161MAR019
Chemical Family: Petroleum Hydrocarbon
Recommended Use: Feedstock.
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)

<table>
<thead>
<tr>
<th>Flammable liquids</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 1A</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Acute aquatic toxicity</td>
<td>Category 1</td>
</tr>
<tr>
<td>Chronic aquatic toxicity</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Hazards Not Otherwise Classified (HNOC)
Hot liquid may cause thermal burns
May release hydrogen sulfide gas

Label elements

EMERGENCY OVERVIEW

Danger
Combustible Liquid
Contact with product at elevated temperatures can result in thermal burns
May release highly toxic hydrogen sulfide gas that quickly fatigues the sense of smell
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
Avoid release to the environment

Precautionary Statements - Response
IF exposed, concerned or you feel unwell: Get medical attention
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 CO2, 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

Carbonblack Feedstock is a complex mixture of hydrocarbons produced as the residual fraction of distillation products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly greater than twenty carbons and boiling above 662 F. The CAS descriptions of this stream states that it is likely to contain >5% 4 to 6-membered condensed ring polycyclic aromatic hydrocarbons.

This product was analyzed by MPC and found to contain 1.2-2.3% 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. May contain a trace amount of benzene (<0.01%).

Composition Information:

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS Number</th>
<th>% Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalytic Cracked Clarified Oil</td>
<td>64741-62-4</td>
<td>100</td>
</tr>
<tr>
<td>Sulfur Compounds</td>
<td>Mixture</td>
<td>0.5-4.0</td>
</tr>
<tr>
<td>Polycyclic Aromatic Hydrocarbons</td>
<td>Mixture</td>
<td>1.2-2.3</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>0.01-0.2</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>7783-06-4</td>
<td>0.001</td>
</tr>
</tbody>
</table>
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: Hot material: If hot material gets on skin, immediately flush affected area with large amounts of cool water for at least 15 minutes while removing contaminated clothing. GET IMMEDIATE MEDICAL ATTENTION.

Cold material: Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists.

Eye Contact: Hot material: If hot material comes in contact with eyes, hold the eyelids apart and flush the eye with a large amount of cool water for at least 15 minutes. GET IMMEDIATE MEDICAL ATTENTION.

Cold material: For cold material, 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. Ingestion of hot material can produce damage (thermal burns) to tissues of the gastrointestinal tract. If symptoms develop, seek medical attention.

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. Exposure to hot melted material can cause thermal burns. Prolonged or repeated exposure may cause adverse effects to the thymus, liver and blood. Prolonged and repeated contact may cause defatting and drying of the skin and may lead to irritation and/or dermatitis.

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 inbreathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis.

SKIN & EYE CONTACT: Hot material may cause burns to the eyes. Early ophthalmologic evaluation is recommended.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
For small fires, Class B fire extinguishing media such as CO2, 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. Avoid excessive water spray application. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. 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**

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

---

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions:**
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.

**Protective equipment:**
Use personal protection measures as recommended in Section 8.

**Emergency procedures:**
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.

**Environmental precautions:**
Avoid release to the environment. Avoid subsoil penetration.

**Methods and materials for containment:**
Contain liquid with sand or soil.

**Methods and materials for cleaning up:**
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:

Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Use appropriate grounding and bonding practices. Use only non-sparking tools. No smoking. Avoid contact with skin, eyes and clothing. Avoid repeated and prolonged skin contact. Avoid breathing fumes, gas, or vapors. Use only with adequate ventilation. 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 (H2S) 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.

Trace amounts of benzene may be present in liquid product. Stay upwind whenever hatches are opened to minimize any exposure since low concentrations of benzene vapor may have accumulated in the vapor space above the liquid product during transport and/or storage.

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

<table>
<thead>
<tr>
<th>Name</th>
<th>ACGIH TLV</th>
<th>OSHA PELs:</th>
<th>OSHA - Vacated PELs</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalytic Cracked Clarified Oil</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>64741-62-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfur Compounds</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mixture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polycyclic Aromatic</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hydrocarbons</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naphthalene</td>
<td>10 ppm TWA</td>
<td>TWA: 10 ppm</td>
<td>10 ppm TWA</td>
<td>250 ppm</td>
</tr>
<tr>
<td>91-20-3</td>
<td>Skin - potential significant contribution to overall exposure by the cutaneous route</td>
<td>TWA: 50 mg/m³</td>
<td>50 mg/m³ TWA</td>
<td></td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>1 ppm TWA</td>
<td>Ceiling: 20 ppm</td>
<td>10 ppm TWA 14 mg/m³ TWA</td>
<td>100 ppm</td>
</tr>
<tr>
<td>7783-06-4</td>
<td>5 ppm STEL</td>
<td>Peak: 50 ppm</td>
<td>15 ppm STEL 21 mg/m³ STEL</td>
<td></td>
</tr>
</tbody>
</table>

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.

Marathon Exposure Guideline: Hydrogen Sulfide (CAS 7783-06-4) = 10 ppm TWA; 15 ppm STEL

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.
Skin and body protection: 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.

Respiratory protection: Use atmosphere supplying respirators in confined spaces or when mists or vapors are generated or exceed permissible limits. Self-contained breathing apparatus should be used for fire fighting.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Values (Method)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Brown To Black Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Light to dark brown, Black</td>
</tr>
<tr>
<td>Odor</td>
<td>Hydrocarbon / Tar</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>Melting Point / Freezing Point</td>
<td>&lt; 4.5 °C / &lt; 40 °F (ASTM D97)</td>
</tr>
<tr>
<td>Initial Boiling Point / Boiling Range</td>
<td>204-704 °C / 400-1300 °F (ASTM D86)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt; 60 °C / &gt; 140 °F (ASTM D93)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability Limit in Air (%)</td>
<td></td>
</tr>
<tr>
<td>Upper Flammability Limit</td>
<td>No data available.</td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt;15 mm Hg (ASTM D323)</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No data available.</td>
</tr>
<tr>
<td>Specific Gravity / Relative Density</td>
<td>0.87-1.12</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>No data available.</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available.</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>No data available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available.</td>
</tr>
<tr>
<td>Kinematic Viscosity</td>
<td>&gt; 50 cSt @ 50°C (ASTM D445)</td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No data available.</td>
</tr>
<tr>
<td>VOC Content (%)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Density</td>
<td>No data available.</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity: The product is non-reactive under normal conditions.

Chemical stability: The material is stable at 70°F (21°C), 760 mmHg pressure.

Possibility of hazardous reactions: None under normal processing.

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive heat, sources of ignition, open flame.

Incompatible Materials: Strong oxidizing agents.
11. TOXICOLOGICAL INFORMATION

Potential short-term adverse effects from overexposures

Inhalation
Harmful if inhaled. Fumes or vapors from the heated material may be irritating to the respiratory tract. 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.

Eye contact
May cause eye irritation. Contact with hot material may cause thermal burns.

Skin contact
May cause skin irritation and/or dermatitis. Effects may become more serious with repeated or prolonged contact. Contact with hot material may cause thermal burns.

Ingestion
May cause irritation of the mouth, throat and gastrointestinal tract. Swallowing hot material may cause burns to the mouth, throat, and stomach.

Acute toxicological data

<table>
<thead>
<tr>
<th>Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalytic Cracked Clarified Oil</td>
<td>4320 mg/kg (Rat)</td>
<td>&gt; 2000 mg/kg (Rabbit)</td>
<td>&gt;1 - &lt;5 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>64741-62-4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfur Compounds Mixture</td>
<td>-</td>
<td>-</td>
<td>&gt;5 mg/l (Rat) 4 h</td>
</tr>
<tr>
<td>Polycyclic Aromatic Hydrocarbons Mixture</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Naphthalene 91-20-3</td>
<td>490 mg/kg (Rat)</td>
<td>&gt; 2000 mg/kg (Rabbit)</td>
<td>&gt; 340 mg/m³ (Rat) 1 h</td>
</tr>
<tr>
<td>Hydrogen sulfide 7783-06-4</td>
<td>-</td>
<td>-</td>
<td>444 ppm (Rat) 4 h</td>
</tr>
</tbody>
</table>

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

CATALLYCICALLY 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.

POLYCYCCLIC AROMATIC HYDROCARBONS (PAHs): Cancer is the most significant endpoint for PAHs. Certain PAHs are weak carcinogens which become carcinogenic after undergoing metabolism. Chronic or repeated exposure increases the likelihood of tumor initiation. Increased incidence of tumors of the skin, bladder, lung and gastrointestinal tract have been described in individuals overexposed to certain PAHs. Overexposure to PAHs has also been associated with photosensitivity and eye irritation. Inhalation overexposure of PAHs has been associated with respiratory tract irritation, cough, and bronchitis. Dermal overexposure has been associated with precancerous lesions, erythema, dermal burns, photosensitivity, acneiform lesions and irritation. Oral overexposure to PAHs has been associated with precancerous growths of the mouth (leukoplakia). Mild nephrotoxicity, congestion and renal cortical hemorrhages and elevated liver function tests, changes in the immune system and other effects have been observed in rats exposed to high levels of PAHs by ingestion. The International Agency for Research on Cancer (IARC) has concluded that some 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).

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.

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. Contact with hot material may cause thermal burns. Prolonged or repeated exposure may cause damage to organs.Repeated or prolonged skin contact may cause drying, reddening, itching and cracking.

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

<table>
<thead>
<tr>
<th>Name</th>
<th>ACGIH (Class)</th>
<th>IARC (Class)</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalytic Cracked Clarified Oil 64741-62-4</td>
<td>Not Listed</td>
<td>Possible human carcinogen (2B)</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Sulfur Compounds Mixture</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Polycyclic Aromatic Hydrocarbons Mixture</td>
<td>Suspected human carcinogen(A2)</td>
<td>Carcinogenic to humans (1)</td>
<td>Reasonably anticipated to be a human carcinogen</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Naphthalene 91-20-3</td>
<td>Confirmed animal carcinogen (A3)</td>
<td>Possible human carcinogen (2B)</td>
<td>Reasonably anticipated to be a human carcinogen</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Hydrogen sulfide 7783-06-4</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (STOT) - single exposure

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.

<table>
<thead>
<tr>
<th>Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalytic Cracked Clarified Oil 64741-62-4</td>
<td>72-hr EL50 &lt; 1 mg/l Algae</td>
<td>96-hr LC50 = 48 mg/l Zebra danio (semi-static)</td>
<td>-</td>
<td>48-hr EL50 = 2.3-4.8 mg/l Daphnia magna</td>
</tr>
<tr>
<td>Sulfur Compounds Mixture</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Polycyclic Aromatic Hydrocarbons Mixture</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Naphthalene 91-20-3</td>
<td>-</td>
<td>96-hr LC50 = 0.91-2.82 mg/l Rainbow trout (static) 96-hr LC50 = 1.99 mg/l Fathead minnow (static)</td>
<td>-</td>
<td>48-hr LC50 = 1.6 mg/l Daphnia magna</td>
</tr>
<tr>
<td>Hydrogen sulfide 7783-06-4</td>
<td>-</td>
<td>96-hr LC50 = 0.016 mg/l Fathead minnow 96-hr LC50 = 0.013 mg/l Rainbow trout</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Persistence and degradability
Not readily biodegradable.

Bioaccumulation
Has the potential to bioaccumulate.

Mobility in soil
May partition into air, soil and water.

Other adverse effects
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. Use appropriate grounding and bonding practices. Use only non-sparking tools. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. 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):
UN Proper Shipping Name: Combustible liquid, n.o.s. (Catalytically cracked clarified oil)
UN/Identification No: NA 1993
US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

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:

<table>
<thead>
<tr>
<th>Name</th>
<th>CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalytic Cracked Clarified Oil</td>
<td>NA</td>
</tr>
<tr>
<td>Sulfur Compounds</td>
<td>NA</td>
</tr>
<tr>
<td>Polycyclic Aromatic Hydrocarbons</td>
<td>NA</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>NA</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>500</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Name</th>
<th>Hazardous Substances RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalytic Cracked Clarified Oil</td>
<td>NA</td>
</tr>
<tr>
<td>Sulfur Compounds</td>
<td>NA</td>
</tr>
<tr>
<td>Polycyclic Aromatic Hydrocarbons</td>
<td>1 lb final RQ 0.454 kg final RQ</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>100 lb final RQ 45.4 kg final RQ</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>100</td>
</tr>
</tbody>
</table>

SARA Section 311/312: 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).

<table>
<thead>
<tr>
<th>Name</th>
<th>CERCLA/SARA 313 Emission reporting:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalytic Cracked Clarified Oil</td>
<td>None</td>
</tr>
<tr>
<td>Sulfur Compounds</td>
<td>None</td>
</tr>
<tr>
<td>Polycyclic Aromatic Hydrocarbons</td>
<td>0.1 % Supplier notification limit</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>0.1 % de minimis concentration</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>1.0 % de minimis concentration</td>
</tr>
</tbody>
</table>

State and Community Right-To-Know Regulations:
The following component(s) of this material are identified on the regulatory lists below:
Catalytic Cracked Clarified Oil

<table>
<thead>
<tr>
<th>Location/Regulation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louisiana Right-To-Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>California Proposition 65:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>New Jersey Right-To-Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Pennsylvania Right-To-Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Massachusetts Right-To Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Florida Substance List:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Rhode Island Right-To-Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Michigan Critical Materials Register List:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Massachusetts Extraordinarily Hazardous Substances:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>California - Regulated Carcinogens:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Pennsylvania RTK - Special Hazardous Substances:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>New Jersey - Special Hazardous Substances:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>New Jersey - Environmental Hazardous Substances List:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Illinois - Toxic Air Contaminants:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>New York - Reporting of Releases Part 597 - List of Hazardous Substances:</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

Sulfur Compounds

<table>
<thead>
<tr>
<th>Location/Regulation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louisiana Right-To-Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>California Proposition 65:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>New Jersey Right-To-Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Pennsylvania Right-To-Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Massachusetts Right-To Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Florida Substance List:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Rhode Island Right-To-Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Michigan Critical Materials Register List:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Massachusetts Extraordinarily Hazardous Substances:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>California - Regulated Carcinogens:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Pennsylvania RTK - Special Hazardous Substances:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>New Jersey - Special Hazardous Substances:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>New Jersey - Environmental Hazardous Substances List:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Illinois - Toxic Air Contaminants:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>New York - Reporting of Releases Part 597 - List of Hazardous Substances:</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

Polycyclic Aromatic Hydrocarbons

<table>
<thead>
<tr>
<th>Location/Regulation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louisiana Right-To-Know:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>California Proposition 65:</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>New Jersey Right-To-Know:</td>
<td>SN 3758</td>
</tr>
<tr>
<td>Pennsylvania Right-To-Know:</td>
<td>Environmental hazard; Special hazardous substance</td>
</tr>
<tr>
<td>Massachusetts Right-To-Know:</td>
<td>Carcinogen; Extraordinarily hazardous</td>
</tr>
<tr>
<td>Florida Substance List:</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Rhode Island Right-To-Know:</td>
<td>Present</td>
</tr>
<tr>
<td>Michigan Critical Materials Register List:</td>
<td>10 lb Annual usage threshold</td>
</tr>
<tr>
<td>Massachusetts Extraordinarily Hazardous Substances:</td>
<td>Carcinogen; extraordinarily hazardous</td>
</tr>
<tr>
<td>California - Regulated Carcinogens:</td>
<td>Present</td>
</tr>
<tr>
<td>Pennsylvania RTK - Special Hazardous Substances:</td>
<td>Carcinogen; mutagen; teratogen</td>
</tr>
<tr>
<td>New Jersey - Special Hazardous Substances:</td>
<td>SN 3758 TPQ: 500 lb (If you have &gt;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))</td>
</tr>
</tbody>
</table>

Naphthalene

<table>
<thead>
<tr>
<th>Location/Regulation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois - Toxic Air Contaminants:</td>
<td>Present</td>
</tr>
<tr>
<td>New York - Reporting of Releases Part 597 - List of Hazardous Substances:</td>
<td>1 lb RQ (air); 1 lb RQ (land/water)</td>
</tr>
</tbody>
</table>
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
Substances:
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:
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
Substances:
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:

Canada DSL/NDSL 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 SDS contains all of the information required by those regulations.

<table>
<thead>
<tr>
<th>Name</th>
<th>Canada - WHMIS: Classifications of Substances:</th>
<th>Canada - WHMIS: Ingredient Disclosure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalytic Cracked Clarified Oil</td>
<td>B3,D2A,D2B</td>
<td>0.1%</td>
</tr>
<tr>
<td>Sulfur Compounds</td>
<td>Uncontrolled product according to WHMIS classification criteria</td>
<td>-</td>
</tr>
<tr>
<td>Polycyclic Aromatic Hydrocarbons</td>
<td>D2A,D2B</td>
<td>0.1%</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>B4,D2A</td>
<td>0.1%</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>A,B1,D1A,D2B</td>
<td>1%</td>
</tr>
</tbody>
</table>

Note: Not applicable.
16. OTHER INFORMATION

Prepared By
Toxicology and Product Safety

Revision Notes
Revision Date 04/04/2017
Previous Publish Date 05/19/2015
Revised Sections
The following sections (§) have been updated:
14. TRANSPORT INFORMATION

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.