SAFETY DATA SHEET

1. IDENTIFICATION

Product Name: Marathon Petroleum No. 2 Low Sulfur Diesel

Synonym: #2 Diesel; No. 2 Low Sulfur Diesel Dyed 500 ppm Sulfur Max; Diesel No. 2 Dyed 500 ppm Sulfur Max; No. 2 Diesel, Non-Road Use, Dyed; No. 2 Diesel Dyed 500 ppm Sulfur Max; No. 2 NR 500 Diesel Dyed; No. 2 Diesel Dyed (0.05% Sulfur Max); 0115MAR019; 0117MAR019

Product Code: 0279MAR019

Chemical Family: Complex Hydrocarbon Substance

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)

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>OSHA Regulatory Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Aspiration toxicity</td>
<td>Category 1</td>
</tr>
<tr>
<td>Acute aquatic toxicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Chronic aquatic toxicity</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

Hazards Not Otherwise Classified (HNOC)
Static accumulating flammable liquid

Label elements

EMERGENCY OVERVIEW
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
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools.
Use explosion-proof electrical/ventilating/lighting/equipment
Take precautionary measures against static discharge
Do not breathe mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Wash hands and any possibly exposed skin thoroughly after handling
Avoid release to the environment

Precautionary Statements - Response
IF exposed, concerned or you feel unwell: 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
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Do NOT induce vomiting
In case of fire: Use water spray, fog or regular foam for extinction
Collect spillage

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Keep cool
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container at an approved waste disposal plant

Appearance  Yellow to Red Liquid  Physical State  Liquid  Odor  Hydrocarbon
3. COMPOSITION/INFORMATION ON INGREDIENTS

No. 2 Low Sulfur Diesel is a complex mixture of paraffins, olefins and aromatic hydrocarbons having hydrocarbon chain lengths predominantly in the range of eleven to twenty carbons. May contain up to 5% Renewable Diesel. May contain small amounts of red dye and additives (<0.15%) which are not considered hazardous at the concentrations used. Contains minor amounts of sulfur (<0.05%). 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>No. 2 Diesel Fuel</td>
<td>68476-34-6</td>
<td>50-100</td>
</tr>
<tr>
<td>Kerosine (petroleum)</td>
<td>8008-20-6</td>
<td>0-50</td>
</tr>
<tr>
<td>Alkanes, C10-C20 branched and linear</td>
<td>928771-01-1</td>
<td>0-5</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>0.37-2.6</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:
Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. May be absorbed through the skin in harmful amounts. Get medical attention if irritation occurs. Any injection injury from high pressure equipment should be evaluated immediately by a physician as potentially serious (See NOTES TO PHYSICIAN).

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:
Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips, or if patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

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

Adverse Effects:
Irritating to the skin and mucous membranes. Symptoms may include redness, itching, and inflammation. May cause nausea, vomiting, diarrhea, and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical pneumonitis. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking. Prolonged or repeated exposure may cause adverse effects to the thymus, liver, and bone marrow.

Indication of any immediate medical attention and special treatment needed

Notes To Physician:
INHALATION: This material (or a component) sensitizes the myocardium to the effects of
sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.

SKIN: Leaks or accidents involving high-pressure equipment may inject a stream of material through the skin and initially produce an injury that may not appear serious. Only a small puncture wound may appear on the skin surface but, without proper treatment and depending on the nature, original pressure, volume, and location of the injected material, can compromise blood supply to an affected body part. Prompt surgical debridement of the wound may be necessary to prevent irreversible loss of function and/or the affected body part. High pressure injection injuries may be SERIOUS SURGICAL EMERGENCIES.

INGESTION: This material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. The metabolism of fatty acid methyl ester may release free methanol in the body that could induce metabolic acidosis with delayed effects. If a large amount of product is ingested, i.e. several ounces, consider the use of ethanol or fomepizole (Antizol) and hemodialysis. Consult standard literature or contact a poison control center for treatment details.

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 flammable 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.
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. Prevent spilled material from entering storm drains, sewers, and open waterways.

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: NEVER SIPHON THIS PRODUCT BY MOUTH. Use appropriate grounding and bonding practices. Static accumulating flammable liquid. Bonding and grounding may be insufficient to eliminate the hazard from static electricity. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Vapors may travel along the ground or be moved by ventilation. Flashback may occur along vapor trails. No smoking. Use only non-sparking tools. Avoid breathing fumes, gas, or vapors. Use only with adequate ventilation. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.

Hydrocarbons are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering, pumping at high flow rates or loading and transfer operations. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic chemical vapors or mists from process equipment operating under elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignition of vapors or mists without the presence of obvious ignition sources. Nozzle spouts must be kept in contact with the containers or tank during the entire filling operation.

Portable containers should never be filled while in or on a motor vehicle or marine craft. Containers should be placed on the ground. Static electric discharge can ignite fuel vapors when filling non-grounded containers or vehicles on trailers. The nozzle spout must be kept in contact with the container before and during the entire filling operation. Use only approved containers.

A buildup of static electricity can occur upon re-entry into a vehicle during fueling especially in cold or dry climate conditions. The charge is generated by the action of dissimilar fabrics (i.e., clothing and upholstery) rubbing across each other as a person enters/exit the vehicle. A flash fire can result from this discharge if sufficient flammable vapors are present. Therefore, do not get back in your vehicle while refueling.

Cellular phones and other electronic devices may have the potential to emit electrical charges (sparks). Sparks in potentially explosive atmospheres (including fueling areas

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such as gas stations) could cause an explosion if sufficient flammable vapors are present. Therefore, turn off cellular phones and other electronic devices when working in potentially explosive atmospheres or keep devices inside your vehicle during refueling.

High-pressure injection of any material through the skin is a serious medical emergency even though the small entrance wound at the injection site may not initially appear serious. These injection injuries can occur from high-pressure equipment such as paint spray or grease or guns, fuel injectors, or pinhole leaks in hoses or hydraulic lines and should all be considered serious. High pressure injection injuries may be SERIOUS SURGICAL EMERGENCIES (See First Aid Section 4).

Storage Conditions:
Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area. Do not store near an open flame, heat or other sources of ignition.

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>No. 2 Diesel Fuel 68476-34-6</td>
<td>100 mg/m³ TWA Skin - potential significant contribution to overall exposure by the cutaneous route</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Kerosine (petroleum) 8008-20-6</td>
<td>200 mg/m² TWA Skin - potential significant contribution to overall exposure by the cutaneous route</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Alkanes, C10-C20 branched and linear 928771-01-1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Naphthalene 91-20-3</td>
<td>10 ppm TWA Skin - potential significant contribution to overall exposure by the cutaneous route</td>
<td>TWA: 10 ppm TWA: 50 mg/m³</td>
<td>10 ppm TWA: 50 mg/m³ TWA: 15 ppm STEL 75 mg/m³ STEL</td>
<td>250 ppm</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.

Engineering measures:
Local or general exhaust required in an enclosed area or with 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:
Wear neoprene, nitrile or PVA gloves to prevent skin contact. 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 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. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. 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

Information on basic 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>Yellow to Red Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow to Red</td>
</tr>
<tr>
<td>Odor</td>
<td>Hydrocarbon</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>Melting Point / Freezing Point</td>
<td>No data available.</td>
</tr>
<tr>
<td>Initial Boiling Point / Boiling Range</td>
<td>154-366 °C / 310-691 °F (ASTM D86)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>58-76 °C / 136-168 °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>No data available.</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No data available.</td>
</tr>
<tr>
<td>Specific Gravity / Relative Density</td>
<td>0.82-0.86</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>1.90-3.32 cSt @ 40°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>
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<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
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Hazardous polymerization
Will not occur.

Conditions to avoid
Sources of heat or ignition.

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

Inhalation
Harmful if inhaled. May cause irritation of respiratory tract. May cause drowsiness or dizziness. Breathing high concentrations of this material, for example, in a confined space or by intentional abuse, can cause irregular heartbeats which can cause death.
**Eye contact**

Exposure to vapor or contact with liquid may cause mild eye irritation, including tearing, stinging, and redness.

**Skin contact**

Causes skin irritation. Effects may become more serious with repeated or prolonged contact. May be absorbed through the skin in harmful amounts.

**Ingestion**

May be fatal if swallowed or vomited and enters airways. May cause irritation of the mouth, throat and gastrointestinal tract.

### Acute toxicological data

<table>
<thead>
<tr>
<th>Name</th>
<th>Oral LD&lt;sub&gt;50&lt;/sub&gt; (mg/kg) (Species)</th>
<th>Dermal LD&lt;sub&gt;50&lt;/sub&gt; (mg/kg) (Species)</th>
<th>Inhalation LC&lt;sub&gt;50&lt;/sub&gt; (mg/L) (Species)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 2 Diesel Fuel 68476-34-6</td>
<td>&gt; 5000 (Rat)</td>
<td>&gt; 2000 (Rabbit)</td>
<td>&gt; 1 - &lt; 5 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Kerosine (petroleum) 8008-20-6</td>
<td>&gt; 5000 (Rat)</td>
<td>&gt; 2000 (Rabbit)</td>
<td>&gt; 5.28 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Alkanes, C&lt;sub&gt;10&lt;/sub&gt;-C&lt;sub&gt;20&lt;/sub&gt; branched and linear 928771-01-1</td>
<td>-</td>
<td>-</td>
<td>&gt; 1 - &lt; 5 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Naphthalene 91-20-3</td>
<td>490 (Rat)</td>
<td>&gt; 2000 (Rabbit)</td>
<td>&gt; 340 mg/m&lt;sup&gt;3&lt;/sup&gt; (Rat) 1 h</td>
</tr>
</tbody>
</table>

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

**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. Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffer's Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline.

**MIDDLE DISTILLATES WITH CRACKED STOCKS:** Light cracked distillates have been shown to be carcinogenic in animal tests and have tested positive with in vitro genotoxicity tests. 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.

**ISOPARAFFINS:** Studies in laboratory animals have shown that long-term exposure to similar materials (isoparaffins) can cause kidney damage and kidney cancer in male laboratory rats. However, in-depth research indicates that these findings are unique to the male rat, and that these effects are not relevant to humans.

**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.

**DIESEL EXHAUST:** The combustion of diesel fuels produces gases including carbon monoxide, carbon dioxide, oxides of nitrogen and/or sulfur, and hydrocarbons that can be
irritating and hazardous with overexposure. Long-term occupational overexposure to diesel exhaust and diesel exhaust particulate matter has been associated with an increased risk of respiratory disease, including lung cancer, and is characterized as a "known human carcinogen" by the International Agency for Research on Cancer (IARC), as "a reasonably anticipated human carcinogen" by the National Toxicology Program, and as "likely to be carcinogenic to humans" by the EPA, based upon animal and occupational exposure studies. However, uncertainty exists with these classifications because of deficiencies in the supporting occupational exposure/epidemiology studies, including reliable exposure estimates. Lifetime animal inhalation studies with pulmonary overloading exposure concentrations of diesel exhaust emissions have produced tumors and other adverse health effects. However, in more recent long-term animal inhalation studies of diesel exhaust emissions, no increase in tumor incidence and in fact a substantial reduction in adverse health effects along with significant reductions in the levels of hazardous material emissions were observed and are associated with fuel composition alterations coupled with new technology diesel engines.

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

**Signs and Symptoms**
Irritating to the skin and mucous membranes. Symptoms may include redness, itching, and inflammation. May cause nausea, vomiting, diarrhea, and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical pneumonitis. 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**
None known.

**Carcinogenicity**
Suspected of causing 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>No. 2 Diesel Fuel</td>
<td>Confirmed animal carcinogen (A3)</td>
<td>Not Classifiable (3)</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>68476-34-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kerosine (petroleum)</td>
<td>Confirmed animal carcinogen (A3)</td>
<td>Not Classifiable (3)</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>8008-20-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alkanes, C10-C20 branched</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>and linear 928771-01-1</td>
<td></td>
<td></td>
<td></td>
<td></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>
</tbody>
</table>

**Reproductive toxicity**
None known.

**Specific Target Organ Toxicity (STOT) - single exposure**
Respiratory system. Central nervous system.

**Specific Target Organ Toxicity (STOT) - repeated exposure**

**Aspiration hazard**
May be fatal if swallowed or vomited and enters airways.

**12. ECOLOGICAL INFORMATION**

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

| Name                        | Algae/aquatic plants | Fish | Toxicity to | Crustacea |
|-----------------------------|----------------------|------|-------------|-----------|-----------|
|                            |                      |      |             |           |           |
Microorganisms

<table>
<thead>
<tr>
<th></th>
<th>No. 2 Diesel Fuel 68476-34-6</th>
<th>Kerosine (petroleum) 8008-20-6</th>
<th>Alkanes, C10-C20 branched and linear 928771-01-1</th>
<th>Naphthalene 91-20-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>96-hr LC50</td>
<td>35 mg/l</td>
<td>5.0-11 mg/l</td>
<td>96-hr LC50 = 0.91-2.82 mg/l</td>
<td>96-hr LC50 = 0.99 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fathead minnow (flow-through)</td>
<td>Algae</td>
<td>Rainbow trout (static)</td>
<td>Fathead minnow (static)</td>
</tr>
<tr>
<td>48-hr EL50</td>
<td>6.4 mg/l</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Daphnia magna</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>48-hr EL50 = 1.4-21 mg/l</td>
<td></td>
<td>96-hr LC50 = 1.6 mg/l</td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability
Expected to be inherently 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
This material may be a flammable liquid waste.

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: Fuel Oil, No. 2
- UN/Identification No: NA 1993
- Class: 3
- Packing Group: III

TDG (Canada):
- UN Proper Shipping Name: Diesel Fuel
- UN/Identification No: UN 1202
- Transport Hazard Class(es): 3
- Packing Group: 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.
EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product does not contain any component(s) included 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>No. 2 Diesel Fuel</td>
<td>NA</td>
</tr>
<tr>
<td>Kerosine (petroleum)</td>
<td>NA</td>
</tr>
<tr>
<td>Alkanes, C10-C20 branched and linear</td>
<td>NA</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>NA</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>No. 2 Diesel Fuel</td>
<td>NA</td>
</tr>
<tr>
<td>Kerosine (petroleum)</td>
<td>NA</td>
</tr>
<tr>
<td>Alkanes, C10-C20 branched and linear</td>
<td>NA</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>100 lb final RQ</td>
</tr>
<tr>
<td></td>
<td>45.4 kg final RQ</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 minimis 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>No. 2 Diesel Fuel</td>
<td>None</td>
</tr>
<tr>
<td>Kerosine (petroleum)</td>
<td>None</td>
</tr>
<tr>
<td>Alkanes, C10-C20 branched and linear</td>
<td>None</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>0.1 % 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:

No. 2 Diesel Fuel
- Louisiana Right-To-Know: Not Listed
- California Proposition 65: Not Listed
- New Jersey Right-To-Know: SN 2444
- 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: SN 2444 TPQ: 10000 lb (Under N.J.A.C. 7:1G, environmental hazardous substances in mixtures such as gasoline or new and used petroleum oil may be reported under these categories)
- Illinois - Toxic Air Contaminants: Not Listed
- New York - Reporting of Releases Part 597 - List of Hazardous Substances: Not Listed
Kerosine (petroleum)

Louisiana Right-To-Know: Not Listed
California Proposition 65: Not Listed
New Jersey Right-To-Know: SN 1091
Pennsylvania Right-To-Know: Present
Massachusetts Right-To-Know: Present
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: SN 1091 TPQ: 10000 lb (Under N.J.A.C. 7:1G, environmental hazardous substances in mixtures such as gasoline or new and used petroleum oil may be reported under these categories)

Illinois - Toxic Air Contaminants: Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances: Not Listed

Alkanes, C10-C20 branched and linear

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

Naphthalene

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)

Canada DSL/NDSL Inventory: This product contains the following component(s) that are listed on the Non-Domestic Substance List (NDSL): CAS# 1159170-26-9
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>No. 2 Diesel Fuel</td>
<td>B3,D2A,D2B</td>
<td>0.1%</td>
</tr>
<tr>
<td>Kerosine (petroleum)</td>
<td>B3,D2B</td>
<td>1%</td>
</tr>
<tr>
<td>Alkanes, C10-C20 branched and linear</td>
<td>B3,D2A,D2B</td>
<td>0.1%</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>B4,D2A</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

Note: Not applicable.

16. OTHER INFORMATION

Prepared By: Toxicology and Product Safety

Revision Notes

Revision Date: 06/01/2016

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.