1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Ashland</th>
<th>Regulatory Information Number</th>
<th>1-800-325-3751</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.O. Box 2219</td>
<td>Telephone</td>
<td>614-790-3333</td>
</tr>
<tr>
<td>Columbus, OH 43216</td>
<td>Emergency telephone</td>
<td>1-800-ASHLAND</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1-800-274-5263)</td>
</tr>
</tbody>
</table>

Product name: PYROIL® DIESEL FUEL CONDITIONER
Product code: PYBL0021
Product Use Description: No data

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid

CAUTION! COMBUSTIBLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY BE HARMFUL IF SWALLOWED. MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.

Potential Health Effects

Routes of exposure
Inhalation, Skin contact

Eye contact
Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes. Additional symptoms of eye exposure may include: blurred vision

Skin contact
May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns.

Ingestion
Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get
into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

**Inhalation**

Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful.

**Aggravated Medical Condition**

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, lung (for example, asthma-like conditions), Individuals with preexisting heart disorders maybe more susceptible to arrhythmias (irregular heartbeats) if exposed to high concentrations of this material, upper respiratory tract, kidney, urinary system. Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias. Individuals with erythrocyte glucose-6-phosphate dehydrogenase deficiency are particularly susceptible to hemolytic agents and rapidly develop hemolytic anemia from ingestion or inhalation of this material (or a component).

**Symptoms**

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), lung irritation, sweating, Fever, Abdominal pain, frequent or painful urination, central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), lack of coordination, confusion, irregular heartbeat, blood abnormalities (breakage of red blood cells), kidney damage, lung damage, narcosis (dazed or sluggish feeling), convulsions, coma.

**Target Organs**

Exposure to this material (or a component) has been found to cause kidney damage in male rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible liver effects, cataracts, anemia, nasal damage, eye damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: cataracts, eye damage.

**Carcinogenicity**
This product (or a component) is a petroleum-derived material. Similar materials and certain compounds occurring naturally in petroleum oils have been shown to cause skin cancer in laboratory animals following repeated exposure without washing or removal. In a National Toxicology Program (NTP) study, lifetime inhalation exposure to naphthalene resulted in increases in tumors of the nose in rats. In a previous NTP study, lifetime exposure to naphthalene caused lung tumors in female mice. Male mice with the same exposure did not develop tumors. The relevance of this finding to humans is uncertain. Naphthalene is listed as carcinogenic by IARC (International Agency for Research on Cancer) and the National Toxicology Program (NTP).

Reproductive hazard
This material (or a component) causes harm to the fetus.

Other information
Infants are more sensitive than adults to the toxic effects of naphthalene. Diapers or cloths stored with mothballs and used directly on infants have caused skin rashes and illness. Naphthalene vapors from clothing or blankets that had been stored in or near the infant's room have caused illness and death.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEROSENE</td>
<td>8008-20-6</td>
<td>&gt;=90-&lt;=100%</td>
</tr>
<tr>
<td>NAPHTHALENE</td>
<td>91-20-3</td>
<td>&gt;=0.1-&lt;0.5%</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**Eyes**
If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

**Skin**
Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

**Ingestion**
Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

**Inhalation**

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

**Notes to physician**

**Hazards**: Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting. Inhalation or ingestion of high levels of this material (or a component) may cause a hemolytic reaction. Complications of acute intravascular hemolysis include anemia, leukocytosis, fever, hemoglobinuria, jaundice, renal insufficiency, and sometimes disturbances in liver function. Fats, for example, baby oil on the skin or ingested oil, facilitate absorption of naphthalene.

**Treatment**: No information available.

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### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**

Water mist, Carbon dioxide (CO2), Dry chemical

**Hazardous combustion products**

May form: carbon dioxide and carbon monoxide, hydrocarbons

**Precautions for fire-fighting**

If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). DO NOT direct a solid stream of water or foam into hot, burning pools of liquid since this may cause frothing and increase
fire intensity. Frothing can be violent and possibly endanger any firefighter standing too close to the burning liquid.

**Flammability Class for Flammable Liquids**

Combustible Liquid Class II

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

**Environmental precautions**

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

**Methods for cleaning up**

Absorb liquid on vermiculite, floor absorbent, or other absorbent material and transfer to hood.

### 7. HANDLING AND STORAGE

**Handling**

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

**Storage**

No data
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>KEROSENE</th>
<th>8008-20-6</th>
<th></th>
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<tbody>
<tr>
<td>ACGIH time weighted average</td>
<td>200 mg/m³</td>
<td>Non-aerosol</td>
</tr>
<tr>
<td>NIOSH Recommended exposure limit (REL):</td>
<td>100 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Eye protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin and body protection

To prevent repeated or prolonged skin contact, wear impervious clothing and boots. Wear resistant gloves such as:
Neoprene

Respiratory protection

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH-approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
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<tr>
<td>Form</td>
<td>No data</td>
</tr>
<tr>
<td>Colour</td>
<td>No data</td>
</tr>
<tr>
<td>Odour</td>
<td>No data</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>175.00 °C / 347 °F</td>
</tr>
<tr>
<td>pH</td>
<td>No data</td>
</tr>
<tr>
<td>Flash point</td>
<td>(&gt;119.84 °F / 48.80 °C, Pensky Martens closed cup)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>0.7 % (V) / 5 % (V)</td>
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<tr>
<td>Vapour pressure</td>
<td>0.63 hPa @ 68 °F / 20 °C</td>
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<tr>
<td>Vapour density</td>
<td>No data</td>
</tr>
<tr>
<td>Density</td>
<td>0.812 g/cm³ @ 68 °F / 20 °C</td>
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<tr>
<td>Solubility</td>
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</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
Avoid contact with:

Incompatible products
Avoid contact with: strong oxidizing agents

Hazardous decomposition products
May form: carbon dioxide and carbon monoxide, hydrocarbons

Hazardous reactions
Product will not undergo hazardous polymerization.

Thermal decomposition
11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

KEROSENE
LD 50 Rat: > 5,000 mg/kg

NAPHTHALENE
LD 50 Rat: 490 mg/kg

Acute inhalation toxicity

KEROSENE
LC 50 Rat: > 5,000 mg/m3, 4 h

Acute dermal toxicity

KEROSENE
LD 50 Rabbit: > 2 g/kg

NAPHTHALENE
LD 50 Rat: > 20,000 mg/kg

12. ECOLOGICAL INFORMATION

Aquatic toxicity

Acute and Prolonged Toxicity to Fish
No data

Acute Toxicity to Aquatic Invertebrates
No data

Environmental fate and pathways
No data

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
Safety Data Sheet

PYROIL® DIESEL FUEL CONDITIONER
PYBL0021

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

IMDG:
UN1993, FLAMMABLE LIQUID, N.O.S. (KEROSENE, ) 3, III

IATA_P:
UN1993, Flammable liquid, n.o.s. (KEROSENE, ) 3, III

IATA_C:
UN1993, Flammable liquid, n.o.s. (KEROSENE, ) 3, III

CFR ROAD:
UN1993, Flammable liquids, n.o.s. (KEROSENE, ) 3, III

CFR_RAIL:
UN1993, Flammable liquids, n.o.s. (KEROSENE, ) 3, III

CFR_INWTR:
UN1993, Flammable liquids, n.o.s. (KEROSENE, ) 3, III

Dangerous goods descriptions (if indicated above) may not reflect package size, quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

California Prop. 65
WARNING! This product contains a chemical known in the State of California to cause cancer.
NAPHTHALENE
BENZENE

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.
TOLUENE
BENZENE

SARA Hazard Classification  Fire Hazard
PYROIL® DIESEL FUEL CONDITIONER
PYBL0021

Acute Health Hazard
Chronic Health Hazard

SARA 313 Component(s)
NAPHTHALENE 91-20-3 0.3339%

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Other</th>
</tr>
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<tbody>
<tr>
<td>HMIS</td>
<td>2</td>
<td>2</td>
<td>0</td>
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<tr>
<td>NFPA</td>
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<td>2</td>
<td>0</td>
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16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).