1. Product and Company Identification

Product identifier: Asphaltene Conditioner Base

Version #: 01

Issue date: 04-21-2015

CAS #: Mixture

Product code: CC2549, CC2550, CC2597, CC2598

MSDS Number: LT16605

Product use: Diesel Fuel Additive

Manufacturer information:
Cummins Filtration
1200 Fleetguard Road
Cookeville, TN 38506
United States

24 Hours per day: 1-800-22FILTER
(1-800-223-4583)

Within Continental U.S.: Chemtrec 1-800-424-9300
Outside U.S.: Chemtrec 703-527-3887

Supplier: Refer to Manufacturer

2. Hazards Identification

Emergency overview: WARNING

Combustible liquid and vapor. May be harmful or fatal if swallowed. Aspiration hazard. Harmful if inhaled. May cause respiratory irritation. May cause central nervous system effects. May cause skin irritation. Contains material which can cause damage to the blood system, the liver, and the kidneys. Possible cancer hazard - may cause cancer based on animal data.

Potential health effects

Routes of exposure

Inhalation. Skin contact. Skin absorption. Ingestion.

Eyes

May cause mild eye irritation.

Skin

May cause mild to moderate skin irritation.

Skin absorption: May be absorbed through the skin, producing symptoms similar to ingestion or inhalation.

Inhalation

May cause irritation of respiratory tract. May cause central nervous system effects.

Ingestion

Aspiration hazard. May cause irritation of the gastrointestinal tract.

Target organs


Chronic effects

Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Contains: Naphthalene. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage.

Most important symptoms/effects, acute and delayed

Aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal. Harmful if inhaled. Symptoms may include upper respiratory irritation, coughing, and breathing difficulties. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Could also cause convulsions, coma and respiratory arrest. Suspected of causing cancer. Symptoms may include persistent coughing, shortness of breath, coughing up blood and wheezing. Causes damage to the blood system if swallowed. Contains: Naphthalene. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage. May cause mild to moderate skin irritation. May cause redness and pain. Direct eye contact may cause slight or mild, transient irritation. Symptoms may include stinging and tearing. Ingestion of large amounts may cause nausea, vomiting, diarrhea, as well as depression of the central nervous system.

Potential environmental effects

Toxic to aquatic life with long lasting effects. See ECOLOGICAL INFORMATION, Section 12.
3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent naphtha (petroleum), heavy aromatic</td>
<td>64742-94-5</td>
<td>80 - 100</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>95-63-6</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>64742-95-6</td>
<td>1 - 3</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>108-67-8</td>
<td>0.4 - 1</td>
</tr>
<tr>
<td>2-Ethylhexyl Alcohol</td>
<td>104-76-7</td>
<td>0.4 - 1</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid procedures

**Inhalation**
Move to fresh air. If breathing is difficult, trained personnel should give oxygen. If breathing stops, provide artificial respiration. Get medical attention if symptoms occur.

**Skin contact**
Remove contaminated clothing. Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

**Eye contact**
Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.

**Ingestion**
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. If vomiting occurs spontaneously, keep victim’s head lowered (forward) to reduce the risk of aspiration. Never give anything by mouth to a victim who is unconscious or is having convulsions.

**Notes to physician**
Immediate medical attention is required. Aspiration hazard. Provide general supportive measures and treat symptomatically.

**General advice**
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

**Flammable properties**
Combustible by WHMIS criteria.

**Extinguishing media**
Suitable extinguishing media
Carbon dioxide (CO2). Dry chemical powder. Foam. Water fog.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

**Protection of firefighters**

**Specific hazards arising from the chemical**
Vapors are heavier than air and may spread along floors. Material will float and may ignite on surface of water. The pressure in sealed containers can increase under the influence of heat. Toxic fumes, gases or vapors may evolve on burning.

**Protective equipment for firefighters**
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

**Fire fighting equipment/instructions**
Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

**Specific methods**
Use standard firefighting procedures and consider the hazards of other involved materials.

**Explosion data**

**Sensitivity to static discharge**
May be sensitive to static discharge. Vapours in the flammable range may be ignited by a static discharge or sufficient energy.

**Sensitivity to mechanical impact**
Not expected to be sensitive to mechanical impact.

**Hazardous combustion products**

**General fire hazards**
Combustible liquid. May be ignited by open flame.
6. Accidental Release Measures

**Personal precautions**
Restrict access to area until completion of clean-up. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the MSDS.

**Environmental precautions**
Avoid release to the environment. Prevent entry into waterways, sewer, basements or confined areas. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Contact local authorities in case of spillage to drain/aquatic environment.

**Methods and materials for containment and cleaning up**
Ventilate the area. Stop leak if you can do so without risk. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Use only non-sparking tools.

Small liquid spills: Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Never return spills to original containers for re-use. Contaminated absorbent material may pose the same hazards as the spilled product.

Large Spills: Use water spray to reduce vapors or divert vapor cloud drift. Contain spilled liquid with non-combustible, inert absorbent material (e.g. sand). Remove with vacuum trucks or pump to storage/salvage vessels. Keep in properly labelled containers. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Contact the proper local authorities. For waste disposal, see section 13 of the MSDS.

**Other information**
Clean up in accordance with all applicable regulations.

7. Handling and Storage

**Handling**
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wear appropriate personal protective equipment. Wear protective gloves/clothing and eye/face protection. Avoid contact with eyes, skin, and clothing. Keep away from heat and open flames-No smoking. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Keep away from incompatibles. Keep containers closed when not in use. Empty containers retain residue and can be dangerous. Wash thoroughly after handling.

**Storage**
Store in tightly closed original container in a dry, cool and well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS). Inspect periodically for damage or leaks. No smoking in the area. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel.

8. Exposure Controls / Personal Protection

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene (CAS 95-63-6)</td>
<td>TWA</td>
<td>25 ppm</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene (CAS 108-67-8)</td>
<td>TWA</td>
<td>25 ppm</td>
</tr>
<tr>
<td>Naphthalene (CAS 91-20-3)</td>
<td>TWA</td>
<td>10 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene (CAS 91-20-3)</td>
<td>PEL</td>
<td>50 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 ppm</td>
</tr>
</tbody>
</table>

**Biological limit values**
No biological exposure limits noted for the ingredient(s).

**Exposure guidelines**

**US ACGIH Threshold Limit Values: Skin designation**
Naphthalene (CAS 91-20-3) Can be absorbed through the skin.

**Engineering controls**
Use only outdoors or in a well-ventilated area. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Personal protective equipment

Eye/face protection
Wear eye/face protection.
Wear as appropriate: Tight fitting safety goggles. Safety glasses. A full face shield may also be necessary.
Eye wash fountain is recommended.

Skin protection
Wear suitable protective clothing.
Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact.
Eye wash facilities and emergency shower must be available when handling this product.

Respiratory protection
Use a NIOSH/MSHA approved respirator if there is a risk of exposure at levels exceeding the exposure limits. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with CSA Z94.4-02. Seek advice from respiratory protection specialists.

Hand protection
Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.

9. Physical & Chemical Properties

Appearance
- Physical state: Liquid.
- Form: Watery liquid.
- Color: Amber.
- Odor: Hydrocarbon-like.
- Odor threshold: Not available.
- pH: Not available.
- Vapor pressure: Not available.
- Vapor density: > 1 (Air = 1)
- Boiling point: > 300.02 °F (> 148.9 °C) (based on ingredients)
- Melting point/Freezing point: Not available.
- Solubility (water): Practically insoluble.
- Specific gravity: 0.9 @ 60°F (15.6°C)
- Relative density: 0.9 g/cm³ @ 60°F (15.6°C)
- Flash point: > 141.8 °F (> 61.0 °C) Pensky-Martens Closed Cup
- Flammability limits in air, upper, % by volume: Not Available.
- Flammability limits in air, lower, % by volume: Not Available.
- Auto-ignition temperature: Not available.
- Evaporation rate: Not available.
- Partition coefficient (n-octanol/water): Not available.
- Other data:
  - Explosive properties: Not explosive.
  - Flammability (solid, gas): Not applicable.
  - Kinematic viscosity: < 10 cSt @ 104°F (40°C) (estimated)
  - Oxidizing properties: None known.

10. Chemical Stability & Reactivity Information

Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
Material is stable under normal conditions.

Conditions to avoid
Avoid heat, sparks, open flames and other ignition sources. Contact with incompatible materials. Do not use in areas without adequate ventilation.

Incompatible materials

Hazardous decomposition products
None known, refer to hazardous combustion products in Section 5.

Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.
11. Toxicological Information

Toxicological data

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene (CAS 95-63-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td>Rabbit</td>
<td>&gt; 3160 mg/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>Rat</td>
<td>18 mg/l, 4 hours (vapor)</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Rat</td>
<td>5000 mg/kg</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene (CAS 108-67-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td>Rabbit</td>
<td>&gt; 3160 mg/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>Rat</td>
<td>24 mg/l, 4 hours (Vapor)</td>
</tr>
<tr>
<td>2-Ethylhexyl Alcohol (CAS 104-76-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td>Rabbit</td>
<td>1985 mg/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>Rat</td>
<td>5.5 mg/l, 4 hours</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Rat</td>
<td>2052 mg/kg</td>
</tr>
<tr>
<td>Naphthalene (CAS 91-20-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td>Rabbit</td>
<td>&gt; 20000 mg/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>Rat</td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Mouse</td>
<td>533 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>490 mg/kg</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), heavy aromatic (CAS 64742-94-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dermal</strong></td>
<td>Rabbit</td>
<td>&gt; 3160 mg/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>Rat</td>
<td>&gt; 17.1 mg/l, 4 hours (Mist)</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td>Rat</td>
<td>&gt; 6000 mg/kg</td>
</tr>
</tbody>
</table>
Components Species Test Results
Solvent naphtha (petroleum), light aromatic (CAS 64742-95-6)

**Acute**

*Dermal*
LD50 Rabbit > 3160 mg/kg

*Inhalation*
LC50 Rat > 17.7 mg/l, 4 hours (vapor)

*Oral*
LD50 Rat 8400 mg/kg

**Acute effects**
May cause mild to moderate eye irritation. May cause mild to moderate skin irritation. May cause irritation to the respiratory tract. May cause central nervous system effects. May be an aspiration hazard. See data above for individual ingredient acute toxicity data.

**Sensitization**
Not expected to be a skin or respiratory sensitizer.

**Chronic effects**
Prolonged or repeated contact may cause drying, cracking and defatting of the skin. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage.

**Carcinogenicity**
Suspected of causing cancer.
Contains: Naphthalene. Naphthalene is classified as carcinogenic by IARC (Group 2B) and NTP (Group 2 - Reasonably anticipated).
See below for ingredients present on regulatory lists.

**ACGIH Carcinogens**
Naphthalene (CAS 91-20-3) A3 Confirmed animal carcinogen with unknown relevance to humans.

**IARC Monographs. Overall Evaluation of Carcinogenicity**
Naphthalene (CAS 91-20-3) 2B Possibly carcinogenic to humans.

**Skin corrosion/irritation**
May cause mild to moderate skin irritation.

**Serious eye damage/irritation**
May cause mild to moderate eye irritation.

**Mutagenicity**
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Reproductive effects**
This product is not expected to cause reproductive effects.

**Teratogenicity**
This product is not expected to be a teratogen.

**Most important symptoms/effects, acute and delayed**
Aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal. Harmful if inhaled. Symptoms may include upper respiratory irritation, coughing, and breathing difficulties. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Could also cause convulsions, coma and respiratory arrest. Suspected of causing cancer. Symptoms may include persistent coughing, shortness of breath, coughing up blood and wheezing. Causes damage to the blood system if swallowed. Contains: Naphthalene. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage. May cause mild to moderate skin irritation. May cause redness and pain. Direct eye contact may cause slight or mild, transient irritation. Symptoms may include stinging and tearing. Ingestion of large amounts may cause nausea, vomiting, diarrhea, as well as depression of the central nervous system.

**Further information**
Symptoms may be delayed.
### 12. Ecological Information

#### Ecotoxicological data

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1,2,4-Trimethylbenzene (CAS 95-63-6)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Green algae (Selenastrum capricornutum) 2.356 mg/l, 96 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) 3.6 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fathead minnow (Pimephales promelas) 7.72 mg/l, 96 hours</td>
</tr>
<tr>
<td><strong>1,3,5-Trimethylbenzene (CAS 108-67-8)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Green algae (Desmodesmus subspicatus) 3.191 mg/l, 96 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) 6 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Goldfish (Carassius auratus) 12.52 mg/l, 96 hours</td>
</tr>
<tr>
<td>Chronic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>NOEC</td>
<td>Water flea (Daphnia magna) 0.4 mg/l, 21 days</td>
</tr>
<tr>
<td><strong>2-Ethylhexyl Alcohol (CAS 104-76-7)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Green algae (Desmodesmus subspicatus) 11.5 mg/l, 72 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) 39 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>EC50</td>
<td>Ide, silver or golden orfe (Leuciscus idus) 17.1 mg/l, 96 hours</td>
</tr>
<tr>
<td><strong>Naphthalene (CAS 91-20-3)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Green algae (Selenastrum capricornutum) 0.4 mg/l, 72 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) 3.4 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Pink salmon (Oncorhynchus gorbuscha) 0.96 mg/l, 96 hours</td>
</tr>
<tr>
<td>Chronic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>NOEC</td>
<td>Water flea (Daphnia magna) 0.6 - 0.22 mg/l, 21 days</td>
</tr>
<tr>
<td>Fish</td>
<td>NOEC</td>
<td>Pink salmon (Oncorhynchus gorbuscha) 0.12 mg/l, 40 days</td>
</tr>
<tr>
<td><strong>Solvent naphtha (petroleum), heavy aromatic (CAS 64742-94-5)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rainbow trout (Oncorhynchus mykiss) 3.6 mg/l, 96 hours</td>
<td></td>
</tr>
<tr>
<td><strong>Solvent naphtha (petroleum), light aromatic (CAS 64742-95-6)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) 6.16 mg/l, 48 hours</td>
</tr>
</tbody>
</table>
Components | Species | Test Results
---|---|---
Fish | LC50 | Rainbow trout, donaldson trout (Oncorhynchus mykiss) | 9.22 mg/l, 96 hours

**Ecotoxicity**
Toxic to aquatic life with long lasting effects. No data is available on the product itself. See above for individual ingredient ecotoxicity data.

**Environmental effects**
Toxic to aquatic organisms. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**Aquatic toxicity**
No data is available on the product itself. The product should not be allowed to enter drains, water courses or the soil.

**Persistence and degradability**
Contains the following chemicals which are not considered to be readily biodegradable: Solvent naphtha (petroleum), heavy aromatic. Naphthalene. 1,3,5-Trimethylbenzene. Contains the following chemicals which are considered to be inherently biodegradable: 1,2,4-Trimethylbenzene. Solvent naphtha (petroleum), light aromatic. Contains the following chemicals which are considered to be readily biodegradable: 2-Ethylhexanol.

**Bioaccumulation / accumulation**
The product itself has not been tested. See the following data for ingredient information.

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Bioconcentration factor</th>
<th>Species: Fathead minnow (Pimephales promelas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>31 - 275</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>23 - 328</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>427</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>10 - 2500 (calculated)</td>
</tr>
</tbody>
</table>

**Partition coefficient**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>3.78</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>3.6 - 3.93</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>3.7</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), heavy aromatic</td>
<td>3 - 6.5</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light aromatic</td>
<td>2.1 - 6, (calculated)</td>
</tr>
</tbody>
</table>

**Mobility in environmental media**
No data available for this product.

**13. Disposal Considerations**

**Disposal instructions**
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

**Waste from residues / unused products**
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

**14. Transport Information**

**TDG**
Not regulated unless shipping internationally by sea or air. Refer to IMDG or IATA information for international sea or air shipments, as appropriate.

**IATA**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN proper shipping name</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3082</td>
<td>Environmentally hazardous substance, liquid, n.o.s. (Solvent naphtha (petroleum), heavy aromatic; Naphthalene)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport hazard class(es)</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>9</td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>None.</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Yes</td>
</tr>
<tr>
<td>ERG Code</td>
<td>9L</td>
</tr>
</tbody>
</table>
Special precautions for user
Read safety instructions, MSDS and emergency procedures before handling. Refer to the appropriate Packing Instruction, prior to shipping this material. Review all State and Operator Variations, prior to shipping this material.

Other information
Passenger and cargo aircraft
Allowed.
Cargo aircraft only
Allowed.

IMDG
UN number
UN3082
UN proper shipping name
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy aromatic; Naphthalene)
Transport hazard class(es)
Class
9
Subsidiary risk
None.
Packing group
III
Environmental hazards
Marine pollutant
Yes
EmS
F-A, S-F
Special precautions for user
Read safety instructions, MSDS and emergency procedures before handling.

General information
This product meets the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

15. Regulatory Information
Canadian regulations
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.
WHMIS status
Controlled
WHMIS classification
B3 - Combustible Liquids
D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

WHMIS labeling
Material name: Asphaltene Conditioner Base
CC2549, CC2550, CC2597, CC2598    MSDS No.: LT16605    Version #: 01    Issue date: 04-21-2015
International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

HMIS® ratings

- Health: 2*
- Flammability: 2
- Physical hazard: 0

NFPA ratings

- Health: 2
- Flammability: 2
- Instability: 0

Disclaimer

Prepared by: ICC The Compliance Center Inc. 1-888-442-9628
http://www.thecompliancecenter.com

Disclaimer

The information in this SDS was obtained from sources, which we believe are reliable. However, since the conditions of handling and use are beyond our control, we assume no liability for damages incurred by use of this material. This SDS was prepared, and is to be used, for this product only. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist. If the product is used as a component in another product, this information may not be applicable. Users of this product should satisfy themselves that the conditions and methods of use assure the product is used safely. No representations or warranties, either expressed or implied, of any nature are made hereunder with respect to the information contained herein. It is the responsibility of the user to comply with any and all federal, state, or local laws and regulations that may exist. Nothing contained herein is to be construed as a recommendation for use in violation of any applicable laws or regulations.

Bibliography

Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2015
(Chempendium, RTECs, HSDB, INCHEM)
Material Safety Data Sheet from manufacturer.
Legend to abbreviations and acronyms used in the SDS

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CEPA: Canadian Environmental Protection Act
CPR: Controlled Products Regulation
CSA: Canadian Standards Association
DSL: Domestic Substance List
EC50: Effective Concentration 50%.
ERG: Emergency Response Guidebook
HMIS: Hazardous Materials Identification System
HPA: Hazardous Products Act
HSDB® - Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
IMDG: International Maritime Dangerous Goods
LC: Lethal Concentration
LD: Lethal Dose
MSDS: Material Safety Data Sheet
NDSL: Canada, Non-Domestic Substances List.
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Cooperation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
SCBA: self-contained breathing apparatus
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
UN: United Nations
WHMIS: Workplace Hazardous Materials Identification System