1. Identification

Product identifier: Crude Oil (Sweet)
Other means of identification: None.
Recommended use: Feedstock. Fuel.
Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information
Manufacturer/Supplier: Devon Energy Production Company, L.P.
333 W. Sheridan Avenue
Oklahoma City, OK 73102-5010
Telephone: (405) 235-3611
Emergency: CHEMTREC 24 Hour Emergency
Within the USA (800) 424-9300
Outside the USA +1 703-527-3887

2. Hazard(s) identification

Physical hazards
Flammable liquids: Category 1

Health hazards
Serious eye damage/eye irritation: Category 2
Germ cell mutagenic: Category 1B
Carcinogenicity: Category 1A
Reproductive toxicity: Category 2
Specific target organ toxicity, single exposure: Category 3 narcotic effects
Specific target organ toxicity, repeated exposure: Category 2 (nervous system, central nervous system, liver, kidney, blood, spleen, thymus)
Aspiration hazard: Category 1

Environmental hazards
Hazardous to the aquatic environment, acute hazard: Category 2
Hazardous to the aquatic environment, long-term hazard: Category 2

OSHA defined hazards
Not classified.

Label elements

Signal word: Danger
Hazard statement: Extremely flammable liquid and vapor. Causes serious eye irritation. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child. May cause drowsiness or dizziness. May cause damage to organs (nervous system, central nervous system, liver, kidney, blood, spleen, thymus) through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Toxic to aquatic life with long lasting effects.
Precautionary statement

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 explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response
If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. In case of fire: Use water fog, foam, carbon dioxide, dry chemical powder to extinguish. Collect spillage.

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

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)
Repeated exposure may cause skin dryness or cracking. Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information
None.

3. Composition/information on ingredients

Substances

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Oil</td>
<td></td>
<td>8002-05-9</td>
<td>98.0-100.0</td>
</tr>
</tbody>
</table>

Contains

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Hexane</td>
<td>110-54-3</td>
<td>&lt;= 5</td>
</tr>
<tr>
<td>Xylenes</td>
<td>1330-20-7</td>
<td>&lt;= 2</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>&lt;= 0.6</td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>&lt;= 0.5</td>
</tr>
</tbody>
</table>

Composition comments
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact
Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion
Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn’t get into the lungs.

Most important symptoms/effects, acute and delayed
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Repeated exposure may cause skin dryness or cracking. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Narcosis. Edema. Jaundice. May cause damage to organs (nervous system, central nervous system, liver, kidney, blood, spleen, thymus) through prolonged or repeated exposure. Swallowing of the liquid, or vomiting as a result, may result in aspiration into the lungs. Aspiration may cause pulmonary edema and pneumonitis. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). 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. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

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

Specific hazards arising from the chemical
Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out.

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

Specific hazards arising from the chemical
Extremely flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Environmental precautions
Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.
7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Oil (Sweet)</td>
<td>PEL</td>
<td>2000 mg/m3</td>
</tr>
<tr>
<td>Components</td>
<td>Value</td>
<td></td>
</tr>
<tr>
<td>Crude Oil (CAS 8002-05-9)</td>
<td>PEL</td>
<td>2000 mg/m3</td>
</tr>
<tr>
<td>Contains</td>
<td>Value</td>
<td></td>
</tr>
<tr>
<td>n-Hexane (CAS 110-54-3)</td>
<td>PEL</td>
<td>1800 mg/m3</td>
</tr>
<tr>
<td>Xylenes (CAS 1330-20-7)</td>
<td>PEL</td>
<td>435 mg/m3</td>
</tr>
</tbody>
</table>

US. OSHA Table Z-2 (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Contains</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>Ceiling</td>
<td>300 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Contains</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Hexane (CAS 110-54-3)</td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
<tr>
<td>Xylenes (CAS 1330-20-7)</td>
<td>STEL</td>
<td>150 ppm</td>
</tr>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>TWA</td>
<td>100 ppm</td>
</tr>
<tr>
<td>Benzene (CAS 71-43-2)</td>
<td>STEL</td>
<td>20 ppm</td>
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<tr>
<td></td>
<td>TWA</td>
<td>2.5 ppm</td>
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</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Oil (Sweet)</td>
<td>Ceiling</td>
<td>1800 mg/m3</td>
</tr>
</tbody>
</table>
### US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Oil (CAS 8002-05-9)</td>
<td>TWA</td>
<td>350 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Ceiling</td>
<td>1800 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>350 mg/m³</td>
</tr>
<tr>
<td>n-Hexane (CAS 110-54-3)</td>
<td>TWA</td>
<td>180 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 ppm</td>
</tr>
<tr>
<td>Xylenes (CAS 1330-20-7)</td>
<td>STEL</td>
<td>655 mg/m³</td>
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<tr>
<td></td>
<td></td>
<td>150 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>435 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 ppm</td>
</tr>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>STEL</td>
<td>560 mg/m³</td>
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<tr>
<td></td>
<td></td>
<td>150 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>375 mg/m³</td>
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<tr>
<td></td>
<td></td>
<td>100 ppm</td>
</tr>
<tr>
<td>Benzene (CAS 71-43-2)</td>
<td>STEL</td>
<td>1 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>0.1 ppm</td>
</tr>
</tbody>
</table>

### Biological limit values

#### ACGIH

<table>
<thead>
<tr>
<th>Contains</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene (CAS 71-43-2)</td>
<td>500 µg/g</td>
<td>t,t-Muconic acid</td>
<td>Creatinine in urine</td>
<td>*</td>
</tr>
</tbody>
</table>

#### ACGIH Biological Exposure Indices

<table>
<thead>
<tr>
<th>Contains</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Hexane (CAS 110-54-3)</td>
<td>0.4 mg/l</td>
<td>2,5-Hexanedione, without hydrolysis</td>
<td>Urine *</td>
<td></td>
</tr>
<tr>
<td>Xylenes (CAS 1330-20-7)</td>
<td>1.5 g/g</td>
<td>Methylhippuric acids</td>
<td>Creatinine in urine</td>
<td>*</td>
</tr>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>0.3 mg/g</td>
<td>o-Cresol, with hydrolysis</td>
<td>Creatinine in urine</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>0.03 mg/l</td>
<td>Toluene</td>
<td>Urine</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>0.02 mg/l</td>
<td>Toluene</td>
<td>Blood</td>
<td>*</td>
</tr>
<tr>
<td>Benzene (CAS 71-43-2)</td>
<td>25 µg/g</td>
<td>S-Phenylmercapturic acid</td>
<td>Creatinine in urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* - For sampling details, please see the source document.

#### Exposure guidelines

**US - California OELs: Skin designation**
- Benzene (CAS 71-43-2) Can be absorbed through the skin.
- n-Hexane (CAS 110-54-3) Can be absorbed through the skin.
- Toluene (CAS 108-88-3) Can be absorbed through the skin.

**US - Minnesota Haz Subs: Skin designation applies**
- Toluene (CAS 108-88-3) Skin designation applies.

**US ACGIH Threshold Limit Values: Skin designation**
- Benzene (CAS 71-43-2) Can be absorbed through the skin.
- n-Hexane (CAS 110-54-3) Can be absorbed through the skin.

### Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. 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. Provide eyewash station.

### Individual protection measures, such as personal protective equipment

**Eye/face protection**
- Wear safety glasses with side shields (or goggles).
9. Physical and chemical properties

Appearance
- Physical state: Liquid.
- Form: Liquid.
- Color: Brown.

Odor: Hydrocarbon.

Odor threshold: Not available.

pH: Not available.

Melting point/freezing point: Not available.

Initial boiling point and boiling range: 85 - 500 °F (29.44 - 260 °C)

Boiling point pressure: 1013 hPa

Flash point: 32.0 - 200.0 °F (0 - 93.3 °C)

Evaporation rate: Not available.

Flammability (solid, gas): Not applicable.

Upper/lower flammability or explosive limits
- Flammability limit - lower (%): Not available.
- Flammability limit - upper (%): Not available.
- Explosive limit - lower (%): Not available.
- Explosive limit - upper (%): Not available.

Vapor pressure: 10 - 50 psia

Vapor pressure temp.: 100 °F (37.78 °C)

Vapor density: Not available.

Relative density: 0.65 - 1 (H2O=1)

Relative density temperature: 60 °F (15.56 °C)

Solubility(ies)
- Solubility (water): 0.1 - 1 % (Insoluble in water).

Partition coefficient (n-octanol/water): 1.8 - 8

Auto-ignition temperature: 446 - 491 °F (230 - 255 °C)

Decomposition temperature: Not available.

Viscosity: Not available.

Other information
- Explosive properties: Not explosive.
- Oxidizing properties: Not oxidizing.
10. Stability and reactivity

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

Chemical stability
Material is stable under normal conditions.

Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

Conditions to avoid
Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
Irritating and/or toxic fumes and gases may be emitted upon the products decomposition. Thermal decomposition of this product can generate carbon monoxide and carbon dioxide.

11. Toxicological information

Information on likely routes of exposure

Inhalation
May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.

Skin contact
Repeated exposure may cause skin dryness or cracking.

Eye contact
Causes serious eye irritation.

Ingestion
Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Repeated exposure may cause skin dryness or cracking. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Noccosis. Edema. Jaundice. May cause damage to organs (nervous system, central nervous system, liver, kidney, blood, spleen, thymus) through prolonged or repeated exposure. Swallowing or vomiting of the liquid may result in aspiration into the lungs. Aspiration may cause pulmonary edema and pneumonitis. Be aware that symptoms of lung edema (shortness of breath) may develop up to 24 hours after exposure. Prolonged exposure may cause chronic effects.

Information on toxicological effects

Acute toxicity
Not expected to be acutely toxic.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Oil (CAS 8002-05-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Rabbits</td>
<td>&gt; 2000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Rat</td>
<td>&gt; 5000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Contains</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xylenes (CAS 1330-20-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>3523 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Rabbits</td>
<td>14.1 ml/kg</td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50 Rat</td>
<td>49000 mg/m³, 4 Hours</td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Rat</td>
<td>5580 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Benzene (CAS 71-43-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>930 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Repeated exposure may cause skin dryness or cracking.
Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitization
Respiratory sensitization
Not a respiratory sensitizer.
Skin sensitization
This product is not expected to cause skin sensitization.

Germ cell mutagenicity
May cause genetic defects.

Carcinogenicity
May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity
Benzene (CAS 71-43-2) 1 Carcinogenic to humans.
Crude Oil (CAS 8002-05-9) 3 Not classifiable as to carcinogenicity to humans.
Toluene (CAS 108-88-3) 3 Not classifiable as to carcinogenicity to humans.
Xylenes (CAS 1330-20-7) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens
Benzene (CAS 71-43-2) Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Benzene (CAS 71-43-2) Cancer

Reproductive toxicity
Suspected of damaging fertility or the unborn child.

Specific target organ toxicity - single exposure
May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure
May cause damage to organs (nervous system, central nervous system, liver, kidney, blood, spleen, thymus) through prolonged or repeated exposure.

Aspiration hazard
May be fatal if swallowed and enters airways.

Chronic effects
May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity
Toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Contains</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylenes (CAS 1330-20-7)</td>
<td>Fish</td>
<td>LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss) 2.6 mg/l, 96 hours</td>
</tr>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>Aquatic</td>
<td>Fish</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50 Oncorhynchus kisutch 5.5 mg/l, 96 hours</td>
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<td>Chronic</td>
<td>Crustacea</td>
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</tr>
<tr>
<td>Benzene (CAS 71-43-2)</td>
<td>Aquatic</td>
<td>Crustacea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fish</td>
</tr>
</tbody>
</table>

Persistence and degradability
No data is available on the degradability of this product.

Bioaccumulative potential
Partition coefficient n-octanol / water (log Kow)
Crude Oil (Sweet) (CAS 8002-05-9) 1.8 - 8

Mobility in soil
The product contains substances, which are insoluble in water and which may spread on water surfaces.

Other adverse effects
None known.
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. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F
D018: Waste Benzene

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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

14. Transport information

DOT
UN number UN1267
UN proper shipping name Petroleum crude oil
Transport hazard class(es)
Class 3
Subsidiary risk -
Label(s) 3
Packing group I
Environmental hazards
Marine pollutant Yes
Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.
Any re-classification or offer for shipment under alternate classification must comply with 49 CFR 173.41 and 173.21
Special provisions 144, 357, T11, TP1, TP8
Packaging exceptions 150
Packaging non bulk 201
Packaging bulk 243

IATA
UN number UN1267
UN proper shipping name Petroleum crude oil
Transport hazard class(es)
Class 3
Subsidiary risk -
Label(s) 3
Packing group I
Environmental hazards
ERG Code 3L
Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

IMDG
UN number UN1267
UN proper shipping name PETROLEUM CRUDE OIL
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group I
Environmental hazards
Marine pollutant Yes
EmS F-E, S-E
Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.
15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>Listed</th>
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<tbody>
<tr>
<td>Benzene (CAS 71-43-2)</td>
<td>71-43-2</td>
<td>LISTED</td>
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<tr>
<td>Crude Oil (CAS 8002-05-9)</td>
<td>8002-05-9</td>
<td>LISTED</td>
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<tr>
<td>n-Hexane (CAS 110-54-3)</td>
<td>110-54-3</td>
<td>LISTED</td>
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<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>108-88-3</td>
<td>LISTED</td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
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<tbody>
<tr>
<td>Crude Oil</td>
<td>8002-05-9</td>
<td>98.0-100.0</td>
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<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>&lt;= 0.5</td>
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<tr>
<td>n-Hexane</td>
<td>110-54-3</td>
<td>&lt;= 5</td>
</tr>
<tr>
<td>Xylenes</td>
<td>1330-20-7</td>
<td>&lt;= 2</td>
</tr>
</tbody>
</table>

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Benzene (CAS 71-43-2)
Crude Oil (CAS 8002-05-9)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Xylenes (CAS 1330-20-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Toluene (CAS 108-88-3) 6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Toluene (CAS 108-88-3) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Toluene (CAS 108-88-3) 594

US state regulations

US. Massachusetts RTK - Substance List

Benzene (CAS 71-43-2)
Crude Oil (CAS 8002-05-9)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)

US. New Jersey Worker and Community Right-to-Know Act

Benzene (CAS 71-43-2)
Crude Oil (CAS 8002-05-9)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Xylenes (CAS 1330-20-7)

**US. Pennsylvania Worker and Community Right-to-Know Law**
- Benzene (CAS 71-43-2)
- Crude Oil (CAS 8002-05-9)
- n-Hexane (CAS 110-54-3)
- Toluene (CAS 108-88-3)
- Xylenes (CAS 1330-20-7)

**US. Rhode Island RTK**
- Benzene (CAS 71-43-2)
- Crude Oil (CAS 8002-05-9)
- n-Hexane (CAS 110-54-3)
- Toluene (CAS 108-88-3)
- Xylenes (CAS 1330-20-7)

**US. California Proposition 65**
WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**
- Benzene (CAS 71-43-2)
- Toluene (CAS 108-88-3)

**International Inventories**

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
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</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>
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<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
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<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
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<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
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<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
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<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
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<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
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<td>New Zealand</td>
<td>New Zealand Inventory</td>
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<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
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<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
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*A "Yes" indicates this product complies 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, including date of preparation or last revision**

**Issue date** 21-August-2015
**Revision date** 08-July-2016
**Version #** 04

**NFPA ratings**

<table>
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