1. Identification

Product identifier: Light Cycle Oil

Other means of identification

SDS number: 106-GHS

Synonyms: Middle Distillate

See section 16 for complete information.

Recommended use: Refinery feedstock.

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier: Valero Marketing & Supply Company and Affiliates

One Valero Way
San Antonio, TX 78269-6000

210-345-4593

E-Mail: CorpHSE@valero.com

Contact Person: Industrial Hygienist

Emergency Telephone: 24 Hour Emergency 866-565-5220
1-800-424-9300 (CHEMTREC USA)

2. Hazard(s) identification

Physical hazards: Flammable liquids Category 3

Health hazards:
- Acute toxicity, inhalation Category 4
- Skin corrosion/irritation Category 2
- Carcinogenicity Category 1B
- Specific target organ toxicity, repeated exposure Category 2
- Aspiration hazard Category 1

Environmental hazards: Hazardous to the aquatic environment, long-term hazard Category 1

OSHA defined hazards: Not classified.

Label elements

Signal word: Danger

Hazard statement: Flammable liquid and vapor. Harmful if inhaled. Causes skin irritation. May cause cancer. May cause damage to organs (Blood, Liver, Kidney) through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

Precautionary statement

Prevention: 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. Take precautionary measures against static discharges. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Response: 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. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use. If exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell. If swallowed: Immediately call a poison center/doctor.
3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), light catalyst cracked</td>
<td>64741-59-9</td>
<td>99-100</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>0-3</td>
</tr>
<tr>
<td>Polycyclic Aromatic Hydrocarbons</td>
<td>130498-29-2</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>7783-06-4</td>
<td>0-0.2</td>
</tr>
</tbody>
</table>

Composition comments: Small amount of hydrogen sulfide, a highly toxic gas, may be present, especially in the headspace of containers.

4. First-aid measures

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Skin contact: Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.

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.

Ingestion: Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention immediately.


Indication of immediate medical attention and special treatment needed: In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information: If exposed or concerned: get medical attention/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. Wash contaminated clothing before re-use.

5. Fire-fighting measures


Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical: Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge. Vapor may cause flash fire.

Special protective equipment and precautions for firefighters: Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
**Fire-fighting equipment/instructions**

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from vents or discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Vapors may form explosive air mixtures even at room temperature. Prevent buildup of vapors or gases to explosive concentrations. Some of these materials, if spilled, may evaporate leaving a flammable residue. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.

**Specific methods**

Use water spray to cool unopened containers.

---

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

**Methods and materials for containment and cleaning up**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Extinguish all flames in the vicinity. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Small Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Cover with plastic sheet to prevent spreading. Collect spillage. Following product recovery, flush area with water. Prevent product from entering drains. Do not allow material to contaminate ground water system. Clean surface thoroughly to remove residual contamination. Wipe up with absorbent material (e.g. cloth, fleece).

Never return spills in original containers for re-use. Prevent entry into waterways, sewers, basements or confined areas. Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Should not be released into the environment. Do not allow material to contaminate ground water system. Prevent product from entering drains.

If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew.

Flammable. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Use compatible foam to minimize vapor generation as needed. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802. For highway or railways spills, contact Chemtrec at 1-800-424-9300.

**Environmental precautions**

If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew.

Flammable. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Use compatible foam to minimize vapor generation as needed. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802. For highway or railways spills, contact Chemtrec at 1-800-424-9300.

**7. Handling and storage**

**Precautions for safe handling**

Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is extremely flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.
Conditions for safe storage, including any incompatibilities

Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

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>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>

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

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen sulfide (CAS 7783-06-4)</td>
<td>Ceiling</td>
<td>20 ppm</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen sulfide (CAS 7783-06-4)</td>
<td>STEL</td>
<td>5 ppm</td>
</tr>
<tr>
<td>Naphthalene (CAS 91-20-3)</td>
<td>STEL</td>
<td>15 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>10 ppm</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen sulfide (CAS 7783-06-4)</td>
<td>Ceiling</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>Naphthalene (CAS 91-20-3)</td>
<td>STEL</td>
<td>75 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>50 mg/m³</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 (Threshold Limit Value) Can be absorbed through the skin.

Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

Skin protection

Hand protection

Avoid exposure - obtain special instructions before use. Wear protective gloves. Protective gloves.

Other

Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.

Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.
9. Physical and chemical properties

Appearance
Clear, straw liquid.

Physical state
Liquid.

Form
Liquid.

Color
Clear-straw.

Odor
Kerosene (strong).

Odor threshold
Not available.

pH
Not applicable.

Melting point/freezing point
Not available.

Initial boiling point and boiling range
300 - 850.08 °F (148.89 - 454.49 °C)

Flash point
> 100.0 °F (> 37.8 °C) Closed Cup

Evaporation rate
Not available.

Flammability (solid, gas)
Not available.

Upper/lower flammability or explosive limits

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability limit - lower (%)</td>
<td>0.4</td>
</tr>
<tr>
<td>Flammability limit - upper (%)</td>
<td>8</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive limit - upper (%)</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Vapor pressure
< 0.7 kPa (20°C)

Vapor density
3 - 7

Relative density
0.84 - 0.93 (water=1)

Solubility (solvent)

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Solubility (water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Auto-ignition temperature
> 500 °F (> 260 °C)

Decomposition temperature
Not available.

Viscosity
Not available.

10. Stability and reactivity

Reactivity
Not available.

Chemical stability
Stable under normal temperature conditions and recommended use.

Possibility of hazardous reactions
Hazardous polymerization does not occur.

Conditions to avoid
Ignition sources. Heat, flames and sparks. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.

Incompatible materials

Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Causes skin irritation.</td>
</tr>
</tbody>
</table>
Eye contact

May cause eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics


Information on toxicological effects

Acute toxicity

Harmful if inhaled. May be fatal if swallowed and enters airways.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), light catalyst cracked (CAS 64741-59-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>Rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>Rat</td>
<td>&gt; 4.65 mg/l</td>
</tr>
<tr>
<td>LC50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>&gt; 3200 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen sulfide (CAS 7783-06-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>Rat</td>
<td>&gt; 0.38 mg/l, 960 Minutes</td>
</tr>
<tr>
<td>Inhalation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naphthalene (CAS 91-20-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>Rabbit</td>
<td>&gt; 2 g/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Based on available data, the classification criteria are not met.</td>
<td></td>
</tr>
</tbody>
</table>

Respiratory or skin sensitization

Respiratory sensitization Based on available data, the classification criteria are not met.

Skin sensitization Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Distillates (petroleum), light catalyst cracked (CAS 64741-59-9) 3 Not classifiable as to carcinogenicity to humans.

Naphthalene (CAS 91-20-3) 2B Possibly carcinogenic to humans.

NTP Report on Carcinogens

Naphthalene (CAS 91-20-3) Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure May cause damage to organs (Blood, Liver, Kidney) through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication. Contains polycyclic aromatic compounds which have been shown to cause anemia, disorders of the liver, bone marrow and lymphoid tissues in rats following dermal application. Danger of serious damage to health by prolonged exposure. Prolonged or repeated overexposure may cause central nervous system, kidney, liver, and lung damage.

Further information Symptoms may be delayed.
12. Ecological information

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), light catalyst cracked (CAS 64741-59-9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>IC50</td>
<td>Algae</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EL50</td>
<td>Invertebrates (Invertebrates)</td>
</tr>
<tr>
<td>Fish</td>
<td>LL50</td>
<td>Fish</td>
</tr>
<tr>
<td>Hydrogen sulfide (CAS 7783-06-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Lake whitefish (Coregonus clupeaformis) 0.002 mg/l, 96 hours</td>
</tr>
<tr>
<td>Naphthalene (CAS 91-20-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) 1.09 - 3.4 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Pink salmon (Oncorhynchus gorbuscha) 0.95 - 1.62 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability: None known.
Bioaccumulative potential: Not available.
Mobility in soil: Not available.
Other adverse effects: Not available.

13. Disposal considerations

Disposal instructions
Dispose in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

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

US RCRA Hazardous Waste U List: Reference
- Hydrogen sulfide (CAS 7783-06-4) U135
- Naphthalene (CAS 91-20-3) U165

Waste from residues / unused products: Dispose of in accordance with local regulations.

Contaminated packaging: Offer rinsed packaging material to local recycling facilities.

14. Transport information

DOT
- UN number: UN1268
- UN proper shipping name: Petroleum distillates, n.o.s.
- Transport hazard classes:
  - Class: Combustible Liquid
  - Subsidiary risk: -
  - Packing group: III
- Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
- Special provisions: 144, B1, IB3, T4, TP1, TP29
- Packaging exceptions: 150
- Packing non bulk: 203
- Packaging bulk: 242

IATA
- UN number: UN1268
- UN proper shipping name: Petroleum distillates, n.o.s.
- Transport hazard classes:
  - Class: 3
  - Subsidiary risk: -
  - Packing group: III
- Environmental hazards: Yes

Prepared by 3E Company
ERG Code
3L

Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

IMDG
UN number
UN1268

UN proper shipping name
PETROLEUM DISTILLATES, N.O.S.

Transport hazard class(es)
Class
3

Subsidiary risk
-

Packing group
III

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. However, this product is a liquid and if transported in bulk covered under MARPOL 73/78, Annex I.

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.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)
Hydrogen sulfide (CAS 7783-06-4) LISTED
Naphthalene (CAS 91-20-3) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>Reportable quantity</th>
<th>Threshold planning quantity</th>
<th>Threshold planning quantity, lower value</th>
<th>Threshold planning quantity, upper value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen sulfide</td>
<td>7783-06-4</td>
<td>100</td>
<td>500 lbs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous chemical

SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>0-3</td>
</tr>
<tr>
<td>Polycyclic Aromatic Hydrocarbons</td>
<td>130498-29-2</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Naphthalene (CAS 91-20-3)
Polycyclic Aromatic Hydrocarbons (CAS 130498-29-2)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Hydrogen sulfide (CAS 7783-06-4)

Safe Drinking Water Act (SDWA)
Not regulated.

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

US. Massachusetts RTK - Substance List
Hydrogen sulfide (CAS 7783-06-4)
Naphthalene (CAS 91-20-3)

**US. New Jersey Worker and Community Right-to-Know Act**
- Hydrogen sulfide (CAS 7783-06-4)
- Naphthalene (CAS 91-20-3)
- Polycyclic Aromatic Hydrocarbons (CAS 130498-29-2)

**US. Pennsylvania Worker and Community Right-to-Know Law**
- Hydrogen sulfide (CAS 7783-06-4)
- Naphthalene (CAS 91-20-3)
- Polycyclic Aromatic Hydrocarbons (CAS 130498-29-2)

**US. Rhode Island RTK**
- Hydrogen sulfide (CAS 7783-06-4)
- Naphthalene (CAS 91-20-3)

**US. California Proposition 65**
- US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
- Naphthalene (CAS 91-20-3)

### 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>No</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 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**: 27-June-2013
- **Revision date**: 23-May-2014
- **Version #**: 02
- **Further information**: HMIS® is a registered trade and service mark of the NPCA.

### NFPA Ratings

![NFPA Ratings Diagram](image)

### References

- ACGIH
- EPA: AQUIRE database
- NLM: Hazardous Substances Data Base
- US. IARC Monographs on Occupational Exposures to Chemical Agents
- HSDB® - Hazardous Substances Data Bank
- IARC Monographs. Overall Evaluation of Carcinogenicity
- National Toxicology Program (NTP) Report on Carcinogens
- ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
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