SAFETY DATA SHEET

Heavy Aromatic Distillate (HAD)

Version 1.10

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product information

Product Name : Heavy Aromatic Distillate (HAD)
Material : 1037387, 1059199, 1059200, 1037388, 1037386

Use : Fuel Blendstock, Solvent

Company : Chevron Phillips Chemical Company LP
10001 Six Pines Drive
The Woodlands, TX 77380

Emergency telephone:

Health: 866.442.9628 (North America)
1.832.813.4984 (International)

Transport: CHEMTREC 800.424.9300 or 703.527.3887(int'l)
Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600
Argentina: +(54)-1159839431

Responsible Department : Product Safety and Toxicology Group
E-mail address : SDS@CPChem.com
Website : www.CPChem.com

SECTION 2: Hazards identification

Classification of the substance or mixture

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

Classification:

- Flammable liquids, Category 3
- Acute toxicity, Category 3, Inhalation
- Skin irritation, Category 2
- Carcinogenicity, Category 2
- Reproductive toxicity, Category 2
- Specific target organ toxicity - single exposure, Category 3,
- Respiratory system
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Specific target organ toxicity - repeated exposure, Category 1,
Eyes, Blood
Specific target organ toxicity - repeated exposure, Category 2,
Inhalation, Auditory organs, color vision
Aspiration hazard, Category 1

**Labeling**

**Symbol(s):**

*![Diamond symbol with flame](image1)  ![Diamond symbol with skull and crossbones](image2)  ![Diamond symbol with person](image3)  ![Exclamation mark](image4)*

**Signal Word:** Danger

**Hazard Statements:**

- **H226:** Flammable liquid and vapor.
- **H304:** May be fatal if swallowed and enters airways.
- **H315:** Causes skin irritation.
- **H331:** Toxic if inhaled.
- **H335:** May cause respiratory irritation.
- **H351:** Suspected of causing cancer.
- **H361d:** Suspected of damaging the unborn child.
- **H372:** Causes damage to organs (Eyes, Blood) through prolonged or repeated exposure.
- **H373:** May cause damage to organs (Auditory organs, color vision) through prolonged or repeated exposure if inhaled.

**Precautionary Statements:**

**Prevention:**

- **P201:** Obtain special instructions before use.
- **P202:** Do not handle until all safety precautions have been read and understood.
- **P210:** Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- **P233:** Keep container tightly closed.
- **P240:** Ground/bond container and receiving equipment.
- **P241:** Use explosion-proof electrical/ventilating/lighting/equipment.
- **P242:** Use only non-sparking tools.
- **P243:** Take precautionary measures against static discharge.
- **P260:** Do not breathe dust/fume/gas/mist/vapor/spray.
- **P264:** Wash skin thoroughly after handling.
- **P270:** Do not eat, drink or smoke when using this product.
- **P271:** Use only outdoors or in a well-ventilated area.
- **P280:** Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

- **P301 + P310:** IF SWALLOWED: Immediately call a POISON CENTER/doctor.
- **P303 + P361 + P353:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- **P304 + P340 + P311:** IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.
- **P308 + P313:** IF exposed or concerned: Get medical advice/attention.
- **P331:** Do NOT induce vomiting.
- **P332 + P313:** If skin irritation occurs: Get medical advice/attention.
Heavy Aromatic Distillate (HAD)

P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

IARC
Group 2B: Possibly carcinogenic to humans
Ethylbenzene 100-41-4
Cumene 98-82-8
Naphthalene 91-20-3

NTP
Reasonably anticipated to be a human carcinogen
Cumene 98-82-8
Naphthalene 91-20-3

SECTION 3: Composition/information on ingredients

Synonyms:
HAD
Steam Cracked Distillates (Petroleum)
Heavy Aromatic Distillate Gas Blend

Molecular formula: UVCB

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), Hydrotreated light</td>
<td>64742-47-8</td>
<td>100</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>0 - 30</td>
</tr>
<tr>
<td>2,3-Dihydro-1H-Indene</td>
<td>496-11-7</td>
<td>0 - 30</td>
</tr>
<tr>
<td>4,7-Methano-1H-indene, octahydro-, (3aR,4S,7R,7aS)-rel-</td>
<td>2825-82-3</td>
<td>0 - 30</td>
</tr>
<tr>
<td>Benzene, dimethyl-</td>
<td>1330-20-7</td>
<td>0 - 10</td>
</tr>
<tr>
<td>Cumene</td>
<td>98-82-8</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Ethyltoluene</td>
<td>25550-14-5</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>0 - 1</td>
</tr>
<tr>
<td>1-Methylnaphthalene</td>
<td>90-12-0</td>
<td>0 - 1</td>
</tr>
<tr>
<td>2-Methylnaphthalene</td>
<td>91-57-6</td>
<td>0 - 1</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>95-63-6</td>
<td>0 - 1</td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>0 - 0.01</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

General advice: Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if
Heavy Aromatic Distillate (HAD)

**SECTION 5: Firefighting measures**

- **Flash point**: 40.6-57.2°C (105.1-135.0°F)
  - Method: ASTM D-6450 CCFP

- **Autoignition temperature**: 314.44°C (597.99°F)

- **Suitable extinguishing media**: Alcohol-resistant foam, Carbon dioxide (CO2), Dry chemical.

- **Unsuitable extinguishing media**: High volume water jet.

- **Specific hazards during firefighting**: Do not allow run-off from fire fighting to enter drains or water courses.

- **Special protective equipment for fire-fighters**: Wear self-contained breathing apparatus for firefighting if necessary.

- **Further information**: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

- **Fire and explosion protection**: Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.

**SECTION 6: Accidental release measures**

- **Personal precautions**: Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low
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SDS Number: 100000010939

Environmental precautions: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7: Handling and storage

Handling

Advice on safe handling: Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion: Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.

Storage

Requirements for storage areas and containers: Prevent unauthorized access. No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Use: Fuel Blendstock, Solvent

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), Hydrotreated light</td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>500 ppm, 2,000 mg/m³</td>
<td>(b).</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>400 ppm, 1,600 mg/m³</td>
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</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>200 mg/m³</td>
<td>CNS impair, URT irr, skin irr, P, A3, Skin, varies.</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Mist</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Mist</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>100 ppm, 435 mg/m³</td>
<td>(b).</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>100 ppm, 435 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>STEL</td>
<td>125 ppm, 545 mg/m³</td>
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</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>20 ppm</td>
<td>cochlear imp, kidney dam (nephropathy).</td>
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</tbody>
</table>
## Heavy Aromatic Distillate (HAD)

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<table>
<thead>
<tr>
<th>Substance</th>
<th>OSHA Z-1</th>
<th>TWA</th>
<th>100 ppm, 435 mg/m3</th>
<th>URT irr, BEI, A3.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene, dimethyl-</td>
<td>OSHA Z-1-A</td>
<td>STEL</td>
<td>150 ppm, 655 mg/m3</td>
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<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>100 ppm, 435 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>100 ppm,</td>
<td>CNS impair, URT irr, eye irr, BEI, A4,</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>150 ppm,</td>
<td>CNS impair, URT irr, eye irr, BEI, A4,</td>
</tr>
<tr>
<td>Cumene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>50 ppm,</td>
<td>X, (b),</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>50 ppm, 245 mg/m3</td>
<td>X, (b),</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>50 ppm, 245 mg/m3</td>
<td>X, (b),</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-2</td>
<td>TWA</td>
<td>200 ppm,</td>
<td>visual impair, female repro, pregnancy loss, BEI, A4,</td>
</tr>
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<td></td>
<td>OSHA Z-2</td>
<td>CEIL</td>
<td>300 ppm,</td>
<td></td>
</tr>
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<td></td>
<td>OSHA Z-2</td>
<td>Peak</td>
<td>500 ppm,</td>
<td></td>
</tr>
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<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>100 ppm, 375 mg/m3</td>
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<td>OSHA Z-1-A</td>
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<tr>
<td>Naphthalene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>10 ppm,</td>
<td>hemolytic anemia, URT irr, cataract, A3, Skin,</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>15 ppm,</td>
<td>hematologic eff, URT irr, eye irr, eye dam, (b), A4, Skin,</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>10 ppm, 50 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>10 ppm, 50 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>STEL</td>
<td>15 ppm, 75 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>25 ppm,</td>
<td></td>
</tr>
<tr>
<td>1-Methylnaphthalene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.5 ppm,</td>
<td>LRT irr, lung dam, A4, Skin,</td>
</tr>
<tr>
<td>2-Methylnaphthalene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.5 ppm,</td>
<td>LRT irr, lung dam, A4, Skin,</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>25 ppm,</td>
<td>CNS impair, hematologic eff, asthma,</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>25 ppm, 125 mg/m3</td>
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</tr>
<tr>
<td>Benzene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.5 ppm,</td>
<td>leukemia, BEI, A1, Skin,</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>2.5 ppm,</td>
<td>leukemia, BEI, A1, Skin,</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>1 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>CEIL</td>
<td>5 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-2</td>
<td>Peak</td>
<td>50 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA 29 CFR 1910.1028(c)</td>
<td>TWA</td>
<td>1 ppm,</td>
<td></td>
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<tr>
<td></td>
<td>OSHA 29 CFR 1910.1028(c)</td>
<td>STEL</td>
<td>5 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA CARC</td>
<td>PEL</td>
<td>1 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA CARC</td>
<td>STEL</td>
<td>5 ppm,</td>
<td></td>
</tr>
</tbody>
</table>

1 Adopted values or notations enclosed are those for which changes are proposed in the NCI.
(a) This standard applies to the industry segments exempt from the 1 ppm 8-hour TWA and 5 ppm STEL of the benzene standard at 1910.1028.
(b) The value in mg/m3 is approximate.
A1 Confirmed human carcinogen
A3 Confirmed animal carcinogen with unknown relevance to humans
A4 Not classifiable as a human carcinogen
CNS impair Central Nervous System impairment
eye dam Eye damage
eye irr Eye irritation
female repro Female reproductive
hematologic eff Hematologic effects
hemolytic Hemolytic anemia
kidney dam Kidney damage (nephropathy)
leukemia Leukemia
LRT irr Lower Respiratory Tract irritation
lung dam Lung damage
P Application restricted to conditions in which there are negligible aerosol exposures
pregnancy loss Pregnancy loss
Skin Danger of cutaneous absorption
skin irr Skin irritation
URT irr Upper Respiratory Tract irritation
varies varies
visual impair Visual impairment
X Skin designation
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Immediately Dangerous to Life or Health Concentrations (IDLH)

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), Hydrotreated light</td>
<td>64742-47-8</td>
<td>Immediately Dangerous to Life or Health Concentration Value 2500 mg/m³</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>Immediately Dangerous to Life or Health Concentration Value 800 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Benzene, dimethyl-</td>
<td>1330-20-7</td>
<td>Immediately Dangerous to Life or Health Concentration Value 900 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Cumene</td>
<td>98-82-8</td>
<td>Immediately Dangerous to Life or Health Concentration Value 900 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>Immediately Dangerous to Life or Health Concentration Value 500 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>Immediately Dangerous to Life or Health Concentration Value 250 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>Immediately Dangerous to Life or Health Concentration Value 500 parts per million</td>
<td>1995-03-01</td>
</tr>
</tbody>
</table>

Biological exposure indices

US

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Sampling time</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>Sum of mandelic acid and phenyl glyoxylic acid: 0.15 g/g creatinine (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2016-03-01</td>
</tr>
<tr>
<td>Benzene, dimethyl-</td>
<td>1330-20-7</td>
<td>Methylhippuric acids: 1.5 g/g creatinine (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2013-03-01</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>Toluene: 0.02 mg/l (In blood)</td>
<td>Prior to last shift of workweek</td>
<td>2010-03-01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Toluene: 0.03 mg/l (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2010-03-01</td>
</tr>
<tr>
<td>o-Cresol</td>
<td></td>
<td>o-Cresol: 0.3 mg/g Creatinine (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2010-03-01</td>
</tr>
</tbody>
</table>

Engineering measures

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

Respiratory protection: Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this...
material if exposure to harmful levels of airborne material may occur, such as: Organic Vapor Cartridges. Full-Face Supplied-Air Respirator. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection: The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection: Eye wash bottle with pure water.

Skin and body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. Wear as appropriate: Flame retardant antistatic protective clothing. Workers should wear antistatic footwear. Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus. Footwear protecting against chemicals.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance
Physical state: Liquid
Color: Colorless
Odor: Aromatic

Safety data
Flash point: 40.6-57.2°C (105.1-135.0°F)
Method: ASTM D-6450 CCFP
Lower explosion limit: 1 %(V)
Upper explosion limit: 7.2 %(V)
Oxidizing properties: No

Autoignition temperature: 314.44°C (597.99°F)
Thermal decomposition: No data available

Molecular formula: UVCB
Molecular weight: Not applicable
Heavy Aromatic Distillate (HAD)

**SECTION 10: Stability and reactivity**

**Chemical stability** : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of hazardous reactions**

**Hazardous reactions** : Further information: No decomposition if stored and applied as directed.

Hazardous reactions: Vapors may form explosive mixture with air.

**Conditions to avoid** : Heat, flames and sparks.

**Thermal decomposition** : No data available

**Other data** : No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information**

**Heavy Aromatic Distillate (HAD)**

**Acute oral toxicity** : LD50 Oral: > 6,000 mg/kg
Heavy Aromatic Distillate (HAD)

Acute inhalation toxicity
Species: Rat
LC50: 8.5 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: vapor
Test substance: yes

Heavy Aromatic Distillate (HAD)
Acute dermal toxicity
Species: Rabbit
LD50 Dermal: > 2,000 mg/kg
Test substance: yes

Heavy Aromatic Distillate (HAD)
Skin irritation
irritating
May cause skin irritation in susceptible persons.

Heavy Aromatic Distillate (HAD)
Eye irritation
No eye irritation. largely based on animal evidence.
Vapors may cause irritation to the eyes, respiratory system and the skin.

Heavy Aromatic Distillate (HAD)
Sensitization
Did not cause sensitization on laboratory animals.

Heavy Aromatic Distillate (HAD)
Repeated dose toxicity
Species: Rat, male and female
Sex: male and female
Application Route: Dermal
Dose: 500 mg/kg, 1500 mg/kg
Exposure time: 4 weeks
Method: Based on product or component testing, long term repeated exposure may cause damage to the following organs:
Target Organs: Auditory organs, Eyes, Blood
Estimated based on individual component values.

Genotoxicity in vitro
Ethylbenzene
Test Type: Ames test
Result: negative
Test Type: Unscheduled DNA synthesis assay
Result: negative

Benzene, dimethyl-
Test Type: Ames test
Result: negative
Test Type: Mouse lymphoma assay
Result: negative

Cumene
Test Type: Ames test
Heavy Aromatic Distillate (HAD)

Result: negative
Test Type: Cytogenetic assay
Result: negative
Test Type: HGPRT assay
Result: negative
Test Type: Unscheduled DNA synthesis assay
Result: negative

Toluene
Test Type: Ames test
Result: negative
Test Type: Sister Chromatid Exchange Assay
Result: negative
Test Type: Mouse lymphoma assay
Result: negative
Test Type: Cytogenetic assay
Result: negative

Naphthalene
Test Type: Ames test
Result: negative
Test Type: Sister Chromatid Exchange Assay
Result: negative
Test Type: Unscheduled DNA synthesis assay
Result: negative

Benzene
Test Type: Ames test
Result: negative
Test Type: Cytogenetic assay
Result: positive
Test Type: Mouse lymphoma assay
Result: positive
Test Type: Sister Chromatid Exchange Assay
Result: negative

Genotoxicity in vivo

Ethylbenzene: Test Type: Mouse micronucleus assay
Species: Mouse
Result: negative

4,7-Methano-1H-indene, octahydro-, (3aR,4S,7R,7aS)-rel-
Benzene, dimethyl-
Test Type: Sister chromatid exchange
Result: negative
Test Type: Mouse micronucleus assay
Result: negative

Cumene
Test Type: Mouse micronucleus assay
Result: negative
Heavy Aromatic Distillate (HAD)

Toluene
Test Type: Cytogenetic assay
Result: negative

Test Type: Mouse micronucleus assay
Result: negative

Naphthalene
Test Type: Mouse micronucleus assay
Result: negative

Benzene
Test Type: Mouse micronucleus assay
Result: positive

Heavy Aromatic Distillate (HAD)
Carcinogenicity
Method: Estimated based on individual component values.
Remarks: Suspect cancer hazard

Heavy Aromatic Distillate (HAD)
Reproductive toxicity
This information is not available.

Heavy Aromatic Distillate (HAD)
Developmental Toxicity
This information is not available.

Heavy Aromatic Distillate (HAD)
Aspiration toxicity
May be fatal if swallowed and enters airways.

Heavy Aromatic Distillate (HAD)
Toxicology Assessment

Heavy Aromatic Distillate (HAD)
CMR effects
Carcinogenicity:
Suspected of causing cancer.
Mutagenicity:
This information is not available.
Teratogenicity:
Suspected of damaging the unborn child.

Heavy Aromatic Distillate (HAD)
Further information
Solvents may degrease the skin.

SECTION 12: Ecological information

Ecotoxicity effects

Toxicity to fish
Toxic to fish.
Estimated based on individual component values.

Toxicity to daphnia and other aquatic invertebrates
Toxic to aquatic organisms.
Estimated based on individual component values.

Toxicity to algae
Toxic to algae.
Estimated based on individual component values.
**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**

- **Distillates (petroleum), Hydrotreated light**
  - NOEC: 0.48 mg/l
  - Exposure time: 21 Days
  - Species: Daphnia magna (Water flea)
  - Method: OECD Test Guideline 211

- **Ethylbenzene**
  - NOEC: 1 mg/l
  - Exposure time: 7 d
  - Species: Daphnia pulex (Water flea)
  - Method: OECD Test Guideline 202
  - Analytical monitoring: yes

**Biodegradability**

- This material is not expected to be readily biodegradable.

**Elimination information (persistence and degradability)**

- **Bioaccumulation**
  - This material is not expected to bioaccumulate.

- **Results of PBT assessment**
  - This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).

- **Additional ecological information**
  - An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

**Ecotoxicology Assessment**

- **Short-term (acute) aquatic hazard**
  - Toxic to aquatic life.

- **Long-term (chronic) aquatic hazard**
  - Toxic to aquatic life with long lasting effects.

**SECTION 13: Disposal considerations**

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

- **Product**
  - The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

- **Contaminated packaging**
  - Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

**SECTION 14: Transport information**

The shipping descriptions shown here are for bulk shipments only, and may not apply to
shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**
UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**
UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III, (40.6-57.2°C), MARINE POLLUTANT, (DISTILLATES (PETROLEUM) HYDROTREATED LIGHT)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**
UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III

**ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))**
UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III, (D/E), ENVIRONMENTALLY HAZARDOUS, (DISTILLATES (PETROLEUM) HYDROTREATED LIGHT)

**RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))**
UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III, ENVIRONMENTALLY HAZARDOUS, (DISTILLATES (PETROLEUM) HYDROTREATED LIGHT)

**ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)**
UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III, ENVIRONMENTALLY HAZARDOUS, (DISTILLATES (PETROLEUM) HYDROTREATED LIGHT)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

**SECTION 15: Regulatory information**

**National legislation**

**SARA 311/312 Hazards**
- Flammable (gases, aerosols, liquids, or solids)
- Acute toxicity (any route of exposure)
- Skin corrosion or irritation
- Reproductive toxicity
- Specific target organ toxicity (single or repeated exposure)
- Aspiration hazard
- Carcinogenicity
## EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW

<table>
<thead>
<tr>
<th>CERCLA Reportable Quantity</th>
<th>: 3333 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene</td>
<td></td>
</tr>
<tr>
<td>100 lbs benzene, dimethyl</td>
<td></td>
</tr>
<tr>
<td>10 lbs benzene</td>
<td></td>
</tr>
<tr>
<td>100 lbs toluene</td>
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</table>

<table>
<thead>
<tr>
<th>SARA 302 Reportable Quantity</th>
<th>: This material does not contain any components with a SARA 302 RQ.</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>SARA 302 Threshold Planning Quantity</th>
<th>: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SARA 304 Reportable Quantity</th>
<th>: This material does not contain any components with a section 304 EHS RQ.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SARA 313 Components</th>
<th>: The following components are subject to reporting levels established by SARA Title III, Section 313:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene</td>
<td>- 100-41-4</td>
</tr>
<tr>
<td>Benzene, dimethyl</td>
<td>- 1330-20-7</td>
</tr>
<tr>
<td>Cumene</td>
<td>- 98-82-8</td>
</tr>
<tr>
<td>Toluene</td>
<td>- 108-88-3</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>- 91-20-3</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>- 95-63-6</td>
</tr>
</tbody>
</table>

## Clean Air Act

- **Ozone-Depletion Potential**: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

- Ethylbenzene - 100-41-4
- Benzene, dimethyl - 1330-20-7
- Cumene - 98-82-8
- Toluene - 108-88-3
- Naphthalene - 91-20-3
Heavy Aromatic Distillate (HAD)

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

- Ethylbenzene - 100-41-4
- Benzene, dimethyl- - 1330-20-7
- Cumene - 98-82-8
- Toluene - 108-88-3
- 1-Methylnaphthalene - 90-12-0
- 2-Methylnaphthalene - 91-57-6

US State Regulations

Pennsylvania Right To Know

- Distillates (petroleum), Hydrotreated light - 64742-47-8
- Ethylbenzene - 100-41-4
- 2,3-Dihydro-1H-indene - 496-11-7
- 4,7-Methano-1H-indene, octahydro-, (3aR,4S,7R,7aS)-rel- - 2825-82-3
- Benzene, dimethyl- - 1330-20-7
- Cumene - 98-82-8
- Ethyltoluene - 25550-14-5
- Toluene - 108-88-3
- Naphthalene - 91-20-3
- 1-Methylnaphthalene - 90-12-0
- 1,2,4-Trimethylbenzene - 95-63-6
- Benzene - 71-43-2

California Prop. 65 Components

WARNING: This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov/food.

Benzene 71-43-2

WARNING: This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Benzene 71-43-2

Notification status

Europe REACH : Not in compliance with the inventory

SDS Number: 100000010939 16/18
SECTION 16: Other information

NFPA Classification
- Health Hazard: 2
- Fire Hazard: 2
- Reactivity Hazard: 0

Further information
Legacy SDS Number: PE0047

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
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<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
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<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
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</table>

SDS Number: 100000010939
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
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<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
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<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
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<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
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<td>GHS</td>
<td>Globally Harmonized System</td>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
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<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
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<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act</td>
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<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
<td>TLV</td>
<td>Threshold Limit Value</td>
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<td>TWA</td>
<td>Time Weighted Average</td>
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<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
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<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
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<td>&lt;=</td>
<td>Less Than or Equal To</td>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
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<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
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<td></td>
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</table>