n-Heptane 95%

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

Product information
Product Name: n-Heptane 95%
Material: 1112006, 1087161, 1103411, 1103130, 1087156, 1087182, 1087183, 1028620

Use: Solvent

Company: Chevron Phillips Chemical Company LP
Specialty Chemicals
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: +800 CHEMCALL (+800 2436 2255) China:+86-21-22157316
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

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.

Emergency Overview

Danger
Form: Liquid  Physical state: Liquid  Color: Clear  Odor: Sweet
OSHA Hazards: Flammable Liquid, Moderate skin irritant, Specific target organ systemic toxicity - single exposure, Aspiration hazard

Classification
SDS Number: 100000013815
SAFETY DATA SHEET

n-Heptane 95%

Version 1.5

Revision Date 2016-01-29

: Flammable liquids, Category 2
Skin irritation, Category 2
Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system
Aspiration hazard, Category 1

Labeling

Symbol(s)

Signal Word: Danger

Hazard Statements: H225: Highly flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.

Precautionary Statements:

Prevention:
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.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/eye protection/face protection.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

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.
n-Heptane 95%

Carcinogenicity:

IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Normal Heptane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular formula</td>
<td>C7H16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Heptane</td>
<td>142-82-5</td>
<td>95 - 100</td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>0.005</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

General advice: Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.

If inhaled: Move to fresh air. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact: If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact: Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed: Keep respiratory tract clear. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point: -4 °C (25 °F)

Autoignition temperature: 204 °C (399 °F)

Unsuitable extinguishing media: High volume water jet.

SDS Number: 100000013815
**n-Heptane 95%**

**Version 1.5**

<table>
<thead>
<tr>
<th>Specific hazards during fire fighting</th>
<th>Do not allow run-off from fire fighting to enter drains or water courses.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special protective equipment for fire-fighters</td>
<td>Wear self-contained breathing apparatus for firefighting if necessary.</td>
</tr>
<tr>
<td>Further information</td>
<td>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.</td>
</tr>
<tr>
<td>Fire and explosion protection</td>
<td>Do not spray on an open flame or any other incandescent material. Use only explosion-proof equipment. 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.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Carbon oxides.</td>
</tr>
</tbody>
</table>

**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 areas. |
| 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 contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. 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. Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary, but may not by themselves be sufficient. Review all operations, which have the potential to generating and accumulation of electrostatic charge and/or a flammable atmosphere (including tank and storage) |

**SDS Number:** 100000013815
container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106 "Flammable and Combustible Liquids"; National Fire Protection Association (NFPA 77), "Recommended Practice on Static Electricity"; and/or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising Out of Static, Lightning, and stray Currents".

Advice on protection against fire and explosion: Do not spray on an open flame or any other incandescent material. Use only explosion-proof equipment. 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: 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.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

US

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Heptane</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, 1,800 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>STEL</td>
<td>500 ppm, 2,000 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>400 ppm.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>500 ppm.</td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.5 ppm.</td>
<td>BEI, A1, Skin</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>2.5 ppm.</td>
<td>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>(a).</td>
</tr>
<tr>
<td></td>
<td>OSHA 29 CFR 1910.1028(c)</td>
<td>TWA</td>
<td>1 ppm.</td>
<td></td>
</tr>
<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>

(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
BEI Substances for which there is a Biological Exposure Index or Indices (see BEI® section)
Skin Danger of cutaneous absorption

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 work place 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

SDS Number:100000013815 5/15
n-Heptane 95%

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: Air-Purifying Respirator for Organic Vapors. 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. Tightly fitting safety goggles.

Skin and body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate: Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.

Hygiene measures: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

For additional details, see the Exposure Scenario in the Annex portion

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance
Form: Liquid
Physical state: Liquid
Color: Clear
Odor: Sweet

Safety data
Flash point: -4 °C (25 °F)
Lower explosion limit: 1 % (V)
Upper explosion limit: 7 % (V)
Oxidizing properties: no
Autoignition temperature: 204 °C (399 °F)
Molecular formula: C7H16
### UNIT 1: General information

- **Product Name:** n-Heptane 95%

### UNIT 2: Safety and健康的reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>100.23 g/mol</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Pour point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>98.5 °C (209.3 °F)</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>at 25 °C (77 °F)</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.72 at 16 °C (61 °F)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Negligible</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Pow: 4.66</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>3.4 (Air = 1.0)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Percent volatile</td>
<td>&gt; 99 %</td>
</tr>
</tbody>
</table>

### 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**
  - **Conditions to avoid:** Heat, flames and sparks.
  - **Materials to avoid:** May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
  - **Hazardous decomposition products:** Carbon oxides
  - **Other data:** No decomposition if stored and applied as directed.

### SECTION 11: Toxicological information

- **Acute oral toxicity**
  - **n-Heptane**
    - LD50: > 5,000 mg/kg
    - Species: Rat
    - Method: OECD Test Guideline 401
    - Information given is based on data obtained from similar substances.
  - **Benzene**
    - LD50: > 2,000 mg/kg
    - Species: Rat
n-Heptane 95%

Sex: female

**Acute inhalation toxicity**
Benzene : LC50: 44.5 mg/l
Exposure time: 4 h
Species: Rat
Sex: Not Specified
Test atmosphere: vapor

**Acute dermal toxicity**
Benzene : LD50: > 8,260 mg/kg
Species: Rabbit

n-Heptane 95%
**Skin irritation** : Irritating to skin.

n-Heptane 95%
**Eye irritation** : Vapors may cause irritation to the eyes, respiratory system and the skin.

**Sensitization**
n-Heptane : Did not cause sensitization on laboratory animals.
Information given is based on data obtained from similar substances.

Benzene : Did not cause sensitization on laboratory animals.

**Repeated dose toxicity**
n-Heptane : Species: Rat, male
Sex: male
Application Route: Inhalation
Dose: 12.47 mg/l
Exposure time: 16 wk
Number of exposures: 12 h/d, 7 d/wk
NOEL: 12.47 mg/l
No adverse effect has been observed in chronic toxicity tests.

Benzene : Species: Rat, female
Sex: female
Application Route: oral gavage
Dose: 0, 25, 50, 100 mg/kg
Exposure time: 103 wk
Number of exposures: 5 d/wk
NOEL: < 25 mg/kg
Lowest observable effect level: 25 mg/kg
Species: Rat, male
Sex: male
Application Route: oral gavage
Dose: 0, 50, 100, 200 mg/kg
Exposure time: 103 wk
Number of exposures: 5 d/wk
NOEL: < 50 mg/kg
Lowest observable effect level: 50 mg/kg

Species: Mouse
Application Route: oral gavage
Dose: 0, 25, 50, 100 mg/kg
Exposure time: 103 wk
NOEL: < 25 mg/kg

Carcinogenicity

Benzene

Species: Rat
Sex: female
Dose: 0, 25, 50, 250 mg/kg
Exposure time: 103 wks
Number of exposures: daily, 5 days/week
Test substance: yes
Remarks: zymbal gland carcinomas, squamous cell papillomas

Species: Rat
Sex: male
Dose: 0, 50, 100, 200 mg/kg
Exposure time: 103 wks
Number of exposures: daily, 5 days/week
Test substance: yes
Remarks: zymbal gland carcinomas, squamous cell papillomas

Species: Mouse
Sex: male and female
Dose: 25, 50, 100 mg/kg
Exposure time: 103 wks
Number of exposures: daily, 5 days/week
Test substance: yes
Remarks: Clear evidence of multiple organ carcinogenicity.

Reproductive toxicity

n-Heptane

Species: Rat
Application Route: Inhalation
Dose: 0, 900, 3000, 9000 ppm
Number of exposures: 6 hr/d, 5 d/wk
Test period: 13 wk
Method: OECD Test Guideline 416
NOAEL Parent: 9000 ppm
NOAEL F1: 3000 ppm
NOAEL F2: 3000 ppm

Developmental Toxicity

n-Heptane

Species: Rat
n-Heptane 95%

Application Route: Inhalation
Dose: 0, 900, 3000, 9000 ppm
Exposure time: GD6-15
Number of exposures: 6 hrs/d
NOAEL Teratogenicity: 9000 ppm
NOAE Maternal: 3000 ppm

n-Heptane 95%
Aspiration toxicity: May be fatal if swallowed and enters airways. Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

CMR effects
n-Heptane: Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Teratogenicity: Animal testing did not show any effects on fetal development. Reproductive toxicity: No toxicity to reproduction

Benzene: Carcinogenicity: Human carcinogen. Mutagenicity: In vivo tests showed mutagenic effects. Teratogenicity: Did not show teratogenic effects in animal experiments. Reproductive toxicity: Animal testing did not show any effects on fertility.

n-Heptane 95%
Further information: Solvents may degrease the skin.

SECTION 12: Ecological information

Ecotoxicity effects
Toxicity to fish
n-Heptane: LL50: 1.284 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Method: QSAR

LC50: 375 mg/l
Exposure time: 96 h
Species: Tilapia mosambica (Fish)

Benzene: LC50: 5.3 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
flow-through test Test substance: yes
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: 0.1 mg/l
Exposure time: 96 h
Species: Mysidopsis bahia (mysid shrimp)
1.5 mg/l

SDS Number: 100000013815
**SAFETY DATA SHEET**

**n-Heptane 95%**

**Version 1.5**

**Exposure time:** 48 h  
**Species:** Daphnia magna (Water flea)

### Toxicity to algae

**n-Heptane**

- EL50: 4.338 mg/l  
- Exposure time: 72 h  
- Species: Pseudokirchneriella subcapitata (microalgae)  
- Method: QSAR

**Benzene**

- ErC50: 100 mg/l  
- Exposure time: 72 h  
- Species: Pseudokirchneriella subcapitata (green algae)  
- Test substance: yes  
- Method: OECD Test Guideline 201

### Biodegradability

**n-Heptane**

- Result: Readily biodegradable.  
- 70 %  
- Testing period: 10 d

**Benzene**

- According to the results of tests of biodegradability this product is considered as being readily biodegradable.

### Acute aquatic toxicity

**n-Heptane**

- Very toxic to aquatic life.

**Benzene**

- Toxic to aquatic life.

### Chronic aquatic toxicity

**n-Heptane**

- Very toxic to aquatic life with long lasting effects.

**Benzene**

- Harmful to aquatic life with long lasting effects.

### Results of PBT assessment

**n-Heptane**

- Non-classified PBT substance, Non-classified vPvB substance

**Benzene**

- This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

### 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.
n-Heptane 95%

Product: Do not dispose of waste into sewer. 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.

For additional details, see the Exposure Scenario in the Annex portion

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)
UN1206, HEPTANES, 3, II, MARINE POLLUTANT, (N-HEPTANE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
UN1206, HEPTANES, 3, II, (-4 °C), MARINE POLLUTANT, (N-HEPTANE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)
UN1206, HEPTANES, 3, II

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))
UN1206, HEPTANES, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (N-HEPTANE)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
UN1206, HEPTANES, 3, II, ENVIRONMENTALLY HAZARDOUS, (N-HEPTANE)

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
UN1206, HEPTANES, 3, II, ENVIRONMENTALLY HAZARDOUS, (N-HEPTANE)

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

SECTION 15: Regulatory information

National legislation
SDS Number:100000013815  12/15
n-Heptane 95%

SARA 311/312 Hazards : Fire Hazard

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

SARA 302 Threshold Planning Quantity : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Ingredients : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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):

- Benzene - 71-43-2

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):

- Benzene - 71-43-2

US State Regulations

Pennsylvania Right To Know : n-Heptane - 142-82-5

New Jersey Right To Know : n-Heptane - 142-82-5
n-Heptane 95%

CALIFORNIA Prop. 65

Ingredients

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

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

Notification status

Europe REACH : On the inventory, or in compliance with the inventory
United States of America TSCA : On the inventory, or in compliance with the inventory
Canada DSL : On the inventory, or in compliance with the inventory
Australia AICS : On the inventory, or in compliance with the inventory
New Zealand NZIoC : On the inventory, or in compliance with the inventory
Japan ENCS : On the inventory, or in compliance with the inventory
Korea KECI : On the inventory, or in compliance with the inventory
Philippines PICCS : On the inventory, or in compliance with the inventory
China IECSC : On the inventory, or in compliance with the inventory

SECTION 16: Other information

NFPA Classification

Health Hazard: 2
Fire Hazard: 3
Reactivity Hazard: 0

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>
</tr>
</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</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
</tbody>
</table>

SDS Number: 100000013815
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act.</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
</tbody>
</table>

| SDS Number | 100000013815 |