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

Product information
Product Name: Toluene Standardization Fuel 89.3
Material: 1024317, 1024314, 1024315, 1024316

Use: Reference Fuel

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 +32.14.583516 (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: Strong gasoline
OSHA Hazards: Flammable Liquid, Moderate skin irritant, Aspiration hazard, Reproductive hazard, Target Organ Effects

Classification: Flammable liquids, Category 2

SDS Number: 1000000013847 1/15
### SAFETY DATA SHEET

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| Skin irritation, Category 2 |
| Eye irritation, Category 2A |
| Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system |
| Specific target organ systemic toxicity - repeated exposure, Category 2, Auditory organs |
| Aspiration hazard, Category 1 |
| Reproductive toxicity, Category 2 |

#### Labeling

**Symbol(s):**

- Danger

**Signal Word:** Danger

**Hazard Statements:**

- H225: Highly flammable liquid and vapor.
- H304: May be fatal if swallowed and enters airways.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H336: May cause drowsiness or dizziness.
- H361: Suspected of damaging fertility or the unborn child.
- H373: May cause damage to organs (Auditory organs) through prolonged or repeated exposure.

#### 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.
- P260: Do not breathe dust/fume/gas/mist/vapor/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): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P314: Get medical advice/attention if you feel unwell.
- P331: Do NOT induce vomiting.
- P332 + P313: If skin irritation occurs: Get medical advice/attention.
- P337 + P313: If eye irritation persists: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
Toluene Standardization Fuel 89.3

SECTION 3: Composition/information on ingredients

Synonyms: Reference Fuel
Molecular formula: Mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>70</td>
</tr>
<tr>
<td>n-Heptane</td>
<td>142-82-5</td>
<td>30</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. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.

If inhaled: Consult a physician after significant exposure. If unconscious place in recovery position and seek medical advice.

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: Flush eyes with water as a precaution. 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. If symptoms persist, call a physician. Take victim immediately to hospital.
**SECTION 5: Firefighting measures**

- **Flash point**: 4 °C (39 °F)  
  Method: closed cup estimated

- **Autoignition temperature**: 528.9 °C (984.0 °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). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

- **Hazardous decomposition products**: Hydrocarbons. Carbon oxides.

**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: 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 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". 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). Use only explosion-proof equipment. 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

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>20 ppm, 375 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-2 TWA</td>
<td>200 ppm,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-2 CEIL</td>
<td>300 ppm,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-2 Peak</td>
<td>500 ppm,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A TWA</td>
<td>100 ppm, 375 mg/m3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A STEL</td>
<td>150 ppm, 560 mg/m3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n-Heptane</td>
<td>OSHA Z-1 TWA</td>
<td>500 ppm, 2,000 mg/m3</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A TWA</td>
<td>400 ppm, 1,600 mg/m3</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A STEL</td>
<td>500 ppm, 2,000 mg/m3</td>
<td>(b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH TWA</td>
<td>400 ppm, 1,600 mg/m3</td>
<td>(b)</td>
<td></td>
</tr>
</tbody>
</table>
Toluene Standardization Fuel 89.3

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<table>
<thead>
<tr>
<th>ACGIH</th>
<th>STEL</th>
<th>500 ppm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The value in mg/m3 is approximate.
A4 Not classifiable as a human carcinogen
BEI Substances for which there is a Biological Exposure Index or Indices (see BEI® section)

**Engineering measures**

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: 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 according to the amount and concentration of the dangerous substance at the 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.

### SECTION 9: Physical and chemical properties

**Information on basic physical and chemical properties**

**Appearance**

<table>
<thead>
<tr>
<th>Form</th>
<th>Physical state</th>
<th>Color</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Liquid</td>
<td>Clear</td>
<td>Strong gasoline</td>
</tr>
</tbody>
</table>

**Safety data**

<table>
<thead>
<tr>
<th>Flash point</th>
<th>Method: closed cup</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 °C (39 °F)</td>
<td></td>
</tr>
</tbody>
</table>

SDS Number:100000013847 6/15
Estimated Lower explosion limit : 1.1 % (V)
Estimated Upper explosion limit : 7.1 % (V)
Oxidizing properties : No

Autoignition temperature : 528.9 °C (984.0 °F)
Molecular formula : Mixture
Molecular weight : No data available
pH : Not applicable
Freezing point : -94.44 °C (-137.99 °F)
Pour point : No data available

Boiling point/boiling range : 99 °C (210 °F)
Vapor pressure : 30.00 MMHG estimated
Relative density : 0.87
at 15.6 °C (60.1 °F)
Density : 0.9 g/cm³
Water solubility : Negligible
Partition coefficient: n-octanol/water : No data available
Viscosity, kinematic : No data available
Relative vapor density : 3.2
(Air = 1.0)
Evaporation rate : 4.5
Percent volatile : > 99 %

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.
**Toluene Standardization Fuel 89.3**

**Materials to avoid**: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Hazardous decomposition products**: Hydrocarbons
Carbon oxides

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

**SECTION 11: Toxicological information**

**Toluene Standardization Fuel 89.3**

**Acute oral toxicity**: 
LD50 Oral: > 5,000 mg/kg  
Species: Rat  
Method: Acute toxicity estimate

**Acute inhalation toxicity**

**Toluene**: 
LC50: 25.7 - 30 mg/l  
Exposure time: 4 h  
Species: Rat  
Test atmosphere: vapor

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**Acute dermal toxicity**: 
LD50 Dermal: > 2,000 mg/kg  
Species: Rabbit  
Method: Acute toxicity estimate

**Toluene Standardization Fuel 89.3**

**Skin irritation**: 
May cause skin irritation in susceptible persons. Information refers to the main ingredient.

**Eye irritation**: 
Vapors may cause irritation to the eyes, respiratory system and the skin.

**Toluene Standardization Fuel 89.3**

**Sensitization**: 
Contains no substance or substances classified as sensitizing.

**Repeated dose toxicity**

**Toluene**: 
Species: Rat  
Application Route: Inhalation  
Dose: 0, 100, 625, 1250, 3000 ppm  
Exposure time: 15 wk  
Number of exposures: 6.5 h/d, 5 d/wk  
NOEL: 625 ppm

Species: Mouse  
Application Route: Inhalation  
Dose: 0, 100, 625, 1250, 3000 ppm  
Exposure time: 14 wk  
Number of exposures: 6.5 h/d, 5 d/wk  
NOEL: 100 ppm

**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.

Carcinogenicity

Toluene: Species: Rat
Dose: 0, 1200 ppm
Exposure time: 2 yrs
Number of exposures: 6.5 h/d, 5 d/wk
Remarks: No evidence of carcinogenicity

Species: Mouse
Dose: 0, 1200 ppm
Exposure time: 2 yrs
Number of exposures: 6.5 h/d, 5 d/wk
Remarks: No evidence of carcinogenicity

Reproductive toxicity

Toluene: Species: Rat
Application Route: Inhalation
Dose: 0, 100, 500, 2000 ppm
Test period: 95 d
NOAEL Parent: 2000 ppm

n-Heptane: Species: Rat
Application Route: Inhalation
Dose: 0, 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

Toluene: Species: Rat
Application Route: Inhalation
Dose: 0, 100, 500, 2000 ppm
Test period: 95 d
NOAEL Teratogenicity: 400-750 ppm

n-Heptane: Species: Rat
Application Route: Inhalation
Dose: 0, 3000, 9000 ppm
Exposure time: GD6-15
Number of exposures: 6 hrs/d
NOAEL Teratogenicity: 9000 ppm
NOAEL Maternal: 3000 ppm
**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.

**Toxicology Assessment**

**Toluene Standardization Fuel 89.3**

**CMR effects**

- **Carcinogenicity**: Contains no ingredient listed as a carcinogen
- **Mutagenicity**: Contains no ingredient listed as a mutagen
- **Teratogenicity**: Suspected of damaging the unborn child.
- **Reproductive toxicity**: No toxicity to reproduction

**Further information**: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.

**SECTION 12: Ecological information**

**Toxicity to fish**

<table>
<thead>
<tr>
<th>Toluene</th>
<th>LC50: 18 - 36 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>Species: Pimephales promelas (fathead minnow)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>n-Heptane</th>
<th>LL50: 1.284 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>Species: Oncorhynchus mykiss (rainbow trout)</td>
</tr>
<tr>
<td></td>
<td>Method: QSAR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>n-Heptane</th>
<th>LC50: 375 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
</tr>
<tr>
<td></td>
<td>Species: Tilapia mosambica (Fish)</td>
</tr>
</tbody>
</table>

**Toxicity to daphnia and other aquatic invertebrates**

<table>
<thead>
<tr>
<th>Toluene</th>
<th>EC50: 3.78 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
</tr>
<tr>
<td></td>
<td>Species: Daphnia magna (Water flea)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>n-Heptane</th>
<th>EC50: 1.5 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
</tr>
<tr>
<td></td>
<td>Species: Daphnia magna (Water flea)</td>
</tr>
<tr>
<td></td>
<td>static test Toxic to aquatic organisms.</td>
</tr>
</tbody>
</table>
LC50: 0.1 mg/l
Exposure time: 96 h
Species: Mysidopsis bahia (mysid shrimp)
semi-static test Very toxic to aquatic organisms.

Toxicity to algae

Toluene : EC50: 134 mg/l
Exposure time: 72 h
Species: Chlamydomonas angulosa (Green algae)
n-Heptane : EL50: 4.338 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (microalgae)
Method: QSAR

Elimination information (persistence and degradability)

Biodegradability : Expected to be biodegradable

Ecotoxicology Assessment

Acute aquatic toxicity
Toluene : Toxic to aquatic life.
n-Heptane : Very toxic to aquatic life.

Chronic aquatic toxicity
Toluene : Harmful to aquatic life with long lasting effects.
n-Heptane : Very toxic to aquatic life with long lasting effects.

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

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very 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
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, II, MARINE POLLUTANT, (HEPTANE)

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
UN1268, PETROLEUM DISTILLATES, N.O.S., 3, II, (4 °C), MARINE POLLUTANT, (HEPTANE)

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

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))
UN1268, PETROLEUM PRODUCTS, N.O.S., 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (HEPTANE)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
UN1268, PETROLEUM PRODUCTS, N.O.S., 3, II, ENVIRONMENTALLY HAZARDOUS, (HEPTANE)

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
UN1268, PETROLEUM PRODUCTS, N.O.S., 3, II, ENVIRONMENTALLY HAZARDOUS, (HEPTANE)

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

SECTION 15: Regulatory information

National legislation
### SAFETY DATA SHEET

**Toluene Standardization Fuel 89.3**

**Version 1.4**

**Revision Date 2016-02-22**

| SARA 311/312 Hazards | Fire Hazard  
| Acute Health Hazard  
| Chronic Health Hazard |

| CERCLA Reportable Quantity | 1333 lbs  
| Toluene |

| 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 | The following components are subject to reporting levels established by SARA Title III, Section 313: |
| | Toluene - 108-88-3 |

### 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):  

| | Toluene - 108-88-3 |

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):  

| | Toluene - 108-88-3 |

### US State Regulations

**Pennsylvania Right To Know**

| | Toluene - 108-88-3  
| n-Heptane - 142-82-5 |
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New Jersey Right To Know : Toluene - 108-88-3
                              n-Heptane - 142-82-5

California Prop. 65 Ingredients : 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 TSCA Inventory
Canada DSL : All components of this product are on the Canadian DSL
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

Further information
Legacy SDS Number : 429870

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.

<table>
<thead>
<tr>
<th>Key or legend to abbreviations and acronyms used in the safety data sheet</th>
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<tbody>
<tr>
<td>ACGIH</td>
</tr>
<tr>
<td>LD50</td>
</tr>
<tr>
<td>AICS</td>
</tr>
<tr>
<td>LOAEL</td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Acronym</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
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</tbody>
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