# SAFETY DATA SHEET

## Toluene Standardization Fuel 96.9

**Version 1.5**

**Revision Date** 2016-02-22

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

**Product information**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Toluene Standardization Fuel 96.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>1024367, 1024366, 1024365, 1024364</td>
</tr>
</tbody>
</table>

**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 +32.14583516 (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

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### 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**

<table>
<thead>
<tr>
<th>Danger</th>
<th>Physical state</th>
<th>Color</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: Non-viscous, Liquid</td>
<td>Liquid</td>
<td>Clear</td>
<td>Strong gasoline</td>
</tr>
<tr>
<td>OSHA Hazards</td>
<td>Flammable Liquid, Moderate skin irritant, Moderate eye irritant, Aspiration hazard, Reproductive hazard, Target Organ Effects</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Classification**

Flammable liquids, Category 2

**SDS Number:** 100000013845 1/17
Toluene Standardization Fuel 96.9

Skin irritation, Category 2
Eye irritation, Category 2A
Reproductive toxicity, Category 2
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

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.
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:
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.
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 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.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P331 Do NOT induce vomiting.
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SECTION 3: Composition/information on ingredients

<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 - 80</td>
</tr>
<tr>
<td>n-Heptane</td>
<td>142-82-5</td>
<td>15 - 30</td>
</tr>
<tr>
<td>2,2,4-Trimethylpentane (Isooctane)</td>
<td>540-84-1</td>
<td>4 - 6</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 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.

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.
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: 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. 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 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. 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>US 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>BEI, A4</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-2</td>
<td>TWA</td>
<td>200 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-2</td>
<td>CEIL</td>
<td>300 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-2</td>
<td>Peak</td>
<td>500 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>100 ppm, 375 mg/m³</td>
<td></td>
</tr>
<tr>
<td>n-Heptane</td>
<td>OSHA Z-1-A</td>
<td>STEL</td>
<td>150 ppm, 560 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>500 ppm, 2,000 mg/m³</td>
<td>/bl.</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>400 ppm, 1,600 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>Immediately Dangerous to Life or Health Concentration Value 500 ppm</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>n-Heptane</td>
<td>142-82-5</td>
<td>Immediately Dangerous to Life or Health Concentration Value 750 ppm</td>
<td>1995-03-01</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 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

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

- **Form**: Non-viscous, Liquid
- **Physical state**: Liquid
- **Color**: Clear
- **Odor**: Strong gasoline

### Safety data

- **Flash point**: 4 °C (39 °F)
  - Method: closed cup
  - Estimated
- **Lower explosion limit**: 1.1 %(V)
- **Upper explosion limit**: 7.1 %(V)
- **Oxidizing properties**: no
- **Autoignition temperature**: 528.9 °C (984.0 °F)
- **Molecular formula**: Mixture
- **Molecular weight**: Not applicable
- **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.

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

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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

2,2,4-Trimethylpentane (Isocane): LC50: > 33.52 milligram per liter Exposure time: 4 h
Species: Rat
Sex: male and female
Test atmosphere: vapor
Method: OECD Test Guideline 403

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

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Skin irritation: Irritating to skin.

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Eye irritation: May cause eye irritation.
Vapors may cause irritation to the eyes, respiratory system
Sensitization

Toluene  : Did not cause sensitization on laboratory animals.

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

2,2,4-Trimethylpentane (Isooctane)  : Does not cause skin sensitization.

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.

2,2,4-Trimethylpentane (Isooctane): Species: Rat, Male and female
                                    Sex: Male and female
                                    Application Route: Inhalation
                                    Dose: 0, 668, 2220, 6646 ppm
                                    Exposure time: 13 weeks
                                    Number of exposures: 6 hr/day 5 d/wk
                                    NOEL: 8.117 mg/l 2220 ppm
                                    Method: OECD Guideline 413
                                    Information given is based on data obtained from similar substances.

Carcinogenicity

Toluene  : Species: Rat
          Dose: 0, 600, 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  
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

**2,2,4-Trimethylpentane (Isooctane)**  
Species: Rat  
Sex: male and female  
Dose: 0, 900, 3000, 9000 ppm  
Number of exposures: 6 hr/d 5 d/wk  
Method: OECD Test Guideline 416  
NOAEL Parent: 3000 ppm  
NOAEL F1: 3000 ppm  
NOAEL F2: 3000 ppm  
Information given is based on data obtained from similar substances.

### 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, 900, 3000, 9000 ppm  
Exposure time: GD6-15  
Number of exposures: 6 hrs/d  
NOAEL Teratogenicity: 9000 ppm  
NOAEL Maternal: 3000 ppm

**2,2,4-Trimethylpentane (Isooctane)**  
Species: Rat  
Application Route: Inhalation  
Dose: 0, 400, 1200 ppm  
Number of exposures: 6h/d  
Test period: GD6-15  
NOAEL Teratogenicity: 1200 ppm  
NOAEL Maternal: 1200 ppm
Information given is based on data obtained from similar substances.

Species: Rat
Application Route: Inhalation
Dose: 0, 900, 3000, 9000 ppm
Number of exposures: 6h/d
Test period: GD6-15
Method: OECD Guideline 414
NOAEL Teratogenicity: 9000 ppm
NOAEL Maternal: 3000 ppm

Information given is based on data obtained from similar substances.

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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
Toluene
Carcinogenicity: Not classifiable as a human carcinogen.
Mutagenicity: Animal testing did not show any mutagenic effects.
Teratogenicity: Some evidence of adverse effects on development, based on animal experiments.
Reproductive toxicity: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

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

2,2,4-Trimethylpentane (Isooctane)
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: Animal testing did not show any effects on fertility.

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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
Toluene
LC50: 18 - 36 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)
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)

2,2,4-Trimethylpentane (Isooctane)
LC50: 0.11 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Methods: semi-static test Method: OECD Test Guideline 203
Information given is based on data obtained from similar substances.

**Toxicity to daphnia and other aquatic invertebrates**

**Toluene**
EC50: 3.78 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

**n-Heptane**
EC50: 1.5 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
static test Toxic to aquatic organisms.

LC50: 0.1 mg/l
Exposure time: 96 h
Species: Mysidopsis bahia (mysid shrimp)
semi-static test Very toxic to aquatic organisms.

**2,2,4-Trimethylpentane (Isooctane)**
EC50: 0.4 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
static test Information given is based on data obtained from similar substances.

**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

**2,2,4-Trimethylpentane (Isooctane)**
EL50: 2.943 mg/l
Exposure time: 72 h
Method: QSAR modeled data

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**
Biodegradability

Toluene : This material is expected to be readily biodegradable.
n-Heptane : Result: Readily biodegradable.
            70 %
            Testing period: 10 d

2,2,4-Trimethylpentane (Isooctane) : Result: Not readily biodegradable.
Method: OECD Test Guideline 301
Expected to be inherently biodegradable.
Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

Acute aquatic toxicity
Toluene : Toxic to aquatic life.
n-Heptane : Very toxic to aquatic life.
2,2,4-Trimethylpentane (Isooctane) : 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.
2,2,4-Trimethylpentane (Isooctane) : 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. 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
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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, 2,2,4-TRIMETHYL-PENTANE (ISOOCTANE))

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
UN1268, PETROLEUM DISTILLATES, N.O.S., 3, II, (4 °C), MARINE POLLUTANT, (HEPTANE, 2,2,4-TRIMETHYL-PENTANE (ISOOCTANE))

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, 2,2,4-TRIMETHYL-PENTANE (ISOOCTANE))

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
UN1268, PETROLEUM PRODUCTS, N.O.S., 3, II, ENVIRONMENTALLY HAZARDOUS, (HEPTANE, 2,2,4-TRIMETHYL-PENTANE (ISOOCTANE))

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
UN1268, PETROLEUM PRODUCTS, N.O.S., 3, II, ENVIRONMENTALLY HAZARDOUS, (HEPTANE, 2,2,4-TRIMETHYL-PENTANE (ISOOCTANE))

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: Fire Hazard
Acute Health Hazard
Chronic Health Hazard

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW

CERCLA Reportable Quantity: 1277 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
- 2,2,4-Trimethylpentane (Isooctane) - 540-84-1

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

SDS Number:100000013845 15/17
Pennsylvania Right To Know
: Toluene - 108-88-3
n-Heptane - 142-82-5
2,2,4-Trimethylpentane (Isooctane) - 540-84-1

New Jersey Right To Know
: Toluene - 108-88-3
n-Heptane - 142-82-5
2,2,4-Trimethylpentane (Isooctane) - 540-84-1

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 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

Further information
Legacy SDS Number : 26820

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>
<th></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>AIICS</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>
</tr>
<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>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
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<tr>
<td>EC50</td>
<td>Effective Concentration</td>
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<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
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<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
</tr>
<tr>
<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>
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<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
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<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
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<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act.</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
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<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
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<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
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<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
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<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
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<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
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<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
</tr>
<tr>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
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<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
</tr>
<tr>
<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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