SAFETY DATA SHEET

Gasoline 100 ULE
Version 2.2

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

Product information
Product Name: Gasoline 100 ULE
Material: 1115453, 1113406, 1108537, 1108536, 1108535, 1062622, 1062256, 1062507, 1062508, 1062509

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

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

SECTION 2: Hazards identification

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

Classification:
- Flammable liquids, Category 2
- Skin irritation, Category 2
- Eye irritation, Category 2A
- Germ cell mutagenicity, Category 1B
- Carcinogenicity, Category 1A
- 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, Inhalation, Auditory organs, color vision
Aspiration hazard, Category 1

Labeling

Symbol(s): 
- Flammable
- Flammable-Gas (combustible gas, flammable gas)
- Inflammable

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.
- H340: May cause genetic defects.
- H350: May cause cancer.
- H361d: Suspected of damaging the unborn child.
- H373: May cause damage to organs (Auditory organs, color vision) through prolonged or repeated exposure if inhaled.

Precautionary Statements:

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

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
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.
P337 + P313 If eye irritation persists: 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 to extinguish.

Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
Gasoline 100 ULE

P403 + P235 Store in a well-ventilated place. Keep cool.

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

Carcinogenicity:

IARC
Group 1: Carcinogenic to humans
Benzene 71-43-2

NTP
Known to be human carcinogen
Benzene 71-43-2

SECTION 3: Composition/information on ingredients

Synonyms: Motor Fuel
Molecular formula: Mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2,4-Trimethylpentane (Isooctane)</td>
<td>540-84-1</td>
<td>30 - 80</td>
</tr>
<tr>
<td>Isopentane</td>
<td>78-78-4</td>
<td>5 - 30</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Isoalkanes C7-8</td>
<td>70024-92-9</td>
<td>1 - 10</td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>0 - 0.1</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: 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. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point: < -37 °C (< -35 °F)
Autoignition temperature: No data available
**Gasoline 100 ULE**

**SECTION 5: Fire fighting measures**

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

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

**Specific hazards during fire fighting**: 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**: Carbon Dioxide. 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. Take precautionary measures against static discharges. Provide sufficient air exchange and/or
Gasoline 100 ULE

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

Chevron Phillips Chemical Company LP

<table>
<thead>
<tr>
<th>Components</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isoalkanes C7-8</td>
<td>Manufacturer</td>
<td>TWA</td>
<td>300 ppm,</td>
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US

<table>
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<th>Components</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2,4-Trimethylpentane (Isooctane)</td>
<td>ACGIH</td>
<td>TWA</td>
<td>300 ppm,</td>
<td>URT irr,</td>
</tr>
<tr>
<td>Isopentane</td>
<td>ACGIH</td>
<td>TWA</td>
<td>1,000 ppm,</td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>20 ppm,</td>
<td>visual impair, female repro, pregnancy loss, BEI, A4,</td>
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<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>
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</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>STEL</td>
<td>150 ppm, 560 mg/m³</td>
<td></td>
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<tr>
<td>Ethanol</td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>1,000 ppm, 1,900 mg/m³</td>
<td>(b)</td>
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<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>1,000 ppm, 1,900 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>1,000 ppm,</td>
<td>URT irr, A3,</td>
</tr>
<tr>
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<td>ACGIH</td>
<td>TWA</td>
<td>0.5 ppm,</td>
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<td>ACGIH</td>
<td>STEL</td>
<td>2.5 ppm,</td>
<td>leukemia, BEI, A1, Skin,</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>1 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>CEIL</td>
<td>5 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-2</td>
<td>Peak</td>
<td>50 ppm,</td>
<td>(a),</td>
</tr>
</tbody>
</table>

OSHA 29 CFR 1910.1028(c) | TWA | 1 ppm, | |
| OSHA 29 CFR 1910.1028(c) | STEL | 5 ppm, | |
| OSHA CARC | PEL | 1 ppm, | |

(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
A2 Confirmed animal carcinogen with unknown relevance to humans
A4 Not classifiable as a human carcinogen
BEI Substances for which there is a Biological Exposure Index or Indices (see BEI® section)
female repro Female reproductive
leukemia Leukemia
pregnancy loss Pregnancy loss
Skin Danger of cutaneous absorption
URT irr Upper Respiratory Tract irritation
visual impair Visual impairment
Immediately Dangerous to Life or Health Concentrations (IDLH)

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
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</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>Immediately Dangerous to Life or Health Concentration Value 3300 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>Immediately Dangerous to Life or Health Concentration Value 500 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>Immediately Dangerous to Life or Health Concentration Value 3300 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>Immediately Dangerous to Life or Health Concentration Value 500 parts per million</td>
<td>1995-03-01</td>
</tr>
</tbody>
</table>

Biological exposure indices

US

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Sampling time</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>Toluene: 0.02 mg/l (In blood)</td>
<td>Prior to last shift of workweek</td>
<td>2010-03-01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Toluene: 0.03 mg/l (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2010-03-01</td>
</tr>
<tr>
<td>o-Cresol</td>
<td></td>
<td>0.3 mg/g Creatinine (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2010-03-01</td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>S-Phenylmercuric acid: 25 µg/g creatinine (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2010-03-01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,l-Muconic acid: 500 µg/g creatinine (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2010-03-01</td>
</tr>
</tbody>
</table>

Engineering measures

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the 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 in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. Wear as appropriate: Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.

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: Liquid
- Physical state: Liquid
- Color: Various
- Odor: Strong gasoline

**Safety data**
- Flash point: \(< -37 \, ^\circ C \, (< -35 \, ^\circ F)\)
- Lower explosion limit: No data available
- Upper explosion limit: No data available
- Oxidizing properties: No
- Autoignition temperature: No data available
- Molecular formula: Mixture
- Molecular weight: Not applicable
- pH: Not applicable
- Freezing point: \(-94.44 \, ^\circ C \, (-137.99 \, ^\circ F)\)
- Pour point: No data available
- Boiling point/boiling range: 46 - 116 °C (115 - 241 °F)
- Vapor pressure: 6.70 PSI
### Safety Data Sheet

#### Gasoline 100 ULE

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative density at 38 °C (100 °F)</td>
<td>7.45</td>
</tr>
<tr>
<td>Density</td>
<td>5.97 L/G</td>
</tr>
<tr>
<td>Water solubility</td>
<td>The ethanol component of this fuel is soluble in water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>3.2 (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

**Reactivity**
- Stable under recommended storage conditions.

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

**Possibility of hazardous reactions**

**Hazardous reactions**
- Hazardous reactions: Hazardous polymerization does not occur.
- Further information: No decomposition if stored and applied as directed.
- Hazardous reactions: Vapors may form explosive mixture with air.

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

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

**Hazardous decomposition products**
- Carbon Dioxide
- Carbon oxides

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

### SECTION 11: Toxicological information
**Gasoline 100 ULE**

**Acute oral toxicity**
- Acute toxicity estimate: > 5,000 mg/kg
- Method: Calculation method

**Acute inhalation toxicity**
- Acute toxicity estimate: > 40 mg/l
  - Exposure time: 4 h
  - Test atmosphere: vapor
  - Method: Calculation method

**Acute dermal toxicity**
- Acute toxicity estimate: > 2,000 mg/kg
- Method: Calculation method

**Skin irritation**
- Skin irritation largely based on animal evidence.

**Eye irritation**
- Eye irritation largely based on animal evidence.

**Sensitization**
- Did not cause sensitization on laboratory animals. Estimated based on individual component values.

**Repeated dose toxicity**

**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.

**Isopentane**
- Species: Rat, male and female
- Sex: male and female
- Application Route: Inhalation
- Dose: 668, 2220, 6646 ppm
- Exposure time: 13 wk
- Number of exposures: 6 h/d, 5 d/wk
- NOEL: > 2220 ppm
- Lowest observable effect level: > = 6646 ppm
- Method: OECD Guideline 413
- Target Organs: Kidney
- Information given is based on data obtained from similar substances.

**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
Gasoline 100 ULE

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

Ethanol
Species: Rat
Application Route: Oral diet
Dose: 5%
Exposure time: 13 wk
Number of exposures: in drinking water
NOEL: < 5%
Lowest observable effect level: 5%
Target Organs: Liver

Isoalkanes C7-8
Species: Rat, male and female
Sex: male and female
Application Route: Inhalation
Dose: 0, 400, 1200 ppm
Exposure time: 12 wk
Number of exposures: 6 hr/d, 5 d/wk
NOEL: 1200 ppm
Method: OECD Test Guideline 413
Target Organs: Kidney
Information given is based on data obtained from similar substances.

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

Genotoxicity in vitro
2,2,4-Trimethylpentane (Isooctane):
Test Type: Ames test
Method: Mutagenicity (Escherichia coli - reverse mutation assay)
<table>
<thead>
<tr>
<th>Substances</th>
<th>Test Type</th>
<th>Method</th>
<th>Concentration</th>
<th>Metabolic activation</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopentane</td>
<td>Ames test</td>
<td>OECD Test Guideline 471</td>
<td>1, 2, 5, 8, 10%</td>
<td>with and without</td>
<td>negative</td>
<td>Information given is based on data obtained from similar substances.</td>
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<tr>
<td></td>
<td>Ames test</td>
<td>OECD Test Guideline 471</td>
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<td>with and without</td>
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<td>Chromosome aberration test in vitro</td>
<td>Mutagenicity (in vitro mammalian cytogenetic test)</td>
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<tr>
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### Genotoxicity in vivo

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<tbody>
<tr>
<td>2,2,4-Trimethylpentane</td>
<td>Cytogenetic assay</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td>Mouse lymphoma assay</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td>Sister Chromatid Exchange Assay</td>
<td>negative</td>
</tr>
<tr>
<td>Isopentane</td>
<td>Unscheduled DNA synthesis assay</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td>Species: Mouse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dose: 500 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unscheduled DNA synthesis assay</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td>Species: Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dose: 500 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>Cytogenetic assay</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td>Mouse micronucleus assay</td>
<td>negative</td>
</tr>
<tr>
<td>Benzene</td>
<td>Mouse micronucleus assay</td>
<td>positive</td>
</tr>
</tbody>
</table>

**Gasoline 100 ULE**

**Carcinogenicity**

Method: Expected to be carcinogenic based on individual component data.

**Reproductive toxicity**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Species: Rat</th>
<th>Sex: male and female</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2,4-Trimethylpentane</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Application Route: Inhalation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dose: 0, 900, 3000, 9000 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of exposures: 6 h/d 5 d/wk</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 416</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOAEL Parent: 3000 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOAEL F1: 3000 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOAEL F2: 3000 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Information given is based on data obtained from similar substances.</td>
<td></td>
</tr>
<tr>
<td>Isopentane</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Species: Rat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sex: male and female</td>
<td></td>
</tr>
</tbody>
</table>
### Gasoline 100 ULE

**Application Route:** inhalation (vapor)
- **Dose:** 0, 500, 2000, 7000 ppm
- **Number of exposures:** 6 h/d 5 d/wk
- **Method:** OECD Test Guideline 416
  - **NOAEL Parent:** 7000 ppm
  - **NOAEL F1:** 2000 ppm
  - **NOAEL F2:** 2000 ppm

Information given is based on data obtained from similar substances.

**Species:** Rat
- **Sex:** female
  - **Application Route:** oral gavage
  - **Dose:** 0, 100, 300, 1000 mg/kg/d
  - **Method:** OECD Test Guideline 415
  - **NOAEL Parent:** >= 1,000 mg/kg
  - **NOAEL F1:** >= 1,000 mg/kg

**Species:** Rat
- **Sex:** male
  - **Application Route:** oral gavage
  - **Dose:** 0, 100, 300, 1000 mg/kg/d
  - **Method:** OECD Test Guideline 415
  - **NOAEL Parent:** >= 300 mg/kg

### Toluene

**Application Route:** Inhalation
- **Dose:** 0, 100, 500, 2000 ppm
- **Test period:** 95 d
- **NOAEL Parent:** 2000 ppm

### Isoalkanes C7-8

**Species:** Rat
- **Sex:** male and female
  - **Application Route:** inhalation (vapor)
  - **Number of exposures:** 6 hr/d; 5 d/wk
  - **Method:** OECD Test Guideline 416
  - **NOAEL Parent:** 10,560 mg/m³
  - **NOAEL F1:** 31,680 mg/m³
  - **NOAEL F2:** 31,680 mg/m³

Fertility and developmental toxicity tests did not reveal any effect on reproduction.

Information given is based on data obtained from similar substances.

### Developmental Toxicity

**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.

Species: Rat  
Application Route: oral gavage  
Dose: 0, 100, 500, 1000 mg/kg/d  
Exposure time: GD 6-15  
Number of exposures: daily  
Method: OECD Guideline 414  
NOAEL Teratogenicity: 1,000 mg/kg  
NOAEL Maternal: 1,000 mg/kg  
Information given is based on data obtained from similar substances.

Species: Rat  
Application Route: Inhalation  
Dose: 0, 500, 2000, 7000 ppm  
Exposure time: GD 6-15  
Number of exposures: 5 d/wk  
Method: OECD Guideline 414  
NOAEL Teratogenicity: 7000 ppm  
NOAEL Maternal: 500 - 2000 ppm  
Information given is based on data obtained from similar substances.

Species: Rabbit  
Application Route: Inhalation  
Dose: 0, 500, 2000, 7000 ppm  
Exposure time: GD 6-18  
Method: OECD Guideline 414  
NOAEL Teratogenicity: 7000 ppm  
NOAEL Maternal: 7000 ppm  
Information given is based on data obtained from similar substances.

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

Species: Mouse  
Application Route: oral gavage  
Dose: 17, 25, 30 %  
NOAEL Teratogenicity: 17%

Species: Rat  
Application Route: Inhalation  
Dose: 500, 2000, 7000 ppm  
Exposure time: 6 hr/d  
Test period: GD 6-15  
Method: OECD Guideline 414
NOAEL Teratogenicity: > 21,000 mg/m³
NOAEL Maternal: > 21,000 mg/m³
Animal testing did not show any effects on fetal development. Information given is based on data obtained from similar substances.

**Gasoline 100 ULE**

**Aspiration toxicity**: May be fatal if swallowed and enters airways.

**CMR effects**

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.

Isopentane: Carcinogenicity: Not available
Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. In vivo tests 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.

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.

**Isoalkanes C7-8**: Carcinogenicity: Not available
Mutagenicity: In vitro tests did not show mutagenic effects.
Reproductive toxicity: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

**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.

**Gasoline 100 ULE**

**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**

SDS Number: 100000068791
Ecotoxicity effects
Toxicity to fish

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2,4-Trimethylpentane (Isooctane)</td>
<td>0.11 mg/l</td>
<td>96 h</td>
<td>Oncorhynchus mykiss (rainbow trout)</td>
<td>OECD Test Guideline 203</td>
<td>Based on data obtained from similar substances.</td>
</tr>
<tr>
<td>Isopentane</td>
<td>4.26 mg/l</td>
<td>96 h</td>
<td>Oncorhynchus mykiss (rainbow trout)</td>
<td>OECD Test Guideline 203</td>
<td>Based on data obtained from similar substances.</td>
</tr>
<tr>
<td>Toluene</td>
<td>18 - 36 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas (fathead minnow)</td>
<td>OECD Test Guideline 203</td>
<td>Based on data obtained from similar substances.</td>
</tr>
<tr>
<td>Ethanol</td>
<td>13,480 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas (fathead minnow)</td>
<td>OECD Test Guideline 203</td>
<td>Based on data obtained from similar substances.</td>
</tr>
<tr>
<td>Isoalkanes C7-8</td>
<td>5.4 mg/l</td>
<td>96 h</td>
<td>Oncorhynchus mykiss (rainbow trout)</td>
<td>OECD Test Guideline 203</td>
<td>based on data obtained from similar substances.</td>
</tr>
<tr>
<td>Benzene</td>
<td>5.3 mg/l</td>
<td>96 h</td>
<td>Oncorhynchus mykiss (rainbow trout)</td>
<td>OECD Test Guideline 203</td>
<td>Based on data obtained from similar substances.</td>
</tr>
</tbody>
</table>

Toxicity to daphnia and other aquatic invertebrates

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2,4-Trimethylpentane (Isooctane)</td>
<td>0.4 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td>OECD Test Guideline 203</td>
<td>Based on data obtained from similar substances.</td>
</tr>
<tr>
<td>Isopentane</td>
<td>2.3 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td>OECD Test Guideline 202</td>
<td>Based on data obtained from similar substances.</td>
</tr>
<tr>
<td>Toluene</td>
<td>3.78 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td>OECD Test Guideline 202</td>
<td>Based on data obtained from similar substances.</td>
</tr>
<tr>
<td>Ethanol</td>
<td>12,340 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td>OECD Test Guideline 202</td>
<td>Based on data obtained from similar substances.</td>
</tr>
</tbody>
</table>
### Isoalkanes C7-8
- **EL50**: 143 mg/l
- **Exposure time**: 48 h
- **Species**: Daphnia magna (Water flea)
- **Method**: OECD Test Guideline 202

### Benzene
- **EC50**: 10 mg/l
- **Exposure time**: 48 h
- **Species**: Daphnia magna (Water flea)
- **Method**: OECD Test Guideline 202

### Toxicity to algae

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2,4-Trimethylpentane (Isooctane)</td>
<td>2.943 mg/l</td>
<td>72 h</td>
<td>Scenedesmus capricornutum (fresh water algae)</td>
<td>QSAR modeled data</td>
</tr>
<tr>
<td>Isopentane</td>
<td>7.51 mg/l</td>
<td>72 h</td>
<td>Scenedesmus capricornutum (fresh water algae)</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td>Toluene</td>
<td>134 mg/l</td>
<td>72 h</td>
<td>Chlamydomonas angulosa (Green algae)</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td>1,000 mg/l</td>
<td>72 h</td>
<td>Chlorella vulgaris (Fresh water algae)</td>
<td></td>
</tr>
<tr>
<td>Isoalkanes C7-8</td>
<td>29.0 mg/l</td>
<td>72 h</td>
<td>Pseudokirchneriella subcapitata (green algae)</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td>Benzene</td>
<td>100 mg/l</td>
<td>72 h</td>
<td>Pseudokirchneriella subcapitata (green algae)</td>
<td>OECD Test Guideline 201</td>
</tr>
</tbody>
</table>

### Toxicity to fish (Chronic toxicity)

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOELR</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isoalkanes C7-8</td>
<td>0.778 mg/l</td>
<td>28 d</td>
<td>Oncorhynchus mykiss (rainbow trout)</td>
<td>QSAR modeled data</td>
</tr>
</tbody>
</table>

### Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOEL</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2,4-Trimethylpentane (Isooctane)</td>
<td>0.17 mg/l</td>
<td>21 d</td>
<td>Daphnia magna (Water flea)</td>
<td></td>
</tr>
</tbody>
</table>
### Isoalkanes C7-8

- **NOELR**: 1 mg/l
- **Exposure time**: 21 d
- **Species**: Daphnia magna (Water flea)
- **Method**: OECD Test Guideline 211

Information given is based on data obtained from similar substances.

### Biodegradability

Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification. Expected to be inherently biodegradable.

### Elimination information (persistence and degradability)

- **Bioaccumulation**: This material is not expected to bioaccumulate.
- **Mobility**: No data available

### Results of PBT assessment

- **2,2,4-Trimethylpentane (Isooctane)**: Non-classified PBT substance, Non-classified vPvB substance
- **Isopentane**: Non-classified PBT substance, Non-classified vPvB substance
- **Toluene**: Non-classified vPvB substance, Non-classified PBT substance
- **Isoalkanes C7-8**: 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).

### Additional ecological information

#### Ecotoxicology Assessment

- **Short-term (acute) aquatic hazard**: Very toxic to aquatic life.
- **Long-term (chronic) aquatic hazard**: 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 waste management company.

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

SECTION 14: Transport information

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

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

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)
UN1203, GASOLINE, 3, II, MARINE POLLUTANT, (2,2,4-TRIMETHYLPENTANE (ISOCTANE))

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
UN1203, GASOLINE, 3, II, (< -37 °C), MARINE POLLUTANT, (2,2,4-TRIMETHYLPENTANE (ISOCTANE), ISOPENTANE)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)
UN1203, GASOLINE, 3, II

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))
UN1203, MOTOR SPIRIT, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOCTANE), ISOPENTANE)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
UN1203, GASOLINE, 3, II, ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOCTANE), ISOPENTANE)

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
UN1203, GASOLINE, 3, II, ENVIRONMENTALLY HAZARDOUS, (2,2,4-TRIMETHYLPENTANE (ISOCTANE), ISOPENTANE)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
SECTION 15: Regulatory information

National legislation

SARA 311/312 Hazards: Flammable (gases, aerosols, liquids, or solids)
- Skin corrosion or irritation
- Serious eye damage or eye irritation
- Reproductive toxicity
- Specific target organ toxicity (single or repeated exposure)
- Aspiration hazard

CERCLA Reportable Quantity: 1250 lbs
- 2,2,4-Trimethylpentane (Isooctane)
- Toluene
- Benzene

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

SARA 302 Threshold Planning Quantity: This material does not contain any components with a section 302 EHS TPQ.

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

SARA 313 Components: The following components are subject to reporting levels established by SARA Title III, Section 313:
- Toluene - 108-88-3
- Benzene - 71-43-2

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):
- 2,2,4-Trimethylpentane (Isooctane) - 540-84-1
- Toluene - 108-88-3

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):
- Isopentane - 78-78-4
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):

- Isopentane - 78-78-4
- Ethanol - 64-17-5
- Toluene - 108-88-3

US State Regulations

Pennsylvania Right To Know

- 2,2,4-Trimethylpentane (Isooctane) - 540-84-1
- Isopentane - 78-78-4
- Toluene - 108-88-3
- Ethanol - 64-17-5
- Isoalkanes C7 - 70024-92-9
- Benzene - 71-43-2

California Prop. 65 Components

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

- Benzene 71-43-2

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

- Toluene 108-88-3

Notification status

Europe REACH : A substance or substances in this product is not registered or notified to be registered. Importation or manufacture of this product is still permitted provided that it does not exceed the REACH minimum threshold quantity of the non-regulated substances.

United States of America (USA) TSCA : On TSCA Inventory

- Canada NDSL : On the inventory, or in compliance with the inventory
- Australia AICS : On the inventory, or in compliance with the inventory
- New Zealand NZIoC : Not 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 : Not in compliance with the inventory
**NFPA Classification**

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

**Further information**

Legacy SDS Number : CPC00143

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>Full Form</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>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
<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>RCRA</td>
<td>Resource Conservation Recovery Act</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>
</tbody>
</table>

**IECSC**

Inventory of Existing Chemical: Not in compliance with the inventory
<table>
<thead>
<tr>
<th>Substances in China</th>
<th>TSCA</th>
<th>Toxic Substance Control Act</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
<td>TSCA</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
<td>UVCB</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
<td>WHMIS</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
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