SAFETY DATA SHEET

California P-III Certification Fuel

Version 4.3  Revision Date 2020-03-04

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

Product information
Product Name : California P-III Certification Fuel
Material : 1064419, 1064416, 1064418, 1064415, 1083828, 1028367

Use : Engine Testing

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 +32.14.583516 (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 2B
Germ cell mutagenicity, Category 1B
Carcinogenicity, Category 1B
Reproductive toxicity, Category 2
California P-III Certification Fuel

Specific target organ toxicity - single exposure, Category 3,
Central nervous system
Aspiration hazard, Category 1

Labeling

Symbol(s) :

Signal Word : Danger

Hazard Statements : H225: Highly flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H315 + H320: Causes skin and eye irritation.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H350: May cause cancer.
H361: Suspected of damaging fertility or the unborn child.

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.
P244 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor 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.
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. 
P403 + P235 Store in a well-ventilated place. Keep cool.  
**Disposal:**  
P501 Dispose of contents/container to an approved waste disposal plant.

### Carcinogenicity:

**IARC**

<table>
<thead>
<tr>
<th>Group 1: Carcinogenic to humans</th>
<th>Benzene</th>
<th>71-43-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 2B: Possibly carcinogenic to humans</td>
<td>Ethylbenzene</td>
<td>100-41-4</td>
</tr>
<tr>
<td>Naphtha (petroleum), heavy straight-run</td>
<td>64741-41-9</td>
<td></td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td></td>
</tr>
<tr>
<td>Naphtha (petroleum), light catalytic reformed</td>
<td>64741-63-5</td>
<td></td>
</tr>
<tr>
<td>Naphtha (petroleum), light alkylate</td>
<td>64741-66-8</td>
<td></td>
</tr>
<tr>
<td>Naphtha, Petroleum, Heavy Catalytic Cracked</td>
<td>64741-54-4</td>
<td></td>
</tr>
<tr>
<td>Group 1: Carcinogenic to humans</td>
<td>Benzene</td>
<td>71-43-2</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>106-99-0</td>
<td></td>
</tr>
<tr>
<td>Group 2B: Possibly carcinogenic to humans</td>
<td>Hydrocarbons, C3-11, catalytic cracker distillates</td>
<td>68476-46-0</td>
</tr>
<tr>
<td>Naphtha (petroleum), light alkylate</td>
<td>64741-66-8</td>
<td></td>
</tr>
<tr>
<td>Naphtha (petroleum), light catalytic reformed</td>
<td>64741-63-5</td>
<td></td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td></td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td></td>
</tr>
<tr>
<td>Isoprene</td>
<td>78-79-5</td>
<td></td>
</tr>
</tbody>
</table>

**NTP**

<table>
<thead>
<tr>
<th>Known to be human carcinogen</th>
<th>Benzene</th>
<th>71-43-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasonably anticipated to be a human carcinogen</td>
<td>Naphthalene</td>
<td>91-20-3</td>
</tr>
<tr>
<td>Known to be human carcinogen</td>
<td>Benzene</td>
<td>71-43-2</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>106-99-0</td>
<td></td>
</tr>
<tr>
<td>Reasonably anticipated to be a human carcinogen</td>
<td>Naphthalene</td>
<td>91-20-3</td>
</tr>
<tr>
<td>Isoprene</td>
<td>78-79-5</td>
<td></td>
</tr>
</tbody>
</table>

**ACGIH**

<table>
<thead>
<tr>
<th>Confirmed human carcinogen</th>
<th>Benzene</th>
<th>71-43-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmed animal carcinogen with unknown relevance to humans</td>
<td>Ethanol</td>
<td>64-17-5</td>
</tr>
</tbody>
</table>
SECTION 3: Composition/information on ingredients

Synonyms: None established

Molecular formula: Mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C3-11, catalytic cracker distillates</td>
<td>68476-46-0</td>
<td>90 - 100</td>
</tr>
<tr>
<td>Naphtha (petroleum), light alkylate</td>
<td>64741-66-8</td>
<td>30 - 50</td>
</tr>
<tr>
<td>Naphtha (petroleum), light catalytic reformed</td>
<td>64741-63-5</td>
<td>30 - 50</td>
</tr>
<tr>
<td>Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber</td>
<td>68307-98-2</td>
<td>20 - 30</td>
</tr>
<tr>
<td>Benzene, dimethyl-</td>
<td>1330-20-7</td>
<td>0 - 20</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>0 - 20</td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>0 - 1.1</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>0 - 5</td>
</tr>
<tr>
<td>n-hexane</td>
<td>110-54-3</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>110-82-7</td>
<td>0 - 5</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>95-63-6</td>
<td>0 - 5</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>106-99-0</td>
<td>0 - 1</td>
</tr>
<tr>
<td>Isoprene</td>
<td>78-79-5</td>
<td>0 - 1</td>
</tr>
</tbody>
</table>

May contain trace hydrogen sulfide below 1.0 wt%.

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.

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) estimated

Autoignition temperature: No data available

Suitable extinguishing: 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 exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.
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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.

Advice on common storage: No materials to be especially mentioned.

**Use**: Engine Testing

## SECTION 8: Exposure controls/personal protection

### Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C3-11, catalytic cracker distillates</td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>500 ppm, 2,000 mg/m³</td>
<td>(b).</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>400 ppm, 1,600 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Naphtha (petroleum), light alkylate</td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>400 ppm, 1,600 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>500 ppm, 2,000 mg/m³</td>
<td>(b).</td>
</tr>
<tr>
<td>Naphtha (petroleum), light catalytic reformed</td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>400 ppm, 1,600 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>500 ppm, 2,000 mg/m³</td>
<td>(b).</td>
</tr>
<tr>
<td>Benzene, dimethyl-</td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>100 ppm, 435 mg/m³</td>
<td>(b).</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>100 ppm, 435 mg/m³</td>
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</tr>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>TWA</td>
<td>100 ppm, 435 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>100 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>150 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>200 ppm,</td>
<td></td>
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<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>300 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>500 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>750 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>1,050 ppm,</td>
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</tr>
<tr>
<td>Naphthalene</td>
<td>ACGIH</td>
<td>STEL</td>
<td>15 ppm,</td>
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<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>10 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>100 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>500 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>1,050 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>1,800 ppm,</td>
<td></td>
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<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>1,900 ppm,</td>
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<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>3,000 ppm,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>5,000 ppm,</td>
<td></td>
</tr>
</tbody>
</table>

**SDS Number:** 100000013977  
6/30
### Immediately Dangerous to Life or Health Concentrations (IDLH)

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene, dimethyl-</td>
<td>1330-20-7</td>
<td>Immediately Dangerous to Life or Health Concentration Value 900 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>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>Ethylbenzene</td>
<td>100-41-4</td>
<td>Immediately Dangerous to Life or Health Concentration Value 800 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>n-hexane</td>
<td>110-54-3</td>
<td>Immediately Dangerous to Life or Health Concentration Value 1100 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>110-82-7</td>
<td>Immediately Dangerous to Life or Health Concentration Value 1300 parts per million</td>
<td>1995-03-01</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>Immediately Dangerous to Life or Health Concentration Value 250 parts per million</td>
<td>1995-03-01</td>
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</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>Benzene, dimethyl-</td>
<td>1330-20-7</td>
<td>Methylhippuric acids: 1.5 g/g creatinine (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2013-03-01</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>Toluene: 0.02 mg/l (in blood)</td>
<td>Prior to last shift of workweek</td>
<td>2010-03-01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Toluene: 0.03 mg/l (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2010-03-01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o-Cresol: 0.3 mg/g Creatinine (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2010-03-01</td>
</tr>
<tr>
<td>Substance</td>
<td>CAS Number</td>
<td>S-Phenylmercapturic acid</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>Date</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------</td>
<td>--------------------------</td>
<td>----------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>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>Ethylbenzene</td>
<td>100-41-4</td>
<td>1,4-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>
<tr>
<td>n-hexane</td>
<td>110-54-3</td>
<td>Sum of mandelic acid and phenyl glyoxylic acid: 0.15 g/g creatinine (Urine)</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2016-03-01</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>106-99-0</td>
<td>2,5-Hexanedione: 0.4 mg/l (Urine)</td>
<td>End of shift at end of workweek</td>
<td>2007-01-01</td>
</tr>
<tr>
<td>Mixture of N-1 and N-2(hydroxybutenyl)valine</td>
<td></td>
<td>Mixture of N-1 and N-2(hydroxybutenyl)valine: 2.5 picomoles per gram Hemoglobin (Hb) adducts in blood</td>
<td>Not critical</td>
<td>2010-03-01</td>
</tr>
</tbody>
</table>

**Engineering measures**

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

**Personal protective equipment**

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

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

**Eye protection**: Eye wash bottle with pure water. Tightly fitting safety goggles.

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

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

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance
Form: Liquid
Physical state: Liquid
Color: Clear to amber
Odor: Mild

Safety data
Flash point: -37°C (-35°F) estimated
Lower explosion limit: 1.5 %(V)
Upper explosion limit: 7.6 %(V)
Oxidizing properties: No

Autoignition temperature: No data available
Molecular formula: Mixture
Molecular weight: Not applicable
pH: Not applicable
Pour point: No data available

Boiling point/boiling range: 51-209°C (124-408°F)
Vapor pressure: 6.90 PSI at 38°C (100°F)
Relative density: 0.75 at 16 °C (61 °F)

Water solubility: Negligible
Partition coefficient: n-octanol/water: No data available
Viscosity, kinematic: No data available
Relative vapor density: 3 (Air = 1.0)
Evaporation rate: No data available
Percent volatile: > 99 %
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: 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

Acute oral toxicity

Naphtha (petroleum), light alkylate
LD50: > 5,000 mg/kg
Species: Rat

Naphtha (petroleum), light catalytic reformed
LD50: > 5,000 mg/kg
Species: Rat
Sex: male and female

Benzene, dimethyl-
LD50: 3,523 - 8,600 mg/kg
Species: Rat

Toluene
LD50: 6,500 mg/kg
Species: Rat
Sex: Not Specified

Benzene
LD50: > 2,000 mg/kg
Species: Rat
Sex: female

Ethylbenzene
LD50: 3,500 mg/kg
Species: Rat

n-hexane
LD50: 16 g/kg
Species: Rat
Sex: male and female

Naphthalene
LD50: 500 mg/kg
### Cyclohexane
- **LD50**: > 5,000 mg/kg
- **Species**: Rat
- **Sex**: male and female
- **Method**: OECD Test Guideline 401

### 1,2,4-Trimethylbenzene
- **LD50 Oral**: 6,000 mg/kg
- **Species**: Rat
- **Sex**: male

### 1,3-Butadiene
- **LD50**: 5,480 mg/kg
- **Species**: Rat

### Isoprene
- **LD50**: 2,043 - 2,210 mg/kg
- **Species**: Rat

### Acute inhalation toxicity

#### Hydrocarbons, C3-11, catalytic cracker distillates
- **LC50**: > 20 mg/l
- **Species**: Rat
- **Test atmosphere**: vapor
- **Method**: Estimated based on individual component values.

#### Naphtha (petroleum), light catalytic reformed
- **LC50**: 5.6 mg/m3
- **Exposure time**: 4 h
- **Species**: Rat
- **Test atmosphere**: dust/mist

#### Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber Benzene, dimethyl-
- **LC50**: 29 mg/l
- **Exposure time**: 4 h
- **Species**: Rat
- **Test atmosphere**: gas

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

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

#### Ethylbenzene
- **LC50**: 17.4 mg/l
- **Exposure time**: 4 h
- **Species**: Rat
- **Test atmosphere**: vapor

#### n-hexane
- **LC50**: 73860 ppm
- **Exposure time**: 4 h
- **Species**: Rat
- **Sex**: male
- **Test atmosphere**: vapor
- **Method**: OECD Test Guideline 403
Information given is based on data obtained from similar substances.

Cyclohexane
LC50: >32,880 mg/m³
Exposure time: 4 h
Species: Rat
Sex: male and female
Test atmosphere: vapor
Method: OECD Test Guideline 403

1,2,4-Trimethylbenzene
LC50: > 9.833 mg/l
Exposure time: 12 h
Species: Rat
Test atmosphere: vapor

1,3-Butadiene
LC50: 285 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: vapor

Isoprene
LC50: 180 mg/l
Exposure time: 4 h
Species: Rat

Acute dermal toxicity
Benzene, dimethyl-
LD50: > 2,000 mg/kg
Species: Rabbit
Information given is based on data obtained from similar substances.

Toluene
LD50: 12,400 mg/kg
Species: Rabbit
Sex: Not Specified

Benzene
LD50: > 8,260 mg/kg
Species: Rabbit

Ethylbenzene
LD50: 15,415 mg/kg
Species: Rabbit

n-hexane
LD50: > 3,350 mg/kg
Species: Rabbit
Sex: male and female
Information given is based on data obtained from similar substances.

1,2,4-Trimethylbenzene
LD50 Dermal: > 3440 milligram per kilogram
Species: Rat
Sex: male and female
Test substance: no
Information given is based on data obtained from similar substances.

1,3-Butadiene
Negligible or unlikely exposure pathways

Isoprene
LD50: >1 ML/KG
Species: Rat
### California P-III Certification Fuel

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

#### Eye irritation
- Mild eye irritation largely based on animal evidence.

#### Sensitization
- Does not cause skin sensitization largely based on animal evidence.

### Repeated dose toxicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>Species</th>
<th>Application Route</th>
<th>Dose</th>
<th>Exposure time</th>
<th>Number of exposures</th>
<th>NOEL</th>
<th>Lowest observable effect level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphtha (petroleum), light alkylate</td>
<td>Rabbit</td>
<td>Dermal</td>
<td>0, 200, 1000, 2000 mg/kg</td>
<td>4 wk</td>
<td>3 times/wk</td>
<td>1,000 mg/kg</td>
<td>2,000 mg/kg</td>
</tr>
<tr>
<td>Naphtha (petroleum), light catalytic reformed</td>
<td>Rat</td>
<td>Inhalation</td>
<td>0, 668, 2220, 6646 ppm</td>
<td>12 wk</td>
<td>5 d/wk</td>
<td>6,646 ppm</td>
<td></td>
</tr>
<tr>
<td>Benzene, dimethyl-</td>
<td>Rat</td>
<td>Oral gavage</td>
<td>0, 62.5, 125, 250, 500, 100...</td>
<td>13 wk</td>
<td>daily, 5 d/wk</td>
<td>1,000 mg/kg</td>
<td>1000 mg/l</td>
</tr>
<tr>
<td>Substance</td>
<td>Species</td>
<td>Application Route</td>
<td>Dose</td>
<td>Exposure time</td>
<td>Number of exposures</td>
<td>NOEL</td>
<td>Lowest observable effect level</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------</td>
<td>-------------------</td>
<td>-----------------------</td>
<td>---------------</td>
<td>---------------------</td>
<td>--------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Toluene</td>
<td>Rat</td>
<td>Inhalation</td>
<td>0, 180, 460, 810 ppm</td>
<td>13 wk</td>
<td>6 h/d, 5 d/wk</td>
<td>&gt; 810 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>Inhalation</td>
<td>0, 450, 900, 1800 ppm</td>
<td>13 wk</td>
<td>6 h/d, 6 d/wk</td>
<td>900 ppm</td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>Rat, female</td>
<td>Oral gavage</td>
<td>0, 25, 50, 100 mg/kg</td>
<td>103 wk</td>
<td>5 d/wk</td>
<td>&lt; 25 mg/kg</td>
<td>25 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Oral gavage</td>
<td>0, 50, 100, 200 mg/kg</td>
<td>103 wk</td>
<td>5 d/wk</td>
<td>&lt; 50 mg/kg</td>
<td>50 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>Rat, male</td>
<td>Inhalation</td>
<td>200, 400, 600, 800 ppm</td>
<td>13 weeks</td>
<td>6 hours/day, 6 days/week</td>
<td>200 ppm</td>
<td></td>
</tr>
</tbody>
</table>
n-hexane

Species: Rat, male  
Sex: male  
Application Route: Inhalation  
Dose: 3,000 ppm  
Exposure time: 16 wks  
Number of exposures: 12 h/d  
Lowest observable effect level: 3,000 ppm  
Target Organs: Peripheral nervous system

Species: Mouse, female  
Sex: female  
Application Route: Inhalation  
Dose: 500, 1,000, 4,000, 10,000 ppm  
Exposure time: 13 wks  
Number of exposures: 6h or 22h (1,000 ppm)/ 5d/wk  
Lowest observable effect level: 500 ppm  
Target Organs: Nose

Species: Mouse, male  
Sex: male  
Application Route: Inhalation  
Dose: 500, 1,000, 4,000, 10,000 ppm  
Exposure time: 13 wks  
Number of exposures: 6h or 22h (1,000 ppm)/d, 5d/wk  
NOEL: 500 ppm  
Lowest observable effect level: 1,000 ppm  
Target Organs: Nose

Species: Rat, male  
Sex: male  
Application Route: oral gavage  
Dose: 568, 1,135, 3,973 mg/kg bw/day  
Exposure time: 90 or 120 days  
Number of exposures: Daily or 5d/wk (120-d study)  
NOEL: 568 mg/kg bw/day  
Lowest observable effect level: 1135 mg/kg bw/day

Cyclohexane

Species: Rat  
Application Route: Inhalation  
Dose: 0, 500, 2000, 7000 ppm  
Exposure time: 90 day  
Number of exposures: 6 h/d, 5 d/wk  
NOEL: 2000 ppm
<table>
<thead>
<tr>
<th>Species</th>
<th>Application Route</th>
<th>Dose</th>
<th>Exposure time</th>
<th>Number of exposures</th>
<th>NOEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat, Male and female</td>
<td>Inhalation</td>
<td>0, 500, 2,000, 7000 ppm</td>
<td>13-14 wk</td>
<td>6 hr/d, 5 d/wk</td>
<td>7000 ppm</td>
</tr>
<tr>
<td>Species: Rat</td>
<td>Application Route</td>
<td>Dose</td>
<td>Exposure time</td>
<td>Number of exposures</td>
<td>NOEL</td>
</tr>
<tr>
<td>Rat, Male and female</td>
<td>Inhalation</td>
<td>0, 500, 2,000, 7000 ppm</td>
<td>13-14 wk</td>
<td>6 hr/d, 5 d/wk</td>
<td>2000 ppm</td>
</tr>
<tr>
<td>Species: Mouse</td>
<td>Application Route</td>
<td>Dose</td>
<td>Exposure time</td>
<td>Number of exposures</td>
<td>NOEL</td>
</tr>
<tr>
<td>Mouse, Male and female</td>
<td>Inhalation</td>
<td>0, 500, 2,000, 7000 ppm</td>
<td>13-14 wk</td>
<td>6 hr/d, 5 d/wk</td>
<td>7000 ppm</td>
</tr>
<tr>
<td>Species: Isoprene</td>
<td>Application Route</td>
<td>Dose</td>
<td>Exposure time</td>
<td>Number of exposures</td>
<td>NOEL</td>
</tr>
<tr>
<td>Isoprene</td>
<td>Inhalation</td>
<td>0.7, 220, 700, 2200, 7000 ppm</td>
<td>13 wk</td>
<td>6 h/d, 5 d/wk</td>
<td>7000 ppm</td>
</tr>
<tr>
<td>Species: Isoprene</td>
<td>Application Route</td>
<td>Dose</td>
<td>Exposure time</td>
<td>Number of exposures</td>
<td>NOEL</td>
</tr>
<tr>
<td>Isoprene</td>
<td>Inhalation</td>
<td>0.7, 220, 700, 2200, 7000 ppm</td>
<td>13 wk</td>
<td>6 h/d, 5 d/wk</td>
<td>2000 ppm</td>
</tr>
</tbody>
</table>

**Genotoxicity in vitro**

<table>
<thead>
<tr>
<th>Hydrocarbons, C3-11, catalytic cracker distillates</th>
<th>Result: May cause genetic defects.</th>
<th>Remarks: In vitro tests showed mutagenic effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphtha (petroleum), light alkylate</td>
<td>Test Type: Mouse lymphoma assay</td>
<td>Result: negative</td>
</tr>
<tr>
<td>Naphtha (petroleum), light catalytic reformed</td>
<td>Test Type: Ames test</td>
<td>Result: negative</td>
</tr>
<tr>
<td>Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber</td>
<td>Test Type: Cytogenetic assay</td>
<td>Result: negative</td>
</tr>
<tr>
<td>Benzene, dimethyl-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>Test Type: Ames test</td>
<td>Result: negative</td>
</tr>
</tbody>
</table>
Test Type: Sister Chromatid Exchange Assay
Result: negative

Test Type: Mouse lymphoma assay
Result: negative

Test Type: Cytogenetic assay
Result: negative

Test Type: Ames test
Result: negative

Test Type: Cytogenetic assay
Result: positive

Test Type: Mouse lymphoma assay
Result: positive

Test Type: Sister Chromatid Exchange Assay
Result: negative

Test Type: Ames test
Result: negative

Test Type: Unscheduled DNA synthesis assay
Result: negative

Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: Mouse lymphoma assay
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test Type: Mouse lymphoma assay
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: Positive results were obtained in some in vitro tests.

Test Type: Ames test
Result: negative

Test Type: Sister Chromatid Exchange Assay
Result: negative

Test Type: Unscheduled DNA synthesis assay
Result: negative

Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: Mutagenicity (Escherichia coli - reverse mutation assay)
Result: negative
<table>
<thead>
<tr>
<th>Substance</th>
<th>Test Type</th>
<th>Metabolic activation: with and without metabolic activation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-Butadiene</td>
<td>Mouse lymphoma assay</td>
<td>with and without metabolic activation</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td>Metabolic activation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method: OECD Guideline 476</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Result: negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isoprene</td>
<td>Ames test</td>
<td>with and without metabolic activation</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td>Metabolic activation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method: OECD Guideline 473</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Result: negative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Genotoxicity in vivo

<table>
<thead>
<tr>
<th>Substance</th>
<th>Test Type</th>
<th>Species</th>
<th>Cell type</th>
<th>Dose</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C3-11, catalytic cracker distillates</td>
<td>Cytogenetic assay</td>
<td>Rat</td>
<td>Bone marrow</td>
<td>300, 1000, 3000 mg/kg</td>
<td>negative</td>
</tr>
<tr>
<td>Naphtha (petroleum), light alkylate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naphtha (petroleum), light catalytic reformed</td>
<td>Cytogenetic assay</td>
<td></td>
<td></td>
<td></td>
<td>negative</td>
</tr>
<tr>
<td>Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene, dimethyl-</td>
<td>Mouse micronucleus assay</td>
<td></td>
<td></td>
<td></td>
<td>negative</td>
</tr>
<tr>
<td>Toluene</td>
<td>Cytogenetic assay</td>
<td></td>
<td></td>
<td></td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td>Mouse micronucleus assay</td>
<td></td>
<td></td>
<td></td>
<td>negative</td>
</tr>
<tr>
<td>Benzene</td>
<td>Mouse micronucleus assay</td>
<td></td>
<td></td>
<td></td>
<td>positive</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>Mouse micronucleus assay</td>
<td></td>
<td></td>
<td></td>
<td>negative</td>
</tr>
<tr>
<td>n-hexane</td>
<td>Dominant lethal assay</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Species: Mouse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dose: 100 and 400 ppm  
Result: negative

Test Type: Cytogenetic assay  
Species: Rat  
Dose: 900, 3000, 9000 ppm  
Result: negative

Naphthalene  
Test Type: Mouse micronucleus assay  
Result: negative

Cyclohexane  
Test Type: Cytogenetic assay  
Species: Rat  
Cell type: Bone marrow  
Dose: 96.6, 307.2, 10141.6 ppm  
Result: negative

1,3-Butadiene  
Test Type: Mouse micronucleus assay  
Species: mice  
Route of Application: inhalation (gas)  
Exposure time: 6 h per day for 5 days  
Dose: 50, 200, 500, 1300 ppm  
Method: OECD Test Guideline 474  
Result: positive

Test Type: Dominant lethal assay  
Species: mice  
Method: OECD Test Guideline 478  
Result: Positive results were obtained in some in vivo tests.

Isoprene  
Result: negative

Test Type: Micronucleus test  
Result: positive

California P-III Certification Fuel  
Carcinogenicity  
: Method: Expected to be carcinogenic based on individual component data.

California P-III Certification Fuel  
Reproductive toxicity  
: Suspected of damaging fertility or the unborn child.

California P-III Certification Fuel  
Developmental Toxicity  
: No human information is available.

California P-III Certification Fuel  
Aspiration toxicity  
: May be fatal if swallowed and enters airways.

Toxicology Assessment

California P-III Certification Fuel  
CMR effects  
: Carcinogenicity:  
Possible human carcinogen  
Mutagenicity:
In vitro tests showed mutagenic effects, in vivo tests showed mutagenic effects.
Reproductive toxicity: Suspected of damaging fertility or the unborn child.

**California P-III Certification Fuel**

**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>Substance</th>
<th>LC50</th>
<th>Exposure time</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C3-11, catalytic cracker distillates</td>
<td>8.2 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas (fathead minnow)</td>
</tr>
<tr>
<td>Naphtha (petroleum), light alkylate</td>
<td>LC50:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.2 mg/l</td>
<td></td>
<td>Species: Pimephales promelas (fathead minnow)</td>
</tr>
<tr>
<td>Naphtha (petroleum), light catalytic reformed</td>
<td>LL50:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.2 mg/l</td>
<td></td>
<td>Species: Pimephales promelas (fathead minnow)</td>
</tr>
<tr>
<td>Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber</td>
<td>97.1 mg/l</td>
<td></td>
<td>Method: Value calculated using ECOSAR.</td>
</tr>
<tr>
<td>Benzene, dimethyl-</td>
<td>LC50:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.2 mg/l</td>
<td></td>
<td>Species: Salmo gairdneri (Rainbow trout)</td>
</tr>
<tr>
<td>Toluene</td>
<td>LC50:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18 - 36 mg/l</td>
<td></td>
<td>Species: Pimephales promelas (fathead minnow)</td>
</tr>
<tr>
<td>Benzene</td>
<td>LC50:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.3 mg/l</td>
<td></td>
<td>Species: Oncorhynchus mykiss (rainbow trout)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Method: OECD Test Guideline 203</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>LC50:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.3 mg/l</td>
<td></td>
<td>Species: Marone saxatilis (striped bass)</td>
</tr>
<tr>
<td>n-hexane</td>
<td>LL50:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12.51 mg/l</td>
<td></td>
<td>Species: Oncorhynchus mykiss (rainbow trout)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Method: QSAR modeled data</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>LC50:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.2 mg/l</td>
<td></td>
<td>Species: Pimephales promelas (fathead minnow)</td>
</tr>
</tbody>
</table>
## Cyclohexane
LC50: 4.53 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)
Method: OECD Test Guideline 203

## 1,3-Butadiene
LC50: 71.5 mg/l
Exposure time: 24 h
Species: Lagodon rhomboides (Pinfish)

## Isoprene
LC50: 7.43 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
semi-static test Method: OECD Test Guideline 203

### Toxicity to daphnia and other aquatic invertebrates

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50/EC50</th>
<th>Exposure time</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexane</td>
<td>EC50: 0.9 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td>OECD Test Guideline 202</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>LC50: 71.5 mg/l</td>
<td>24 h</td>
<td>Lagodon rhomboides (Pinfish)</td>
<td>Value calculated using ECOSAR. Toxic effects on fish and plankton</td>
</tr>
<tr>
<td>Isoprene</td>
<td>LC50: 7.43 mg/l</td>
<td>96 h</td>
<td>Oncorhynchus mykiss (rainbow trout)</td>
<td>Method: OECD Test Guideline 203</td>
</tr>
<tr>
<td>Hydrocarbons, C3-11, catalytic cracker distillates</td>
<td>: 1 - 100 mg/l</td>
<td></td>
<td></td>
<td>Toxic effects on fish and plankton</td>
</tr>
<tr>
<td>Naphtha (petroleum), light alkylate</td>
<td>LC50: 10 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td></td>
</tr>
<tr>
<td>Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber</td>
<td>LC50: 53.4 mg/l</td>
<td></td>
<td>Daphnia magna</td>
<td>Method: Value calculated using ECOSAR. Toxic effects on fish and plankton</td>
</tr>
<tr>
<td>Toluene</td>
<td>EC50: 3.78 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>EC50: 10 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td>static test Test substance: yes Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>LC50: 2.6 mg/l</td>
<td>96 h</td>
<td>Mysidopsis bahia (mysid shrimp)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC50: 2.2 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td>Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td>n-Hexane</td>
<td>EL50: 21.85 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td>Method: QSAR modeled data</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>LC50: 2.16 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td></td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>LC50: 2.6 mg/l</td>
<td>96 h</td>
<td>Daphnia magna (Water flea)</td>
<td>EC50: 0.9 mg/l Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td>Substance</td>
<td>EC50/EC100</td>
<td>Exposure time</td>
<td>Species</td>
<td></td>
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<td>------------------------------------------------</td>
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<td>--------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Isoprene</td>
<td>5.77 mg/l</td>
<td>48 h</td>
<td>Daphnia magna (Water flea)</td>
<td></td>
</tr>
<tr>
<td>Hydrocarbons, C3-11, catalytic cracker distillates</td>
<td>1 - 100 mg/l</td>
<td></td>
<td>Toxic to algae.</td>
<td></td>
</tr>
<tr>
<td>Naphtha (petroleum), light alkylate</td>
<td>45 mg/l</td>
<td>96 h</td>
<td>Selenastrum capricornutum (algae)</td>
<td></td>
</tr>
<tr>
<td>Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber</td>
<td>30.7 mg/l</td>
<td>Method: Value calculated using ECOSAR.</td>
<td>Toxic to algae.</td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>134 mg/l</td>
<td>72 h</td>
<td>Chlamydomonas angulosa (Green algae)</td>
<td></td>
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<tr>
<td>Benzene</td>
<td>100 mg/l</td>
<td>72 h</td>
<td>Pseudokirchneriella subcapitata (green algae)</td>
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<tr>
<td>Ethylbenzene</td>
<td>5.0 mg/l</td>
<td>96 h</td>
<td>Selenastrum capricornutum (algae)</td>
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<tr>
<td>Ethylbenzene</td>
<td>7.7 mg/l</td>
<td>72 h</td>
<td>Skeletonema costatum (Marine Algae)</td>
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</tr>
<tr>
<td>n-hexane</td>
<td>9.29 mg/l</td>
<td>72 h</td>
<td>Pseudokirchneriella subcapitata (green algae)</td>
<td></td>
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<tr>
<td>Naphthalene</td>
<td>2.96 mg/l</td>
<td>48 h</td>
<td>Selenastrum capricornutum (algae)</td>
<td></td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>3.4 mg/l</td>
<td>72 h</td>
<td>Selenastrum capricornutum (algae)</td>
<td></td>
</tr>
<tr>
<td>NOEC: 0.925 mg/l</td>
<td>72 h</td>
<td>Species: Skeletonema costatum (Marine Algae)</td>
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<td></td>
</tr>
<tr>
<td>Isoprene</td>
<td>&gt; 35.2 mg/l</td>
<td>96 h</td>
<td>Pseudokirchneriella subcapitata (green algae)</td>
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</tbody>
</table>
## M-Factor

<table>
<thead>
<tr>
<th>Substance</th>
<th>M-Factor (Acute Aquat. Tox.)</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Cyclohexane</td>
<td></td>
<td>1</td>
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</tbody>
</table>

## Toxicity to fish (Chronic toxicity)

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOEL: 2.6 mg/l</th>
<th>Toxic effects on fish and plankton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C3-11, catalytic cracker distillates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber</td>
<td>Chronic Toxicity Value: 9.01 mg/l</td>
<td>Toxic effects on fish and plankton</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOEL: 2.6 mg/l</th>
<th>Species: Daphnia sp. (Water flea)</th>
<th>Toxic effects on fish and plankton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C3-11, catalytic cracker distillates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber</td>
<td>Chronic Toxicity Value: 4.37 mg/l</td>
<td>Species: Daphnia sp. (Water flea)</td>
<td>Toxic effects on fish and plankton</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>NOEC: 1 mg/l</td>
<td>Exposure time: 7 d</td>
<td>Analytical monitoring: yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Species: Daphnia pulex (Water flea)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>semi-static test</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Analytical monitoring: yes</td>
<td></td>
</tr>
</tbody>
</table>

## Biodegradability

- Expected to be inherently biodegradable.

## Elimination information (persistence and degradability)

## Bioaccumulation

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

## Mobility

- Naphtha (petroleum), light alkylate: This product may float or sink in water. After release, disperses into the air.
- Naphtha (petroleum), light catalytic reformed: No data available

## Results of PBT assessment

- Toluene: Non-classified vPvB substance, Non-classified PBT 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).
- Ethylbenzene: Non-classified vPvB substance, Non-classified PBT substance
- n-hexane: Non-classified vPvB substance, Non-classified PBT substance
California P-III Certification Fuel

Cyclohexane : Non-classified PBT substance, Non-classified vPvB substance
Additional ecological information

Ecotoxicology Assessment

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

SECTION 13: Disposal considerations

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

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

Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

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

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

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)
UN1203, GASOLINE, 3, II

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)
UN1203, GASOLINE, 3, II, (-37°C), MARINE POLLUTANT, (HYDROCARBONS, C3-11, CATALYTIC CRACKER DISTILLATES)

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,
California P-III Certification Fuel

Version 4.3  Revision Date 2020-03-04

(HYDROCARBONS, C3-11, CATALYTIC CRACKER DISTILLATES)

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))
UN1203, GASOLINE, 3, II, ENVIRONMENTALLY HAZARDOUS, (HYDROCARBONS, C3-11, CATALYTIC CRACKER DISTILLATES)

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)
UN1203, GASOLINE, 3, II, ENVIRONMENTALLY HAZARDOUS, (HYDROCARBONS, C3-11, CATALYTIC CRACKER DISTILLATES)

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)
Germ cell mutagenicity
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Aspiration hazard
Skin corrosion or irritation
Serious eye damage or eye irritation
Carcinogenicity

EPCRA - EMERGENCY PLANNING COMMUNITY RIGHT - TO – KNOW

CERCLA Reportable Quantity
699 lbs
Benzene, dimethyl-

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:

- Benzene, dimethyl - 1330-20-7
- Toluene - 108-88-3
- 1,2,4-Trimethylbenzene - 95-63-6
- Ethylbenzene - 100-41-4
- n-hexane - 110-54-3
- Cyclohexane - 110-82-7
- Naphthalene - 91-20-3
- Benzene - 71-43-2
- Isoprene - 78-79-5
- 1,3-Butadiene - 106-99-0

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 112 (40 CFR 61):

- Benzene, dimethyl - 1330-20-7
- Toluene - 108-88-3
- Ethylbenzene - 100-41-4
- n-hexane - 110-54-3
- Naphthalene - 91-20-3
- Benzene - 71-43-2

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

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

- Benzene, dimethyl - 1330-20-7
- Toluene - 108-88-3
- Ethylbenzene - 100-41-4
- Cyclohexane - 110-82-7
- Benzene - 71-43-2

US State Regulations

Pennsylvania Right To Know: Hydrocarbons, C3-11, catalytic cracker distillates - 68476-46-0
Naphtha (petroleum), light alkylate - 64741-66-8
Naphtha (petroleum), light catalytic reformed - 64741-63-5
Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber - 68307-98-2
Benzene, dimethyl- - 1330-20-7
Toluene - 108-88-3
1,2,4-Trimethylbenzene - 95-63-6
Ethylbenzene - 100-41-4
n-hexane - 110-54-3
Cyclohexane - 110-82-7
Naphthalene - 91-20-3
Benzene - 71-43-2
Isoprene - 78-79-5
1,3-Butadiene - 106-99-0

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 : Not in compliance with the inventory
Switzerland CH INV : On the inventory, or in compliance with the inventory
United States of America (USA) TSCA : On or in compliance with the active portion of the 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 : Not in compliance with the inventory
Japan ENCS : Not in compliance with the inventory
Korea KECI : A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance.
Philippines PICCS : Not in compliance with the inventory
China IECSC : Not in compliance with the inventory
Taiwan TCSI : Not in compliance with the inventory
NFPA Classification : Health Hazard: 2
Fire Hazard: 3
Reactivity Hazard: 0

Further information
Legacy SDS Number : CPC00034

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>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACGIH</strong></td>
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