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

Product information
Product Name: Isopropyl Mercaptan
Material: 1083608, 1029885, 1021450, 1028387, 1021451, 1027451,
1021448, 1031054, 1021449

Company: Chevron Phillips Chemical Company LP
Specialty Chemicals
10001 Six Pines Drive
The Woodlands, TX 77380

Local: See Company Address

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
GHS Classification and labelling according to JIS Z7252-2014 and JIS Z7253-2012 (GHS 2011)

Classification
- Flammable liquids, Category 2
- Skin sensitization, Sub-category 1B
- Short-term (acute) aquatic hazard, Category 1
- Long-term (chronic) aquatic hazard, Category 1
Isopropyl Mercaptan

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Labeling

Symbol(s): 

Signal Word: Danger

Hazard Statements: 
H225: Highly flammable liquid and vapor.
H317: May cause an allergic skin reaction.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements: 
Prevention:
P210: Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/ eye protection/ face protection.

Response:
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364: Take off contaminated clothing and wash it before reuse.
P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391: Collect spillage.

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

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

SECTION 3: Composition/information on ingredients

Synonyms: 2-propanethiol
IPM
IC3SH

Molecular formula: C3H8S

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration</th>
<th>ENCS/ISHL number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Mercaptan</td>
<td>75-33-2</td>
<td>95 % - 100%</td>
<td>2-464</td>
</tr>
</tbody>
</table>

SDS Number: 100000068542 2/16
## Isopropyl Mercaptan

**Version 2.3**

<table>
<thead>
<tr>
<th>n-Propyl Mercaptan</th>
<th>107-03-9</th>
<th>1% - 5%</th>
<th>2-464</th>
</tr>
</thead>
</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**: If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

**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**: -34°C (-29°F) estimated

**Autoignition temperature**: No data available

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

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

**Specific hazards during firefighting**: Do not allow run-off from fire fighting to enter drains or water courses.

**Special protective equipment for fire-fighters**: Wear self-contained breathing apparatus for firefighting if necessary.

**Further information**: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containers. 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.

SDS Number: 100000068542
Isopropyl Mercaptan

Hazardous decomposition products: Sulfur.

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. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

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

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 work-place. Wear as appropriate: Remove and wash contaminated clothing before re-use. Skin should be washed after contact. Footwear protecting against chemicals.

**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
- **Odor**: Repulsive

**Safety data**

- **Flash point**: -34°C (-29°F) estimated
- **Lower explosion limit**: No data available
### Isopropyl Mercaptan

**Version 2.3**  
**Revision Date 2020-03-25**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>yes</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>C3H8S</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>90.2 g/mol</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Pour point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>51°C (124°F)</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>8.80 PSI</td>
</tr>
<tr>
<td></td>
<td>at 37.8°C (100.0°F)</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>at 15.6 °C (60.1 °F)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>slightly soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>0.369 cP</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>2.62</td>
</tr>
<tr>
<td></td>
<td>(Air = 1.0)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>1 estimated</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.
### Isopropyl Mercaptan

**SECTION 11: Toxicological information**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Acute toxicity estimate</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute oral toxicity</strong></td>
<td>&gt; 2,496 mg/kg</td>
<td>Calculation method</td>
</tr>
<tr>
<td><strong>Acute inhalation toxicity</strong></td>
<td>&gt; 20 mg/l</td>
<td>Calculation method</td>
</tr>
<tr>
<td><strong>Acute dermal toxicity</strong></td>
<td>&gt; 2,000 mg/kg</td>
<td>Calculation method</td>
</tr>
<tr>
<td><strong>Skin irritation</strong></td>
<td>No skin irritation</td>
<td>largely based on animal evidence.</td>
</tr>
<tr>
<td><strong>Eye irritation</strong></td>
<td>slight irritation</td>
<td>largely based on animal evidence.</td>
</tr>
<tr>
<td><strong>Sensitization</strong></td>
<td>The product is a skin sensitizer, sub-category 1B.</td>
<td>largely based on animal evidence.</td>
</tr>
</tbody>
</table>

**Repeated dose toxicity**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Species: Rat, male and female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sex: male and female</td>
</tr>
<tr>
<td></td>
<td>Application Route: Inhalation</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 13 wks</td>
</tr>
<tr>
<td></td>
<td>Number of exposures: 6hrs/d, 5 d/wk</td>
</tr>
<tr>
<td></td>
<td>NOEL: 0.367 mg/l 99.6 ppm</td>
</tr>
<tr>
<td></td>
<td>Lowest observable effect level: 1.488 mg/l 403.4 ppm</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 413</td>
</tr>
<tr>
<td></td>
<td>Target Organs: Liver, Kidney, Upper respiratory tract, Blood</td>
</tr>
<tr>
<td></td>
<td>Information given is based on data obtained from similar substances.</td>
</tr>
</tbody>
</table>
**Isopropyl Mercaptan**

Species: Rat, male and female  
Sex: male and female  
Application Route: oral gavage  
Dose: 10, 50, 200 mg/kg bw/day  
Exposure time: 42-53 days  
Number of exposures: Daily  
NOEL: 50 mg/kg  
Lowest observable effect level: 200 mg/kg  
Method: OECD Guideline 422  
Target Organs: Liver, Blood  
Information given is based on data obtained from similar substances.

Species: Rat, male and female  
Sex: male and female  
Application Route: Inhalation  
Exposure time: 13 wks  
Number of exposures: 6hrs/d, 5 d/wk  
NOEL: >= 196 ppm  
Method: OECD Test Guideline 413  
Target Organs: Kidney, Upper respiratory tract, Blood  
Information given is based on data obtained from similar substances.

**n-Propyl Mercaptan**

Species: Rat, male and female  
Sex: male and female  
Application Route: Inhalation  
Dose: 9, 97, 196 ppm  
Exposure time: 13 wks  
Number of exposures: 6 hrs/d, 5 d/wk  
NOEL: 196 ppm  
Method: OECD Test Guideline 413  
Information given is based on data obtained from similar substances.

**Genotoxicity in vitro**

**Isopropyl Mercaptan**
- **Test Type:** reverse mutation assay  
- **Test system:** Salmonella typhimurium  
- **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 490  
- **Result:** negative

- **Test Type:** Micronucleus test  
- **Metabolic activation:** with and without metabolic activation  
- **Method:** OECD Test Guideline 487  
- **Result:** negative

**n-Propyl Mercaptan**
- **Test Type:** Ames test  
- **Metabolic activation:** with and without metabolic activation  
- **Method:** OECD Test Guideline 471  
- **Result:** negative
## Isopropyl Mercaptan

### Reproductive toxicity

<table>
<thead>
<tr>
<th>Test Type:</th>
<th>Cytogenetic assay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metabolic activation:</td>
<td>with and without metabolic activation</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 473</td>
</tr>
<tr>
<td>Result:</td>
<td>negative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Type:</th>
<th>Mouse lymphoma assay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metabolic activation:</td>
<td>with and without metabolic activation</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 476</td>
</tr>
<tr>
<td>Result:</td>
<td>negative</td>
</tr>
</tbody>
</table>

Remarks: Information given is based on data obtained from similar substances.

### Developmental Toxicity

<table>
<thead>
<tr>
<th>Isopropyl Mercaptan</th>
<th>Species: Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex:</td>
<td>male and female</td>
</tr>
<tr>
<td>Application Route:</td>
<td>oral gavage</td>
</tr>
<tr>
<td>Dose:</td>
<td>10, 50, 200 mg/kg/bw</td>
</tr>
<tr>
<td>Exposure time:</td>
<td>42 d</td>
</tr>
<tr>
<td>Number of exposures:</td>
<td>Daily</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Guideline 422</td>
</tr>
<tr>
<td>NOAEL Parent:</td>
<td>&gt;= 200 mg/kg</td>
</tr>
<tr>
<td>NOAEL F1:</td>
<td>50 mg/kg</td>
</tr>
</tbody>
</table>

Information given is based on data obtained from similar substances.

No adverse effects expected.

<table>
<thead>
<tr>
<th>Isopropyl Mercaptan</th>
<th>Species: Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route:</td>
<td>Inhalation</td>
</tr>
<tr>
<td>Dose:</td>
<td>11, 99, 195 ppm</td>
</tr>
<tr>
<td>Exposure time:</td>
<td>6h/d</td>
</tr>
<tr>
<td>Test period:</td>
<td>GD 9 - 19</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Guideline 414</td>
</tr>
<tr>
<td>NOAEL Teratogenicity:</td>
<td>&gt;= 195 ppm</td>
</tr>
<tr>
<td>NOAEL Maternal:</td>
<td>&gt;= 195 ppm</td>
</tr>
</tbody>
</table>

Species: Mouse

<table>
<thead>
<tr>
<th>Isopropyl Mercaptan</th>
<th>Species: Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route:</td>
<td>Inhalation</td>
</tr>
<tr>
<td>Dose:</td>
<td>11, 99, 195 ppm</td>
</tr>
<tr>
<td>Exposure time:</td>
<td>6h/d</td>
</tr>
<tr>
<td>Test period:</td>
<td>GD 9 - 19</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Guideline 414</td>
</tr>
<tr>
<td>NOAEL Teratogenicity:</td>
<td>&gt;= 195 ppm</td>
</tr>
<tr>
<td>NOAEL Maternal:</td>
<td>&gt;= 195 ppm</td>
</tr>
</tbody>
</table>

Information given is based on data obtained from similar substances.

### Aspiration toxicity

May be harmful if swallowed and enters airways.

### CMR effects

<table>
<thead>
<tr>
<th>Isopropyl Mercaptan</th>
<th>Carcinogenicity: Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mutagenicity:</td>
<td>In vitro tests did not show mutagenic effects</td>
</tr>
</tbody>
</table>
Reproductive toxicity: No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

**n-Propyl Mercaptan**
- 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. No toxicity to reproduction

**Isopropyl Mercaptan**
Further information: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Solvents may degrease the skin.

### SECTION 12: Ecological information

**Toxicity to fish**
- **Isopropyl Mercaptan**
  - LC50: 34 mg/l
  - Exposure time: 96 h
  - Semi-static test
  - Analytical monitoring: yes
  - Method: OECD Test Guideline 203
  - Information given is based on data obtained from similar substances.
- **n-Propyl Mercaptan**
  - LC50: 1.3 mg/l
  - Exposure time: 96 h
  - Species: Pimephales promelas (fathead minnow)
  - Semi-static test
  - Analytical monitoring: yes
  - Test substance: yes
  - Method: OECD Test Guideline 203
  - Toxic to aquatic organisms.

**Toxicity to daphnia and other aquatic invertebrates**
- **Isopropyl Mercaptan**
  - EC50: 0.25 - 0.5 mg/l
  - Exposure time: 48 h
  - Species: Daphnia magna (Water flea)
  - Static test
  - Test substance: yes
  - Method: OECD Test Guideline 202
- **n-Propyl Mercaptan**
  - EC50: 70 µg/l
  - Exposure time: 48 h
  - Species: Daphnia magna (Water flea)
  - Analytical monitoring: yes
  - Test substance: yes
  - Method: OECD Test Guideline 202
  - Very toxic to aquatic organisms.

**Toxicity to algae**
- **Isopropyl Mercaptan**
  - ErC50: 21.9 mg/l
  - Exposure time: 72 h
  - Species: Pseudokirchneriella subcapitata (green algae)
Isopropyl Mercaptan

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Revision Date 2020-03-25

SAFETY DATA SHEET

Isopropyl Mercaptan

n-Propyl Mercaptan

ErC50: 3 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (algae)
Growth inhibition
Method: OECD Test Guideline 201
Information given is based on data obtained from similar substances.

M-Factor

propane-2-thiol

: M-Factor (Acute Aquat. Tox.) 1

M-Factor (Chron. Aquat. Tox.) 1

M-Factor

propane-1-thiol

: M-Factor (Acute Aquat. Tox.) 10

M-Factor (Chron. Aquat. Tox.) 10

Toxicity to bacteria

Isopropyl Mercaptan

: EC50: 880.5 mg/l
Exposure time: 3 h
Respiration inhibition
Method: OECD Test Guideline 209

n-Propyl Mercaptan

EC50: 880.5 mg/l
Exposure time: 3 h
Respiration inhibition
Method: OECD Test Guideline 209
Information given is based on data obtained from similar substances.

Biodegradability

Isopropyl Mercaptan

: aerobic
Result: Not readily biodegradable.
0 %
Testing period: 28 Days
Method: OECD Test Guideline 301D

n-Propyl Mercaptan

: aerobic
Result: Not readily biodegradable.
17 %
Testing period: 28 Days
Method: OECD Test Guideline 301

Bioaccumulation

Isopropyl Mercaptan

: This material is not expected to bioaccumulate.

n-Propyl Mercaptan

: This material is not expected to bioaccumulate.
Isopropyl Mercaptan

Mobility

Isopropyl Mercaptan : Disperses rapidly in air.
n-Propyl Mercaptan : Disperses rapidly in air.

Results of PBT assessment

Isopropyl Mercaptan : Non-classified PBT substance, Non-classified vPvB substance
n-Propyl Mercaptan : Non-classified PBT substance, Non-classified vPvB substance

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)

UN2402, PROPANETHIOLS, 3, II

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN2402, PROPANETHIOLS, 3, II, (-34°C), MARINE POLLUTANT, (ISOPROPYL MERCAPTAN,
TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE

SECTION 15: REGULATORY INFORMATION

NATIONAL LEGISLATION

POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW

: Not applicable

INDUSTRIAL SAFETY AND HEALTH LAW

SUBSTANCES SUBJECT TO BE NOTIFIED NAMES

: Not applicable

ENFORCEMENT ORDER OF THE INDUSTRIAL SAFETY AND HEALTH LAW - ATTACHED TABLE 1 (DANGEROUS SUBSTANCES)

: Inflammable Substance

ENFORCEMENT ORDER OF THE INDUSTRIAL SAFETY AND HEALTH LAW - ATTACHED TABLE 1 (DANGEROUS SUBSTANCES)

: Inflammable Substance

HARMFUL SUBSTANCES REQUIRED PERMISSION FOR MANUFACTURE

: Not applicable

HAZARDOUS SUBSTANCES SUBJECT TO LABELING REQUIREMENTS

: Not applicable

ORDINANCE ON PREVENTION OF ORGANIC SOLVENT POISONING

: Not applicable
### Ordinance on Prevention of Lead Poisoning
- Harmful Substances: Not applicable
- Prohibited from Manufacture: Not applicable
- Hazards Due to Specified Chemical Substances: Not applicable
- Prevention of Tetraalkyl Lead Poisoning: Not applicable

### Substances Prevented From Impairment of Health
- Not applicable

### Chemical Substance Control Law
- Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.

### Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof
- Not applicable

### Other regulations
- **Fire Service Law**
  - Flammable liquids
    - Type 1 petroleums
    - Hazardous rank II
- **Explosive Control Law**
  - Not applicable
- **Vessel Safety Law**
  - Flammable liquids (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)
- **Aviation Law**
  - Flammable liquid (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)
- **Marine Pollution and Sea Disaster Prevention etc Law**
  - Marine pollutant
- **High Pressure Gas Safety Act**
  - Not applicable

### Notification status
- **Europe** REACH: This product is in full compliance according to REACH regulation 1907/2006/EC.
- **Switzerland** CH INV: On the inventory, or in compliance with the inventory
- **United States of America (USA)** TSCA: On the inventory, or in compliance with the inventory
- **Canada** DSL: All components of this product are on the Canadian DSL
- **Australia** AICS: On the inventory, or in compliance with the inventory
Isopropyl Mercaptan

SECTION 16: Other information

Further information

Legacy SDS Number : 38500

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>EC50%</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
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<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act.</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
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SDS Number: 100000068542

15/16
<table>
<thead>
<tr>
<th>IECSC</th>
<th>ENCS</th>
<th>KECI</th>
<th>&lt;=</th>
<th>LC50</th>
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<tbody>
<tr>
<td>Inventory of Existing Chemical Substances in China</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
<td>Korea, Existing Chemical Inventory</td>
<td>Less Than or Equal To</td>
<td>Lethal Concentration 50%</td>
</tr>
<tr>
<td>TWA</td>
<td>TSCA</td>
<td>UVCB</td>
<td>WHMIS</td>
<td></td>
</tr>
<tr>
<td>Time Weighted Average</td>
<td>Toxic Substance Control Act</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
<td>Workplace Hazardous Materials Information System</td>
<td></td>
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