SAFETY DATA SHEET

Propane/Propylene

SECTION 1  IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Trade name</th>
<th>Propane/Propylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>C3H8/C3H6, Liquified Petroleum Gas</td>
</tr>
<tr>
<td>Use</td>
<td>Raw material for chemical processes, Industrial use</td>
</tr>
<tr>
<td>Company</td>
<td>Sasol Chemicals (USA) LLC</td>
</tr>
<tr>
<td>(an affiliate of Sasol Chemicals North America LLC)</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>12120 Wickchester Lane  Houston TX 77079</td>
</tr>
<tr>
<td>Telephone</td>
<td>CHEMTREC North America Transportation Emergency (24-hr) (800) 424-9300</td>
</tr>
<tr>
<td></td>
<td>CHEMTREC World Wide (703) 527-3887</td>
</tr>
<tr>
<td></td>
<td>Other Emergencies (24-hr) (337) 494-5142</td>
</tr>
<tr>
<td></td>
<td>MSDS and Product Information (8:00am-4:30pm CST) (281) 588-3491</td>
</tr>
<tr>
<td></td>
<td>Health and Safety Information (7:30am-4:00pm CST) (281) 588-3492</td>
</tr>
<tr>
<td>E-mail address</td>
<td><a href="mailto:SasolElectronicSDS@us.sasol.com">SasolElectronicSDS@us.sasol.com</a></td>
</tr>
</tbody>
</table>

SECTION 2  HAZARDS IDENTIFICATION

GHS Hazards

| Flammable gases          | Category 1 |
| Gases under pressure     | Compressed gas |
| Skin corrosion           | Category 1  |
| Serious eye damage       | Category 1  |

OSHA Hazards

Simple Asphyxiant

LABEL ELEMENTS

Hazard symbols

Signal word

Danger

Hazard statements

H220  Extremely flammable gas.
H280  Contains gas under pressure; may explode if heated.
H314  Causes severe skin burns and eye damage.
May displace oxygen and cause rapid suffocation.

Precautionary statements

Prevention

P210  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260  Do not breathe dust or mist.
**SAFETY DATA SHEET**

**Propane/Propylene**

- **P264** Wash skin thoroughly after handling.
- **P280** Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response**
- **P377** Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
- **P380** Eliminate all ignition sources if safe to do so.
- **P301 + P330 + P331** IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- **P303 + P361 + P353** IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- **P363** Wash contaminated clothing before reuse.
- **P304 + P340** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- **P310** Immediately call a POISON CENTER or doctor/ physician.
- **P305 + P351 + P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Storage**
- **P410 + P403** Protect from sunlight. Store in a well-ventilated place.
- **P405** Store locked up.

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

### SECTION 3  COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene</td>
<td>115-07-1</td>
<td>82 - 87</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>11 - 15</td>
</tr>
<tr>
<td>Ethene</td>
<td>74-85-1</td>
<td>&lt;=2</td>
</tr>
</tbody>
</table>

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

### SECTION 4  FIRST AID MEASURES

- **Eye contact** In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Cover wound with sterile dressing. Call a physician immediately.

- **Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Cover wound with sterile dressing. Call a physician immediately.

- **Inhalation** Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.

- **Ingestion** If swallowed, call a poison control centre or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.
Propane/Propylene

SECTION 5  FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES
- Fire/explosion: Explosion risk in case of fire. Catches fire spontaneously if exposed to air. Flash back possible over considerable distance.
- Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Protective equipment and precautions for firefighters: Wear self-contained breathing apparatus and protective suit.

Further information: Evacuate personnel to safe areas. Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

SECTION 6  ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up: Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Keep people away from and upwind of spill/leak. Prevent further leakage or spillage. Hose down gases, fumes and/or dust with water.

SECTION 7  HANDLING AND STORAGE

Safe handling advice: Ensure all equipment is electrically grounded before beginning transfer operations. Keep away from fire, sparks and heated surfaces. Use only in well-ventilated areas.

Storage/Transport pressure: The pressure in sealed containers can increase under the influence of heat.

Load/Unload temperature: Ambient

SECTION 8  EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES: Provide adequate explosion-proof, general or exhaust ventilation. Ventilate low-lying areas such as sumps and confined spaces.

PERSONAL PROTECTIVE EQUIPMENT
- Eyes: Wear as appropriate: Goggles, Face-shield
- Skin: Wear suitable protective clothing, gloves and eye/face protection.
- Inhalation: In case of insufficient ventilation wear suitable respiratory equipment. Use NIOSH approved respiratory protection.

EXPOSURE GUIDELINES: Simple asphyxiant - must maintain oxygen level at a minimum of 16% in air by volume.
## SECTION 9  PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>gaseous; liquid under pressure;</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>colourless</td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td>gaseous, liquid under pressure</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>odourless</td>
</tr>
<tr>
<td><strong>Odour Threshold</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>-107 °C, -160 °F; PM;</td>
</tr>
<tr>
<td><strong>Flammability</strong></td>
<td>Upper explosion limit: 11.1 %(V)</td>
</tr>
<tr>
<td></td>
<td>Lower explosion limit: 2.0 %(V)</td>
</tr>
<tr>
<td><strong>Boiling point/boiling range</strong></td>
<td>-46 °C, -50 °F;</td>
</tr>
<tr>
<td><strong>Melting point/range</strong></td>
<td>-184 °C, -300 °F;</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>466 °C, 870 °F;</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>148 psia @ 21 °C, 70 °F;</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>1.45</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>0.60 g/cm³</td>
</tr>
<tr>
<td><strong>Specific gravity</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>negligible</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>no data available</td>
</tr>
</tbody>
</table>
Propane/Propylene

SECTION 10  STABILITY AND REACTIVITY

Reactivity  Stable at normal ambient temperature and pressure.

Chemical stability  No decomposition if stored and applied as directed.

Conditions to avoid  Stable under recommended storage conditions.

Hazardous decomposition products  Carbon dioxide (CO2) Carbon monoxide

Materials to avoid  Oxidizing agents

Hazardous polymerisation  None.

SECTION 11  TOXICOLOGICAL INFORMATION

Acute dermal toxicity  no data available

Acute inhalation toxicity  guinea pig (2 hours): 55,000 ppm Test substance: proplyene; Showed tremors and nervous system depression; no fatalities or tissue damage occurred, Causes changes in certain cells lining the nasal cavity of male and female rats, High concentration of vapours may induce unconsciousness.

Acute oral toxicity  Not a usual route of exposure.

Skin corrosion/irritation  May cause frostbite.

Eye damage/irritation  Liquid causes severe inflammation of conjunctiva and may cause severe damage of the cornea.

Respiratory or skin sensitization  no data available

Germ cell mutagenicity  Genotoxicity in vitro: no data available

Genotoxicity in vivo: no data available

Assessment Mutagenicity: no data available

Reproductive toxicity  no data available

Assessment Reproductive toxicity: no data available
SAFETY DATA SHEET

Propane/Propylene

Teratogenicity: no data available

Assessment teratogenicity: no data available

STOT - single exposure no data available

STOT - repeated exposure no data available

Aspiration toxicity no data available

Carcinogenicity

Assessment carcinogenicity:
Contains no ingredient listed as a carcinogen

SECTION 12 ECOLOGICAL INFORMATION

Aquatic toxicity
Highly volatile and practically insoluble in water. Does not pose a risk to aquatic environment.

Toxicity to fish no data available

Toxicity to aquatic invertebrates no data available

Toxicity to algae no data available

Chronic toxicity to fish no data available

Chronic toxicity to aquatic invertebrates no data available

Biodegradation Disperses rapidly in air.

Bioaccumulation no data available

Mobility in soil no data available

Other adverse effects no data available

SECTION 13 DISPOSAL CONSIDERATIONS
Propane/Propylene

Waste Code  D001 - Ignitability (RQ 100 LB). This product has the RCRA characteristic of ignitability. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification.

Disposal methods  Dispose of only in accordance with local, state, and federal regulations. Incinerate under acceptable conditions or vent to a safe location if gas is dissipated below the lower explosive limit.

Empty containers.  Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14  TRANSPORT INFORMATION

DOT  UN 1075, Non-odorized Petroleum Gases, Liquefied, 2.1
IATA  UN 1075, Non-odorized Petroleum Gases, Liquefied, 2.1
IMDG  UN 1075, Non-odorized Petroleum Gases, Liquefied, 2.1

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

Remarks  no data available

SECTION 15  REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

OSHA Hazards (HCS 1994)
Flammable, Compressed Gas, Simple Asphyxiant

TSCA Inventory Listing

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Propene</td>
<td>115-07-1</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
</tr>
<tr>
<td>Ethene</td>
<td>74-85-1</td>
</tr>
</tbody>
</table>

SARA 302 Status

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 311/312 Classification
“Immediate (acute) health hazard”, “Fire hazard”, “Pressure hazard”
SAFETY DATA SHEET

Propane/Propylene

SARA 313 Chemical Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Propene</td>
<td>115-07-1</td>
<td>82 - 87 %</td>
</tr>
<tr>
<td>Ethene</td>
<td>74-85-1</td>
<td>&lt;= 2 %</td>
</tr>
</tbody>
</table>

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Components

<table>
<thead>
<tr>
<th>Reportable Quantity</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td></td>
</tr>
</tbody>
</table>

INTERNATIONAL REGULATIONS

WHMIS Classification

- Class A: Compressed Gases
- Class B, Division 1: Flammable gas
- Class D, Division 2, Subdivision B: Toxic material
- Class E: Corrosive material

European Union

Classification according to Regulation (EU) 1272/2008.

- Flammable gases, Category 1
- Gases under pressure, Compressed gas
- Serious eye damage, Category 1
- Skin irritation, Category 1

Australia. Inventory of Chemical Substances (AICS) Listed

Japan. Inventory of Existing and New Chemical Substances (ENCS) Listed

Japan. Industrial Safety & Health Law (ISHL) Inventory Listed

Canada. Domestic Substances List (DSL) Inventory Listed

Canadian Non-Domestic Substance Listing (NDSL) Not listed

European Inventory of Existing Commercial Chemical Substances (EINECS) Listing Listed

Philippines. Inventory of Chemicals / Chemical Substances (PICCS) Listed

Korea. Existing Chemicals Inventory (KECI) Listed

China. Inventory of Existing Chemical Substances (IECSC) Listed

Mexico. National Inventory of Chemical Substances (INSQ) Listed

New Zealand. Inventory of Chemicals (NZIoC) Listed

Switzerland. Inventory of Notified New Substances (CHINV) Listed

Taiwan. National Existing Chemical Inventory (NECI) Listed
SAFETY DATA SHEET

Propane/Propylene

Please note: The names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in Section 3.

STATE REGULATIONS

California Prop. 65
Components none

SECTION 16 OTHER INFORMATION

HAZARD RATINGS

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard/ Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMIS®</td>
<td>3</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>NFPA</td>
<td>3</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

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