SAFETY DATA SHEET

Renewable Chemical Grade Propylene

Section 1. Identification

Renewable Chemical Grade Propylene	: **GHS product identifier**
Renewable Propylene Chemical Grade	: **Chemical name**
Propylene, Methylethylene, 1-Propene, 1-Propylene, propeen	: **Other means of identification**
Liquefied gas.	: **Product type**
Manufacture of substance Use as an intermediate Distribution of substance Formulation and (re)packing of substances and mixtures Production of polymers Use in fuel Propellants	: **Use of the substance/ mixture**
Saudi Basic Industries Corporation (SABIC) P.O. Box 5101 Riyadh, 11422 Kingdom of Saudi Arabia	: **Manufacturer**
Asia Pacific: 001-760-476-3960 (0-24h) Middle East: 001-760-476-3959 (0h - 24h) Australia: +61 1 800 686 (0-24h) New Zealand: +64 0800 451719 (0-24h) SABIC Access Code: 333619	: **Emergency telephone number (with hours of operation)**

Section 2. Hazards identification

FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Liquefied gas
AQUATIC HAZARD (ACUTE) - Category 3

: **Classification of the substance or mixture**

GHS label elements

: **Hazard pictograms**

Danger

: **Signal word**

Extremely flammable gas.
Contains gas under pressure; may explode if heated.
Harmful to aquatic life.

: **Hazard statements**

Precautionary statements

Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

: **General**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment.

: **Prevention**

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources.

: **Response**

Protect from sunlight. Store in a well-ventilated place.

: **Storage**

Dispose of contents and container in accordance with all local, regional, national and international regulations.

: **Disposal**

None known.

: **Other hazards which do not result in classification**

Section 3. Composition/information on ingredients

Substance : **Substance/mixture**

Renewable Propylene Chemical Grade : **Chemical name**

Propylene, Methylethylene, 1-Propene, 1-Propylene, propeen : **Other means of identification**

CAS number/other identifiers

115-07-1 : **CAS number**

204-062-1 : **EC number**

CAS number	%	Ingredient name
115-07-1	95 - 100	propene

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs. : **Eye contact**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. : **Inhalation**

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Do not rub affected area. Wash clothing before reuse. Clean shoes thoroughly before reuse. : **Skin contact**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe. Ingestion of liquid can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. As this product rapidly becomes a gas when released, refer to the inhalation section. : **Ingestion**

Most important symptoms/effects, acute and delayed

Potential acute health effects

Liquid can cause burns similar to frostbite. : **Eye contact**

No known significant effects or critical hazards. : **Inhalation**

Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite. : **Skin contact**

Ingestion of liquid can cause burns similar to frostbite. : **Ingestion**

Over-exposure signs/symptoms

Adverse symptoms may include the following:
frostbite : **Eye contact**

No specific data. : **Inhalation**

Adverse symptoms may include the following:
frostbite : **Skin contact**

Section 4. First aid measures

Adverse symptoms may include the following:
frostbite

: Ingestion

Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

: Notes to physician

No specific treatment.

: Specific treatments

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

: Protection of first-aiders

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

: Suitable extinguishing media

None known.

: Unsuitable extinguishing media

Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

: Specific hazards arising from the chemical

Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

: Hazardous thermal decomposition products

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

: Special protective actions for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

: Special protective equipment for fire-fighters

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

: For non-emergency personnel

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

: For emergency responders

Section 6. Accidental release measures

: Environmental precautions

Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

: Small spill

Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

: Large spill

Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

: Precautions for safe handling

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

: Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Exposure limits	Product/ingredient name
ACGIH TLV (United States, 3/2018). TWA: 500 ppm 8 hours.	propene

: Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

: Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

: Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

: Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: full-face mask	: **Eye/face protection**
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. 4 - 8 hours (breakthrough time): Insulated gloves suitable for low temperatures ; neoprene , nitrile rubber	: **Hand protection**
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.	: **Body protection**
Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.	: **Other skin protection**
Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: self-contained breathing apparatus (SCBA)	: **Respiratory protection**
If there is a risk of contact with the liquid, all protective equipment worn should be suitable for use with extremely low temperature materials.	: **Thermal hazards**

Section 9. Physical and chemical properties

Appearance

Gas. [Liquefied gas.]	: **Physical state**
Colorless.	: **Color**
Characteristic.	: **Odor**
23 to 80 ppm	: **Odor threshold**
Not available.	: **pH**
-185°C (-301°F)	: **Melting point/freezing point**
-48°C (-54.4°F)	: **Boiling point**
Closed cup: -108.15°C (-162.7°F)	: **Flash point**
Not applicable.	: **Burning time**
Not applicable.	: **Burning rate**
Not available.	: **Evaporation rate**
Not available.	: **Flammability (solid, gas)**
Lower: 2% Upper: 11.1%	: **Lower and upper explosive (flammable) limits**
1158.6 kPa (8690 mm Hg) [room temperature]	: **Vapor pressure**
1.5 [Air = 1]	: **Vapor density**
0.609	: **Relative density**
Very slightly soluble in the following materials: cold water.	: **Solubility**
0.2 g/l	
Not available.	: **Partition coefficient: n-octanol/water**
455°C (851°F)	: **Auto-ignition temperature**
Not available.	: **Decomposition temperature**

Section 9. Physical and chemical properties

Not available. : **SADT**

Not available. : **Viscosity**

Aerosol product

-45803592 J/kg : **Heat of combustion**

Section 10. Stability and reactivity

No specific test data related to reactivity available for this product or its ingredients. : **Reactivity**

The product is stable. : **Chemical stability**

Under normal conditions of storage and use, hazardous reactions will not occur. : **Possibility of hazardous reactions**

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow gas to accumulate in low or confined areas. : **Conditions to avoid**

No specific data. : **Incompatible materials**

Under normal conditions of storage and use, hazardous decomposition products should not be produced. : **Hazardous decomposition products**

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Exposure	Dose	Species	Result	Product/ingredient name
4 hours	>86 mg/l	Rat	LC50 Inhalation Gas.	Propylene

Based on available data, the classification criteria are not met. : **Conclusion/Summary**

Irritation/Corrosion

Not available.

Conclusion/Summary

Non-irritating to the skin. : **Skin**

Non-irritating to the eyes. : **Eyes**

Based on available data, the classification criteria are not met. : **Respiratory**

Sensitization

Not available.

Conclusion/Summary

No known significant effects or critical hazards. : **Skin**

No known significant effects or critical hazards. : **Respiratory**

Mutagenicity

Not available.

No known significant effects or critical hazards. : **Conclusion/Summary**

Carcinogenicity

Not available.

Based on available data, the classification criteria are not met. : **Conclusion/Summary**

Reproductive toxicity

Not available.

Section 11. Toxicological information

No known significant effects or critical hazards. : **Conclusion/Summary**

Teratogenicity

Not available.

No known significant effects or critical hazards. : **Conclusion/Summary**

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Routes of entry anticipated: Inhalation. : **Information on the likely routes of exposure**

Potential acute health effects

Liquid can cause burns similar to frostbite. : **Eye contact**

No known significant effects or critical hazards. : **Inhalation**

Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite. : **Skin contact**

Ingestion of liquid can cause burns similar to frostbite. : **Ingestion**

Symptoms related to the physical, chemical and toxicological characteristics

Adverse symptoms may include the following: frostbite : **Eye contact**

No specific data. : **Inhalation**

Adverse symptoms may include the following: frostbite : **Skin contact**

Adverse symptoms may include the following: frostbite : **Ingestion**

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Not available. : **Potential immediate effects**

Not available. : **Potential delayed effects**

Long term exposure

Not available. : **Potential immediate effects**

Not available. : **Potential delayed effects**

Potential chronic health effects

Not available.

No known significant effects or critical hazards. : **Conclusion/Summary**

No known significant effects or critical hazards. : **General**

No known significant effects or critical hazards. : **Carcinogenicity**

No known significant effects or critical hazards. : **Mutagenicity**

No known significant effects or critical hazards. : **Teratogenicity**

No known significant effects or critical hazards. : **Developmental effects**

No known significant effects or critical hazards. : **Fertility effects**

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Not available.

Section 12. Ecological information

Toxicity

Exposure	Species	Result	Product/ingredient name
96 hours	Aquatic plants	EC50 12.1 mg/l Fresh water	propene
96 hours	Aquatic plants	NOEC 4.5 mg/l Fresh water	
48 hours	Daphnia - Daphnia sp.	Acute LC50 28.2 mg/l Fresh water	
96 hours	Fish	Acute LC50 51.7 mg/l Fresh water	
16 days	Daphnia - Daphnia sp.	Chronic LC50 3.1 mg/l Fresh water	
30 days	Fish	Chronic NOEC 51.7 mg/l Fresh water	

Based on available data, the classification criteria are not met. : **Conclusion/Summary**

Persistence and degradability

Biodegradability	Photolysis	Aquatic half-life	Product/ingredient name
-	0.61 day(s)	-	propene

Bioaccumulative potential

Potential	BCF	$LogP_{ow}$	Product/ingredient name
low	-	1.77	propene

Mobility in soil

Not available. : **Soil/water partition coefficient (K_{OC})**

No known significant effects or critical hazards. : **Other adverse effects**

Section 13. Disposal considerations

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container. : **Disposal methods**

Section 14. Transport information

Section 14. Transport information

IATA	IMDG	UN	
UN1077	UN1077	UN1077	**UN number**
Propylene	PROPYLENE	PROPYLENE	**UN proper shipping name**
2.1 	2.1 	2.1 	**Transport hazard class(es)**
-	-	-	**Packing group**
No.	No.	No.	**Environmental hazards**
Quantity limitation Passenger and Cargo Aircraft: Forbidden. Packaging instructions: Forbidden. Cargo Aircraft Only: 150 kg. Packaging instructions: 200. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden. **Special provisions** A1	**Emergency schedules** F-D, S-U	-	**Additional information**

Not available.

: Transport in bulk according to Annex II of MARPOL and the IBC Code

Section 15. Regulatory information

No known specific national and/or regional regulations applicable to this product (including its ingredients).

: Safety, health and environmental regulations specific for the product

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

: National Fire Protection Association (U.S.A.)

Section 15. Regulatory information

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Section 16. Other information

History

8/2/2019	**: Date of printing**
8/2/2019	**: Date of issue/Date of revision**
8/2/2019	**: Date of previous issue**
6.02	**: Version**

: Key to abbreviations

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
UN = United Nations

Not available. **: References**

Indicates information that has changed from previously issued version.

Notice to reader

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