

## Material Safety Data Sheet

Date Printed: 14/DEC/2004

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Version 1.2

According to 91/155/EEC

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1 - Product and Company Information

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Product Name	PROPENE, 99+%
Product Number	295663
Company	Sigma-Aldrich Pte Ltd #08-01 Citilink Warehouse Singapore 118529
Technical Phone #	65 271 1089
Fax	65 271 1571

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2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
PROPENE	115-07-1	204-062-1	601-011-00-9
Formula	C3H6		
Molecular Weight	42.08 AMU		
Synonyms	Methylethene * Methylethylene * NCI-C50077 * 1-Propene (9CI) * Propylene * 1-Propylene * Propylene (ACGIH) * R 1270		

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3 - Hazards Identification

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SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT  
Extremely flammable.

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4 - First Aid Measures

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## AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

## AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

## AFTER EYE CONTACT

Contamination of the eyes should be treated by immediate and prolonged irrigation with copious amounts of water. Assure adequate flushing of the eyes by separating the eyelids with fingers.

## AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

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5 - Fire Fighting Measures

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## EXTINGUISHING MEDIA

Suitable: Use water spray or fog nozzle to keep cylinder cool.

Move cylinder away from fire if there is no risk.

#### SPECIAL RISKS

Specific Hazard(s): Extremely flammable. Vapor may travel considerable distance to source of ignition and flash back. Emits toxic fumes under fire conditions.

Explosion Hazards: May form explosive mixtures with air Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

#### SPECIFIC METHOD(S) OF FIRE FIGHTING

Do not extinguish burning gas if flow cannot be shut off immediately. Use water spray or fog nozzle to keep cylinder cool. Move cylinder away from fire if there is no risk.

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### 6 - Accidental Release Measures

#### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area and keep personnel upwind. Shut off all sources of ignition. Shut off leak if there is no risk.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Ventilate area and wash spill site after material pickup is complete.

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### 7 - Handling and Storage

#### HANDLING

Directions for Safe Handling: Do not breathe gas. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Conditions of Storage: Keep tightly closed. Keep away from heat, sparks, and open flame. Use with equipment rated for cylinder pressure, and of compatible materials of construction. Close valve when not in use and when empty. Make sure cylinder is properly secured when in use or stored Cylinder temperature should not exceed 125°F (52°C).

Unsuitable: Store away from heat and direct sunlight

SPECIAL REQUIREMENTS: Contents under pressure.

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### 8 - Exposure Controls / Personal Protection

#### ENGINEERING CONTROLS

Warning: suck-back into cylinder may cause rupture. Use back-flow-preventive device in piping.

#### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

#### EXPOSURE LIMITS - SWEDEN

Source	Type	Value
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LLV (Level 1900 mg/m<sup>3</sup>  
500 ppm

#### EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	17,500 mg/m <sup>3</sup>
		10,000 ppm

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator in nonventilated areas and/or for exposure above the TLV or PEL.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

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### 9 - Physical and Chemical Properties

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Appearance	Physical State: Compressed gas	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	-47.7 °C	760 mmHg
MP/MP Range	-185 °C	
Flash Point	-108 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	460 °C	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 2 % Upper: 11.1 %	
Vapor Pressure	11704 mmHg	37.7 °C
SG/Density	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	1.48 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

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### 10 - Stability and Reactivity

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#### STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong acids.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

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### 11 - Toxicological Information

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RTECS NUMBER: UC6740000

#### SIGNS AND SYMPTOMS OF EXPOSURE

Acts as a simple asphyxiant. Symptoms of overexposure include dizziness, disorientation, headache, excitation, central nervous

system depression and anesthesia. Exposure can cause: CNS depression.

#### ROUTE OF EXPOSURE

Skin Contact: Can cause severe frostbite.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. Can cause rapid suffocation.

Ingestion: May be harmful if swallowed.

#### CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

#### IARC CARCINOGEN LIST

Rating: Group 3

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#### 12 - Ecological Information

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No data available.

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#### 13 - Disposal Considerations

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#### SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

#### CONTAMINATED CONTAINER DISPOSAL

Caution: no-return cylinder. Do not reuse. Empty cylinder will contain hazardous residue. Follow proper disposal techniques.

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#### 14 - Transport Information

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#### RID/ADR

UN#: 1077

Class: 2

Proper Shipping Name: Propylene

#### IMDG

UN#: 1077

Class: 2.1

Proper Shipping Name: Propylene

Marine Pollutant: No

Severe Marine Pollutant: No

#### IATA

UN#: 1077

Class: 2.1

Proper Shipping Name: Propylene

Inhalation Packing Group I: No

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#### 15 - Regulatory Information

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#### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 601-011-00-9

INDICATION OF DANGER: F+

Extremely Flammable.

R-PHRASES: 12

Extremely flammable.  
S-PHRASES: 9 16 33  
Keep container in a well-ventilated place. Keep away from  
sources of ignition - no smoking. Take precautionary measures  
against static discharges.

#### COUNTRY SPECIFIC INFORMATION

##### Germany

WGK: No hazard to waters.

##### SWITZERLAND

SWISS POISON CLASS: 4

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#### 16 - Other Information

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##### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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