



MATHESON

ask...The Gas Professionals™

Safety Data Sheet

Material Name: PROPYLENE

SDS ID: 00244178

*** Section 1 - IDENTIFICATION***

Manufacturer Information

MATHESON TRI-GAS, INC.
150 Allen Road, Suite 302
Basking Ridge, NJ 07920

General Information: 1-800-416-2505
Emergency #: 1-800-424-9300 (CHEMTREC)
Outside the US: 703-527-3887 (Call collect)

Product Identifier: PROPYLENE

Trade Names/Synonyms

PROPENE; METHYLETHENE; METHYLETHYLENE; 1-PROPYLENE; 1-PROPENE; UN 1077; C3H6

Chemical Family

hydrocarbons, aliphatic

Product Use

industrial

Restrictions on Use

None known.

*** Section 2 - HAZARDS IDENTIFICATION***

GHS Classification

Flammable gas, Category 1

Gas under pressure, Liquefied gas

Specific Target Organ Toxicity - Single Exposure, Category 3 (central nervous system)

Other Hazards Not Resulting in Classification

May cause asphyxia.. May cause frostbite upon sudden release of compressed gas.

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

DANGER

Hazard Statement(s)

Extremely flammable gas

Contains gas under pressure; may explode if heated

May cause drowsiness and dizziness

Precautionary Statement(s)

Prevention

Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Avoid breathing gas. Use only outdoors or in a well-ventilated area.

Safety Data Sheet

Material Name: PROPYLENE

SDS ID: 00244178

Response

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

Store in a well-ventilated place. Protect from sunlight. Keep container tightly closed. Store locked up.

Disposal

Dispose of in accordance with applications with applicable regulations.

*** Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS***

CAS#	Component	Percent
115-07-1	PROPYLENE	100

*** Section 4 - FIRST AID MEASURES***

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Skin

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

Eyes

Contact with liquid: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If a large amount is swallowed, get medical attention.

Note to Physicians

For inhalation, consider oxygen.

Symptoms: Immediate

frostbite, suffocation

Symptoms: Delayed

No data available.

*** Section 5 - FIRE FIGHTING MEASURES***

See Section 9 for Flammability Properties

Specific Hazards Arising from the Chemical

Severe fire hazard. Vapor/air mixtures are explosive above flash point. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion.

Extinguishing Media

carbon dioxide, regular dry chemical

Large fires: Flood with fine water spray.

Unsuitable Extinguishing Media

Do not use halogenated extinguishing agents.

Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Safety Data Sheet

Material Name: PROPYLENE

SDS ID: 00244178

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Stop flow of gas. Be aware that a BLEVE (Boiling Liquid Expanding Vapor Explosion) may occur unless surfaces are kept cool with water.

* * * Section 6 - ACCIDENTAL RELEASE MEASURES * * *

Personal Precautions

Wear personal protective clothing and equipment, see Section 8.

Environmental Precautions

Avoid release to the environment.

Methods for Containment

Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering.

Cleanup Methods

Stop leak if safe to do so - Prevent entry into waterways, drains, or confined areas.

* * * Section 7 - HANDLING AND STORAGE * * *

Handling Procedures

Wash thoroughly after handling.

Storage Procedures

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.110. Protect from physical damage. Store in a cool, dry place. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition. Store outside or in a detached building. Grounding and bonding required. U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

Incompatibilities oxidizing materials, halo carbons, halogens, acids, oxides of nitrogen, sulfur

* * * Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION * * *

Component Exposure Limits

PROPYLENE (115-07-1)

ACGIH: 500 ppm TWA

Component Biological Limit Values

There are no biological limit values for any of this product's components.

Engineering Controls

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Safety Data Sheet

Material Name: PROPYLENE

SDS ID: 00244178

Protective Clothing

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

Glove Recommendations

Wear insulated gloves.

Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Respiratory protection is ranked in order from minimum to maximum.

Consider warning properties before use.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

*** Section 9 - PHYSICAL AND CHEMICAL PROPERTIES***

Physical State: Gas	Appearance: colorless, gas
Color: colorless	Physical Form: gas
Odor: aromatic odor	Odor Threshold: 10-50 mg/m3
pH: Not available	Melting/Freezing Point: -185 °C
Boiling Point: -47 °C	Flash Point: -108 °C
Decomposition: (Not available.)	Evaporation Rate: Not available
LEL: 2.0 %	UEL: 11.1 %
Vapor Pressure: 7828 mmHg @ 21.1 °C	Henry's Law Constant: 0.00096317 atm-m3/mol
Vapor Density (air = 1): 1.5	Density: 1.7855 g/L
Water Solubility: 45 %	KOW: 223.87 estimated from water solubility
Log KOW: 1.77	KOC: 533.33 estimated from water solubility
Auto Ignition: 455 °C	Viscosity: 0.140 cP @-40 °C
Molecular Weight: 42.08	Molecular Formula: C-H3-C-H-C-H2

Solvent Solubility

Soluble: alcohol, ether, acetic acid

*** Section 10 - STABILITY AND REACTIVITY***

Chemical Stability

May react on contact with air, heat, light or water.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Containers may rupture or explode if exposed to heat.

Possibility of Hazardous Reactions

May polymerize. Avoid contact with heat, light, air, water or incompatible materials. Polymerizes with evolution of heat.

Incompatible Materials

oxidizing materials, halo carbons, halogens, acids, oxides of nitrogen, sulfur

Safety Data Sheet

Material Name: PROPYLENE

SDS ID: 00244178

Decomposition Products

miscellaneous decomposition products

* * * Section 11 - TOXICOLOGICAL INFORMATION * * *

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

PROPYLENE (115-07-1)

Inhalation LC50 Rat 658 mg/L 4 h

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Immediate Effects

frostbite, suffocation

Delayed Effects

No data available.

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Target Organs

PROPYLENE (115-07-1)

central nervous system

Respiratory Sensitizer

No data available.

Dermal Sensitizer

No data available.

Carcinogenicity

Component Carcinogenicity

PROPYLENE (115-07-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 60 [1994]; Supplement 7 [1987] (Group 3 (not classifiable))

RTECS Mutagenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

RTECS Tumorigenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Specific Target Organ Toxicity - Single Exposure

central nervous system

Specific Target Organ Toxicity - Repeated Exposure

No data available.

Aspiration Hazard

No data available.

Medical Conditions Aggravated by Exposure

None known.

Additional Data

Stimulants such as epinephrine may induce ventricular fibrillation.

Safety Data Sheet

Material Name: PROPYLENE

SDS ID: 00244178

*** Section 12 - ECOLOGICAL INFORMATION***

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

Persistence and Degradability

Readily degraded in water.

Bioaccumulative Potential

Estimated BCF of 5.

Mobility in Environmental Media

No data available.

*** Section 13 - DISPOSAL CONSIDERATIONS***

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262.

Hazardous Waste Number(s): D001.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

*** Section 14 - TRANSPORT INFORMATION***

US DOT Information

Shipping Name: Propylene

UN/NA #: UN1077 Hazard Class: 2.1

Required Label(s): 2.1

IMDG Information

Shipping Name: Propylene

UN #: UN1077 Hazard Class: 2.1

Required Label(s): 2.1

*** Section 15 - REGULATORY INFORMATION***

Component Analysis

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

PROPYLENE (115-07-1)

SARA 313: 1.0 % de minimis concentration

SARA 311/312 Hazardous Categories

Acute Health: Yes Chronic Health: No Fire: Yes Pressure: Yes Reactive: Yes

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
PROPYLENE	115-07-1	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65

Safety Data Sheet

Material Name: PROPYLENE

SDS ID: 00244178

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
PROPYLENE	115-07-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

*** Section 16 - OTHER INFORMATION ***

NFPA Ratings: Health: 1 Fire: 4 Reactivity: 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other Information

Matheson Tri-Gas, Inc. makes no express or implied warranties, guarantees or representations regarding the product or the information herein, including but not limited to any implied warranty or merchantability or fitness for use. Matheson Tri-Gas, Inc. shall not be liable for any personal injury, property or other damages of any nature, whether compensatory, consequential, exemplary, or otherwise, resulting from any publication, use or reliance upon the information herein.

End of Sheet 00244178