



MATHESON

ask...The Gas Professionals™

Safety Data Sheet

Material Name PROPANE

SDS ID: MAT19690

Section 1 - IDENTIFICATION

Product Identifier: PROPANE

Trade Names/Synonyms

MTG MSDS 76; N-PROPANE; DIMETHYLMETHANE; PROPYL HYDRIDE; R-290; PROPYLHYDRIDE;
LIQUEFIED PETROLEUM GAS; LPG; >96% NATURAL GRADE; >99.9% PURE GRADE; UN 1978; C3H8

Chemical Family

hydrocarbons, aliphatic

Recommended Use

Industrial and Specialty Gas Applications

Restrictions on Use

None known.

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)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with 29 CFR 1910.1200

Flammable gas, Category 1

Gas under pressure, Liquefied gas

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

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

May displace oxygen and cause rapid suffocation.

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.

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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 in accordance with all applicable regulations.

Hazard(s) Not Otherwise Classified

May cause frostbite upon sudden release of liquefied gas.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component	Percent
74-98-6	Propane	>96

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Aliphatic hydrocarbon gases (Alkane [C1-C4]).

Section 4 - FIRST AID MEASURES

Description of Necessary 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

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

Ingestion

If swallowed, get medical attention.

Most Important Symptoms/Effects

Acute

frostbite, suffocation, central nervous system depression

Delayed

No information on significant adverse effects.

Indication of Immediate Medical Attention and Special Treatment

For inhalation, consider oxygen.

Section 5 - FIRE FIGHTING MEASURES

Suitable Extinguishing Media

regular dry chemical, carbon dioxide

Large fires: water spray or fog

Unsuitable Extinguishing Media

Do not direct water at source of leak or safety devices; icing may occur.

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Specific Hazards Arising from the Chemical

Severe fire hazard. Severe explosion hazard. Gas/air mixtures are explosive. 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.

Hazardous Combustion Products

Combustion: oxides of carbon

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.

Special Protective Equipment and Precautions for Firefighters

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

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

Avoid heat, flames, sparks and other sources of ignition. All equipment used when handling the product must be grounded. Remove sources of ignition. Do not touch or walk through spilled material. Stop leak if possible without personal risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

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

Conditions for Safe Storage, including any Incompatibilities

Store and handle in accordance with all current regulations and standards. Protect from sunlight. Store in a well-ventilated place. Keep container tightly closed. Grounding and bonding required. Store locked up. Subject to storage regulations: U.S. OSHA 29 CFR 1910.110. Keep separated from incompatible substances.

Incompatibilities combustible materials, oxidizing materials

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Propane (74-98-6)

ACGIH: 1000 ppm TWA
OSHA (Final): 1000 ppm TWA; 1800 mg/m3 TWA
OSHA (Vacated): 1000 ppm TWA; 1800 mg/m3 TWA
NIOSH: 1000 ppm TWA; 1800 mg/m3 TWA

Component Biological Limit Values

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

IDLH

2100 ppm

Appropriate Engineering Controls

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

Individual Protection Measures, such as Personal Protective Equipment

Eyes/Face Protection

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.

Skin Protection

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

Glove Recommendations

Wear insulated gloves.

Respiratory Protection

The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

2100 ppm

Any supplied-air respirator.

Any self-contained breathing apparatus with a full facepiece.

Emergency or planned entry into unknown concentrations or IDLH conditions -

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

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.

Escape -

Any appropriate escape-type, self-contained breathing apparatus.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

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Physical State:	Gas	Appearance:	Colorless gas
Color:	colorless	Physical Form:	gas
Odor:	gasoline odor	Odor Threshold:	5000 - 20000 ppm
pH:	Not available	Melting/Freezing Point:	-190 °C
Boiling Point:	-40 °C	Flash Point:	-105 °C
Decomposition:	Not available	Evaporation Rate:	Not available
LEL:	2.1 %	UEL:	9.5 %
Vapor Pressure:	6398 mmHg @ @ 21.1 °C	Vapor Density (air = 1):	1.55
Specific Gravity (water=1):	0.5853 @ @ -45 °C	Water Solubility:	very slightly soluble
Log KOW:	2.36	Auto Ignition:	450 °C
Viscosity:	Not available	Molecular Weight:	44.11
Molecular Formula:	C-H3-C-H2-C-H3	Critical Temperature:	96.74°C
Flammability (solid, gas):	Flammable gas		

Other Property Information

No additional information is available.

Solvent Solubility

Soluble: absolute alcohol, ether, chloroform, benzene, turpentine

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize.

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.

Incompatible Materials

combustible materials, oxidizing materials

Hazardous Decomposition

Combustion: oxides of carbon

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:

Propane (74-98-6)

Inhalation LC50 Rat 658 mg/L 4 h

RTECS Acute Toxicity (selected)

The components of this material have been reviewed, and RTECS publishes the following endpoints:

Propane (74-98-6)

Inhalation: >800000 ppm/15 minute(s) Inhalation Rat LC50

Information on Likely Routes of Exposure

Inhalation

nausea, vomiting, irregular heartbeat, headache, drowsiness, dizziness, disorientation, mood swings, loss of coordination, suffocation, convulsions, unconsciousness, coma

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Ingestion

ingestion of a gas is unlikely

Skin Contact

blisters, frostbite

Eye Contact

frostbite, blurred vision

Immediate Effects

frostbite, suffocation, central nervous system depression

Delayed Effects

No information on significant adverse effects.

Medical Conditions Aggravated by Exposure

None known.

Irritation/Corrosivity Data

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

Propane (74-98-6)

central nervous system

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Carcinogenicity

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, OSHA or DFG.

RTECS Mutagenic

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

Reproductive Effects Data

No data available.

RTECS Tumorigenic

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

Additional Data

Stimulants such as epinephrine may induce ventricular fibrillation.

Specific Target Organ Toxicity - Single Exposure

central nervous system

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

Aspiration Hazard

Not applicable.

*****Section 12 - ECOLOGICAL INFORMATION*****

Component Analysis - Aquatic Toxicity

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

Persistence and Degradability

This material is expected to biodegrade.

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Bioaccumulative Potential

Bioconcentration potential in aquatic organisms is low based on BCF value of 13.

Mobility

Expected to have moderate mobility in soil.

Other Ecological Information

No additional information is 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: Propane
UN/NA #: UN1978 Hazard Class: 2.1
Required Label(s): 2.1

IMDG Information

Shipping Name: Propane
UN #: UN1978 Hazard Class: 2.1
Required Label(s): 2.1

Section 15 - REGULATORY INFORMATION

Component Analysis

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312 Hazardous Categories

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

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
Propane	74-98-6	No	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Propane	74-98-6	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

Summary of Changes

Updated: 4/14/2014

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NFPA Ratings: Health: 2 Fire: 4 Reactivity: 0

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

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