



MATERIAL SAFETY DATA SHEET

PRODUCT INFORMATION

PRODUCT: Propane

TRADE NAME: Propane; Liquefied Petroleum Gas

CHEMICAL NAME: Propane

SYNONYMS: LPG; Petroleum Gases, Liquefied

FORMULA: C₃H₈

CHEMICAL FAMILY: Aliphatic Hydrocarbon

MANUFACTURER'S NAME: Air Liquide Canada Inc.

MANUFACTURER'S ADDRESS: 1250 René-Lévesque Blvd. West Suite 1700

ADDRESS: Montréal (Québec) Canada H3B 5E6

SUPPLIER'S NAME: Air Liquide Canada Inc.

SUPPLIER'S ADDRESS: 1250 René-Lévesque Blvd. West Suite 1700

Montréal (Québec) Canada H3B 5E6

EMERGENCY PHONE NUMBER: (514) 878-1667

MOLECULAR WEIGHT: 44.11

PRODUCT USE: Various

PRODUCT IDENTIFICATION UN 1978

NUMBER:

HAZARDOUS INGREDIENTS

CHEMICAL ID	CONCENTRATION	CAS #	LD(50)	LC(50)
Propane	100%	74-98-6	None	None

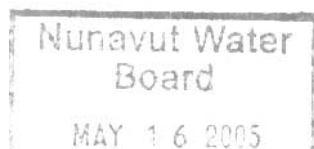
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PHYSICAL DATA

PHYSICAL STATE: Liquid and gas under pressure

APPEARANCE: Colorless, odorless gas and liquid

ODOR: See above



ODOR THRESHOLD: Not applicable
SPECIFIC GRAVITY (H₂O = 1): See Vapor Density (air = 1)
VAPOR PRESSURE: @ 15°C - 740 kPa
VAPOR DENSITY (air = 1): 1.56
EVAPORATION RATE: Not applicable, (gas)
BOILING POINT: -42.04°C
FREEZING POINT: -187.68°C
pH: Unknown
GAS DENSITY: 1.85 kg/m³ @ 15°C, 101.3 kPa
COEFFICIENT OF WATER/OIL 20°C, Bunsen Coefficient = 0.039
DISTRIBUTION:

FIRE OR EXPLOSION HAZARD

CONDITIONS OF FLAMMABILITY:	Flammable over a specific range in air
MEANS OF EXTINCTION:	Water, carbon dioxide, dry chemical. "Stop flow of gas before extinguishing fire".
FLASHPOINT AND METHOD OF DETERMINATION:	-104°C cc
UPPER EXPLOSION LIMIT (% BY VOL):	9.5
LOWER EXPLOSION LIMIT (% BY VOL):	2.2
AUTO-IGNITION TEMPERATURE:	480°C
FLAMMABILITY CLASSIFICATION:	Class 1, Group D
HAZARDOUS COMBUSTION PRODUCTS:	None
EXPLOSION DATA:	Yes in air or oxidizers
SENSITIVITY TO STATIC DISCHARGE:	Yes

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REACTIVITY DATA

CHEMICAL STABILITY: Stable
INCOMPATIBLE MATERIALS: Oxygen or other oxidizers
CONDITIONS OF REACTIVITY: Heat and air or oxygen
HAZARDOUS DECOMPOSITION PRODUCTS: None

TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY:

SKIN CONTACT: Contact with the rapidly evaporating liquid could cause frostbite or cryogenic "burns".

SKIN ABSORPTION: None

EYE: See Skin Contact, above

INHALATION: Moderate concentrations so as to exclude an adequate supply of oxygen to the lungs causes dizziness, drowsiness, and eventual unconsciousness. It is also a narcotic which acts as a depressant on the central nervous system.

INGESTION: None

ACUTE OVER EXPOSURE EFFECTS: Breathing high concentrations causes a narcotic effect; however, the major property is the exclusion of an adequate supply of oxygen to the lungs.

Frostbite effects are a change in color of the skin to gray or white possibly followed by blistering.

CHRONIC OVER EXPOSURE EFFECTS: None

EXPOSURE LIMITS: Propane is defined a simple asphyxiant. Oxygen levels should be maintained at greater than 18 molar percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg. (ACGIH, 1995-1996).

IRRITANCY OF PRODUCT: None

SENSITIZATION TO MATERIAL: None

CARCINOGENICITY, REPRODUCTIVE EFFECTS: None

TERATOGENICITY, MUTAGENICITY: None

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: None

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PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: Plastic or rubber gloves. Safety goggles or glasses. Safety shoes, safety shower, eyewash "fountain".

SPECIFIC ENGINEERING CONTROLS: Propane is noncorrosive and may be used with any common structural material.

LEAK AND SPILL PROCEDURES: EVACUATE ALL PERSONNEL FROM AFFECTED AREA.

Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is on container or container valve, contact the closest Air Liquide Canada location.

WASTE DISPOSAL: Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to Air Liquide Canada for proper disposal. For emergency disposal, contact the closest Air Liquide Canada location.

HANDLING PROCEDURES AND EQUIPMENT: USE ONLY IN WELL-VENTILATED AREAS.

Valve protection caps must remain in place unless container is secured with valve outlet piped to the point of use. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Do not tamper with (valve) safety device. Close valve after each use and when empty.

STORAGE REQUIREMENTS: Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no sources of ignition in the storage or use area.

TDG CLASSIFICATION: 2.1

WHMIS CLASSIFICATION: A, B,

SPECIAL SHIPPING INFORMATION: Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of

vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

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FIRST AID MEASURES

SPECIFIC FIRST AID PROCEDURES: PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO PROPANE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS AND BE COGNIZANT OF EXTREME FIRE AND EXPLOSION HAZARD.

INHALATION: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

EYE CONTACT: Flush contaminated eye(s) with copious quantities of water. Part eyelids to assure complete flushing. Continue for a minimum of 15 minutes.

SKIN CONTACT: Dermal Contact or Frostbite: Remove contaminated clothing and flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing.

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PREPARATION INFORMATION

PREPARED BY: Safety Department

DATE PREPARED: 01/01/88

LAST REVISION DATE: 04/29/2002

FOR INFORMATION OR MSDS, CONTACT YOUR LOCAL A.L.C. OFFICE OR DISTRIBUTOR.

MAIN ALC SALES LOCATIONS:

Newfoundland	St.John's	Tel : 709 758-2765	Fax : 709 758-2800
Nova Scotia	Dartmouth	Tel : 902 468-5152	Fax : 902 468-5782
New Brunswick	Moncton	Tel : 506 857-3280	Fax : 506 857-9734
New Brunswick	Saint John	Tel : 506 634-8960	Fax : 506-646-1021
Quebec	Vanier	Tel : 418 683-1917	Fax : 418 683-7088
Montreal	Anjou	Tel : 514 356-7600	Fax : 514 351-0531

Toronto	Bramalea	Tel : 905 793-2000	Fax : 905 793-9257
Eastern Ontario	Oshawa	Tel : 905 576-1860	Fax : 905 571-3779
Lake Ontario	Burlington	Tel : 905 335-4877	Fax : 905 335-0301
South West Ontario	London	Tel : 519 455-3990	Fax : 519 455-3828
Northern Ontario	Sudbury	Tel : 705 674-7777	Fax : 705 674-0517
Manitoba & N.W. Ont.	Winnipeg	Tel : 204 989-9353	Fax : 204 779-1047
Saskatchewan	Saskatoon	Tel : 306 933-2722	Fax : 306 931-6641
Calgary	Calgary	Tel : 403 777-4700	Fax : 403 777-4727
Edmonton	Edmonton	Tel : 780 438-5600	Fax : 780 438-2801
Vancouver	Vancouver	Tel : 604 606-4300	Fax : 604 606-4246
Vancouver Island	Nanaimo	Tel : 250 758-1761	Fax : 250 758-1911
Okanagan	Kelowna	Tel : 250 769-4222	Fax : 250 769-7224

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