

MATERIAL SAFETY DATA SHEET

MSDS File Number: 127

SECTION I - MATERIAL IDENTIFICATION AND USE			FLAMMABILITY	4	
Material Name / Product Identifier PROPANE - LIQUEFIED PETROLEUM GAS			REACTIVITY	0	
Manufacturer's Name Consumers' Co-operative Refineries Limited P. O. Box 260; 550E 9th Ave. North Regina, SK S4P 3A1 CANADA (306) 721-5353		Supplier's Name Federated Co-operatives Limited P. O. Box 1050; 401 - 22nd Street East Saskatoon, SK S7K 3M9 Canada (306) 244-3447		HEALTH (Acute)	1
Emergency Telephone Number (613) 996-6666 (Canutec)		Emergency Telephone Number		(Chronic)	N
Chemical Name Propane		Chemical Family Liquefied Petroleum Gas (LPG)		Mfg Reference Number	
Molecular Weight N/A	Trade Name and Synonyms UNSTENCHED/STANDARD PROPANE, HD-5 PROPANE		Material Use Manufacturing/Fuel.		Chemical Formula N/A.

SECTION II - HAZARDOUS INGREDIENTS OF MATERIALS				
Hazardous Ingredients	Approximate Concentration %	C.A.S. Numbers	Exposure Limits	LD50 / LC 50 (Species and Route)
Propane(s)	100.0 %	74-98-6	(ACGIH) TLV-TWA 1,000 ppm	(LC50) Inhalation (rat) 280,000 ppm/4h
Stench (Ethyl Mercaptan)	0.0 - 50.0 ppm	75-08-1	(ACGIH) TLV-TWA 0.5 ppm	

SECTION III - PHYSICAL DATA FOR MATERIAL				
Physical State Liquefied Gas	Odour and Appearance Clear gas; Odor - Boiling cabbage if stench.		Odour Threshold (ppm) 4800	Specific Gravity 0.58
Vapour Pressure 150 - 180 psia	Vapor Density (Air = 1) 1.56	Evaporation Rate N/A	Boiling Point - 42 C	Freezing / Pour Point -180 C (Freeze)
Solubility in Water (20 C) 6.5% by volume	% Volatiles 100	pH N/A	Coefficient of water / oil distribution N/A	

SECTION IV - FIRE AND EXPLOSION HAZARD OF MATERIAL				
Conditions of Flammability Extremely flammable. May be readily ignited at temperatures at or above the flashpoint. Can form explosive mixtures with air. Increased risk of fire and explosion when combined with strong oxidizers.				
Means of Extinction Dry chemical, carbon dioxide. Use water spray to cool fire exposed containers and disperse vapours from leaks / spills that have not been ignited.				
Special Procedures Evacuate area. Wear full protective equipment and SCBA. Vapours are heavier than air and may travel to distant ignition sources and flash back. If possible, shut off source but do not extinguish flame until gas flow is shut off because explosive re-ignition exists. Remove cylinders from fire exposed area if possible to do so without risk.				
Flash Point and Method -101.1 C (Closed Cup)	Upper Explosion Limit 9.5	Lower Explosion Limit 2.3	Auto Ignition Temperature 432 C	
Explosion Data - Sensitivity to Mechanical Impact N.D.		Explosion Data - Sensitivity to Static Discharge Can be ignited by static discharge.		

SECTION V - REACTIVITY DATA		
Chemical Stability Yes.	If no, under which conditions?	Stable under normal conditions of storage and use (avoid excessive heat and sources of ignition).
Incompatibility to other substances Yes.	If so, which ones?	Unstable with strong oxidizers.
Reactivity and under what conditions Excessive heat, sources of ignition or contact with oxidizing materials may cause detonation. Rapid escape of liquid or vapour may generate static charge causing ignition. Hazardous polymerization will not occur.		
Hazardous Decomposition and Combustion Products Carbon monoxide, carbon dioxide, smoke.		



Material Name / Product Identifier **PROPANE - LIQUEFIED PETROLEUM GAS**

SECTION VI - TOXICOLOGICAL PROPERTIES OF PRODUCT

Route of Entry **Skin Contact, Eye Contact, Inhalation.**

Effects of Acute Exposure to Product

Contact with liquefied gas may cause frostbite or cold burns to skin or eyes. Propane acts as a simple asphyxiant as the oxygen content in the air is displaced by the propane. At increasing concentration levels, propane may cause dizziness, headaches, loss of coordination, fatigue, unconsciousness and death.

Effects of Chronic Exposure to Product

There are no reported effects from long term low level exposures.

LD50 of Product N.D.	Irritancy of Product Yes.	Exposure Limits of Product See 'Hazardous Ingredients'.
LC50 of Product N.D.	Sensitization to Product N.D.	Synergistic materials N.D.

OTHER TOXICOLOGICAL EFFECTS: None.

The rapidity and severity of the narcosis increase with gas concentrations right up to the onset of severe hypoxia (oxygen deprivation) above about 15% propane gas in air and eventual unconsciousness and death above that. At high gas concentrations, the effects of narcosis and hypoxia may be difficult to distinguish as they are similar in many respects.

SECTION VII - PREVENTATIVE MEASURES

Personal Protective Equipment

If contact with liquid is possible, wear chemical resistant, insulated clothing.

Gloves Rubber and insulated.	Eye Protection Safety glasses or chemical goggles.
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Respiratory
Not normally required if used in a well ventilated area. If safe exposure limits are exceeded, wear an air-supplied respirator (SCBA) or air line respirator equipped with an escape bottle.

Engineering Controls
Use only in well ventilated areas. Use with explosion proof mechanical ventilation in confined spaces or poorly ventilated areas. Lab samples should be handled with adequate ventilation (under a fume hood if necessary). Exhaust directly outdoors.

Leak and Spill Procedure
Evacuate and ventilate area. Eliminate all ignition sources. Contain (prevent entry into waterways). Use water spray to disperse vapors. Wear protective equipment, including SCBA. Stop leak if possible to do so without risk.

Waste Disposal
Incinerate in an approved furnace or allow propane to vaporize and disperse at a safe location.

Handling Procedures and Equipment
Transfer product using proper grounding and bonding procedures. Keep away from heat, sparks or open flames. Keep out of direct sunlight. EXPOSURE TO VAPORIZING LIQUID OR RAPIDLY EXPANDING GAS MAY CAUSE FROSTBITE! Avoid contact with skin or eyes. If contact with liquid is possible, wear chemical resistant, insulated clothing. Avoid breathing vapors. Use in well ventilated areas. Handle with care. Regularly inspect piping, valves and associated equipment.

Storage Requirements
Make sure vessel has no leaks and store in a cool, ventilated area away from oxidizers. Shut valve off when not in use.

Special Shipping Information
TDG: PROPANE Class 2.1 UN 1978.

SECTION VIII - FIRST AID MEASURES

Skin
Remove contaminated clothing. For frostbite, thaw frozen parts in luke warm water, then cover with blanket to keep warm. Seek immediate medical attention.

Eye
Flush with lukewarm running water for 15 minutes. Seek medical attention.

Inhalation
Rescuers should wear self contained breathing apparatus. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention.

Ingestion
Not likely (gas).

General Advice
Note to Physician: No specific treatment is indicated. Treat with support measure as appropriate to the patient's condition.

SECTION IX - PREPARATION OF M.S.D.S

W.H.M.I.S. Classification A; B-1.	N.F.C. Classification
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Sources Used
Available upon request.

Prepared By CCRL Safety Department	Phone Number (306) 721-0564	Date January 2, 2007
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