Material Safety Data Sheet

Section 1 – Product and Company Information

Product Name: Propane

Trade Name: LPG (Liquefied Petroleum Gas)

WHMIS Classification: Class A – Compressed Gas
Class B, Division I – Flammable Gas

Chemical Formula: C3H8

Supplier: Super-Save Enterprises Ltd. dba Super Save Propane
19395 Langley Bypass
Surrey, BC V3S 6K1
1-800-665-2800

Non-Medical Emergency: 24 hour Emergency Contact
CANUTEC – (613) 996-6666

Application and Use: Propane is commonly used as fuel for heating, cooking, automobiles, forklift trucks, crop drying and welding and cutting operations. Propane is used in industry as a refrigerant, solvent and as a chemical feedstock. **Propane is highly flammable.**

Section 2 – Hazardous Ingredients

Components	CAS Registry No.	Proportion of Product	LC50	LD50
Propane	74-98-6	95% – 98%	N/A	N/A
Ethane	74-84-0	3% - 5%	N/A	N/A
Butane	106-97-8	1% - 3%	N/A	N/A
Iso-Butane	75-28-5	0.1% - 0.3%	N/A	N/A
Methane	74-82-8	0.1% - 0.2%	N/A	N/A

Note: Composition given is typical for Grade 1 Propane; exact composition will vary from shipment to shipment.
N/A = not available

Section 3 – Chemical and Physical Data

Form:	When stored under pressure – liquid and/or vapour	**Coefficient of Water/Oil Distribution:**	Not available
Boiling Point:	-42°C atm	**PH:**	Not available
Freezing Point:	-188°C	**Soluble in Water:**	6.1% by Volume @ 17.8°C and 753 mmHg
Evaporation Rate:	Rapid (Gas at Normal Ambient Conditions)	**Specific Gravity:**	0.51 (Water = 1)
Vapour Pressure:	1,013 (kPa) @ 26.0°C	**Odour Threshold:**	4800 PPM
Vapour Density:	1.52 (Air = 1)		

Appearance: Colourless liquid and vapour while stored under pressure. Colourless and odourless gas in natural state at any concentration. Commercial propane has an odorant added with is commonly ethyl mercaptan, which has an odour similar to boiling cabbage or rotten eggs. Odourants are not completely effective warning agents in all cases; certain odourants are polar and/or chemically reactive and may be depleted by reaction or absorption; sensitivity to odourants differs from person to person.

Section 4 – Fire and Explosion Hazard

Flash Point:	-103.4°C	**Method:**	Closed Cup
Flammable Limits:	Lower 2.4%, Upper 9.5%		
Auto Ignition Temperature:	432°C		
Products Evolved Due to Heat or Combustion:	Carbon monoxide can be produced when primary and secondary airs are deficient while combustion is taking place.		
Fire and Explosive Hazards:	Explosive air-vapour mixtures may form if allowed to leak to atmosphere.		
Sensitivity to Impact:	No	**Sensitivity to Static Discharge:**	Yes

Fire Extinguishing Precautions: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS THE LEAK CAN BE STOPPED. Use water spray to cool exposed cylinders or tanks. Fire can be extinguished with carbon dioxide and/or dry chemical (BC). Container metal shells require cooling with water to prevent flame impingement and the weakening of metal. If weakening occurs, the area must be evacuated. If gas has not been ignited, liquid and vapour may be dispersed by water spray or flooding. Apply cooling water to containers that are exposed to flames until well after fire is out. Stay away from ends of tanks. Containers exposed to fire may explode or vent through pressure-relief devices.

Unusual Fire and Explosion Hazards: The highly flammable vapours are heavier than air and may accumulate in low area and/or spread along the ground to distant ignition sources and flash back.

Special Fire Fighting Equipment: Protective clothing (thermal protective clothing when the fire involves liquefied propane), hose monitors, fog nozzles, self-contained breathing apparatus.

Section 5 – Reactivity Data

Stability:	Stable
Conditions to Avoid:	Keep separate from oxidizing agents. Gas explodes spontaneously when mixed with chlorine dioxide.
Incompatibility:	Remove sources of ignition and observe distance requirements for storage tanks from combustible material, drains, and openings to buildings.
Hazardous Decomposition Products:	Deficient primary and secondary air can produce carbon monoxide.
Hazardous Polymerization:	Will not occur.

Section 6 – Toxicological Properties of Material

Routes of Exposure: Eyes, Skin, Respiratory System (Ingestion not considered to be a hazard)
As a gas, exposure has no known health effects on eye or skin contact. Liquid can cause burns if in direct contact with skin (frostbite) or eyes (“cold burns”).

Respiratory System: Little physiological effect at concentrations below 10,000 PPM. Exposure to concentrations above 10,000 PPM may cause dizziness, unconsciousness and death due to asphyxiation. Propane is classified as an asphyxiate by the American Conference of Governmental Industrial Hygienists. There is no recommended “Threshold Limit Value.”

Chronic Exposure: No reported effects from long-term, low-level exposure.

Carcinogenicity, Teratogenicity, Mutagenicity: Not determined. Lead 210 may be found in tank sludge or scale and inner surfaces of equipment used to transfer propane (piping, hoses, pumps and compressors).

Section 7 – Preventative Measures

Eyes: Use of safety glasses with side shields, safety goggles or face shields.

Skin: Use insulated gloves when handling liquefied propane. Neoprene and nitrile gloves are recommended. Protective apron and trousers worn over flame-retardant coveralls (ie Nomex) for handling liquefied propane.

Inhalation: In atmosphere, where the concentration of propane would reduce oxygen level below 18% in inhaled air, self - contained breathing apparatus is required. Respirator should be used where large propane concentration is anticipated, and the exposure level is unknown or where an oxygen-deficient atmosphere may exist.

Ventilation: The area where the product is used, stored and handled should be well ventilated. Ventilation equipment must be explosion-proof, and should be grounded and separate from other exhaust ventilation systems.

Section 8 – Emergency and first Aid Measures

First Aid:
Eyes: Should eye contact with liquid occur, flush eyes with lukewarm water for 15 minutes. Obtain immediate medical care.

Skin: Remove contaminated clothing. In case of “cold burn” from contact with liquid, immediately place affected area in lukewarm water and keep at this temperature until circulation returns. If fingers or hands are frostbitten, have the victim hold his hand next to his body such as the armpit. Obtain immediate medical care.

Inhalation: Move the victim to an area of fresh air. Give CPR or artificial respiration as needed, and give oxygen if breathing is difficult. Keep victim at rest and obtain immediate medical care.

Ingestion: Not expected to be a route of exposure.

Spill or Leak:
Eliminate leak if possible.
Eliminate source of ignition.
Ensure cylinder is upright.
Disperse vapours with hose streams using fog nozzles, watch for low area, as propane is heavier than air and can settle in low areas. Remain upwind of leak, keep people away.
Prevent vapour and/liquid from entering into sewers, basements or confined areas.
Do not touch spilled liquefied propane with bare skin to avoid frostbite/freeze burn.

Section 9 – Transportation, Handling and Storage

Transport and store cylinders and tanks secured in an upright position in a ventilated space, away from ignition source (so relief valve is in contact with vapour space of cylinder or tank).

Cylinders that are not in use must have the valves in the closed position and be equipped with a protective cap or guard.

Do not store with oxidizing agents, oxygen or chlorine cylinders.

Transport, handle and store according to applicable federal and provincial regulations (CGAB149.2).

TDG Classification:	2.1 (gas)
TDG Shipping Name:	Liquefied Petroleum Gas (Propane)
TDG Special Provisions:	56, 90 and 102
PIN UN:	1075

Section 10 – Preparation Information

Prepared By:	Super-Save Enterprises Ltd. dba Super Save Propane (604) 533-4423
Date Prepared:	July 2015

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