

# Safety Data Sheet (SDS)

## Liquefied Petroleum Gas (LPG)

Issue 4 – November 2010

<b>1. PRODUCT AND COMPANY DETAILS</b>		
Product name	Liquefied Petroleum Gas (LPG)	
Other names	LPG, LP Gas, Propane, Butane, Rockgas	
Use	Automotive, residential and commercial fuel.	
Company	Contact Energy Limited, L1 Harbour City Tower, 29 Brandon Street, Wellington	
Telephone	0800 762 542	
Emergency telephone	0800 427 345	
Fax	03 373 6443	
<b>2. HAZARDS IDENTIFICATIONS</b>		
Hazard		
UN Number	Liquefied Petroleum Gas (LPG):	1075
	Propane:	1978
	Butane:	1011
Hazchem Code	2YE	
Dangerous Goods Class	2.1.1A	
Emergency guide		
<b>3. COMPOSITION/INFORMATION ON INGREDIENTS</b>		
Chemical Entity	CAS Number	Proportion
Propane	74-98-6	100% maximum
Butane	106-97-8	100% maximum
<b>4. FIRST AID MEASURES</b>		
Swallowed	Due to high volatility of product, this is not likely to occur.	
Eyes	Do Not Delay – Flood eye gently with clean fresh water. Continue washing for at least 15 minutes. Obtain medical aid as soon as possible.	
Skin	Do Not Delay – Handle patient gently. Remove contaminated clothing. Immerse affected area in water from cold tap. Obtain medical aid as soon as possible.	
Inhaled	Remove victim to fresh air. If breathing has stopped, or	

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	irregular, apply artificial respiration.
<b>Advice to doctor</b>	Treat symptomatically.
<b>5. FIRE FIGHTING MEASURES</b>	
<b>Fire/Explosion hazard</b>	Evacuate area, remove ignition sources. Cut off gas supply if safe to do so – Do NOT endanger life. Do NOT extinguish fire – allow gas to burn out. Use water to keep vessel(s) cool. Note: If ignition has occurred and water is not available, the tank metal may weaken from the heat and may result in an explosion. The area should be evacuated immediately. From a safe location, notify emergency services.
<b>Combustion products</b>	Carbon dioxide, water vapour, traces of carbon monoxide and nitrogen oxides. Fumes, smoke, carbon monoxide and aldehydes can be formed during incomplete combustion. Fire fighters may need self contained breathing apparatus.
<b>6. ACCIDENTAL RELEASE MEASURES</b>	
<b>Spills and disposal</b>	No smoking or naked flames within 50 meters. Move people from immediate area, keep upwind. Contact fire service. Stop flow of gas/liquid if safe to do so. Spray water to disperse gas cloud but avoid spraying water directly on leaking container as this may increase leakage. Prevent spillage from spreading or entering underground drains by blocking with sand or earth.
<b>7. HANDLING AND STORAGE</b>	
Details contained in the Hazardous Substances and New Organisms Act (HSNO), Hazardous Substances Regulations, NZS 5433 Transport of Dangerous Goods on Land, relevant LPG Codes of Practice and AS/NZS 1596:2008 Storage and Handling of LP Gas. Keep cylinders in an upright position, keep away from heat sources, and keep closed when not in use.	
<b>8. EXPOSURE CONTROLS/PERSONAL PROTECTION</b>	
Workplace exposure standard, DOL 1992. Propane is a simple asphyxiant. Butane –TWA 800 ppm, 1900 mg/m <sup>3</sup>	
<b>Engineering controls</b>	
<b>Ignition sources</b>	Follow procedures to avoid static discharges. Use only intrinsically safe communication equipment (e.g. do not use mobile phones and pagers). Use non-spark generating tools and flameproof (intrinsically safe) equipment.

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Ventilation	Maintain adequate ventilation. LP Gas appliances can be hazardous when used in a poorly ventilated room.			
Usage	In applications other than as a forklift cylinder, all cylinders should be used in the upright position. Use only equipment approved for LP Gas installations and install in accordance with HSNO, the relevant LPGA Codes of Practice and/or AS/NZS 1596:2008			
Personal protection				
Thermal insulating gloves and safety glasses to protect against accidental release of pressurised LPG.				
9. PHYSICAL AND CHEMICAL PROPERTIES				
Appearance	Colourless gas, liquid under pressure. Has unpleasant odour.			
		Propane	Butane	LPG (typical)
Boiling Point (at atmospheric pressure)		-42°C	0°C	
Vapour Pressure	-10°C	256 kPa	-4 kPa	185 kPa
	0°C	388 kPa	40 kPa	292 kPa
	10°C	552 kPa	95 kPa	424kPa
	20°C	757kPa	172 kPa	593 kPa
	30°C	1004 kPa	266 kPa	796 kPa
Solubility in Water		75 mg/l	88 mg/l	
Specific Gravity Liquid (Water = 1)		0.508	0.573	0.537
Specific Gravity Gas (Air = 1 )		1.58	2.06	1.73
Flash Point		-105°C	-60°C	
Flammability Limits		2.2 – 9.5%	1.5 – 9.0%	2 – 10%
Auto Ignition Temperature		468°C	430°C	
10. STABILITY AND REACTIVITY				
Stable under normal ambient conditions of storage and use. Avoid heat sources.				
Can react violently with oxidising agents – <i>Chlorine, pool chlorine or nitric acid.</i>				
11. TOXICOLOGICAL INFORMATION				
Health effects from acute exposure				
Swallowed	Due to high volatility of product, this is not likely to occur.			

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Eyes	Liquid will cause severe damage. Vapour will cause irritation.			
Skin	Vaporising liquid or liquid contact can result in cold burns.			
Inhaled	May cause light-headedness, dizziness and drowsiness. Excessive exposure may cause unconsciousness or even death, due to asphyxiation (refers to vapour not liquid).			
Health effects from chronic exposure				
No chronic systemic effects reported from industrial exposures.				
Carcinogenicity	No known effect.			
Mutagenicity	No known effect.			
Teratogenicity	No known effect.			
12. ECOLOGICAL INFORMATION				
LPG will vaporise rapidly when released to atmosphere. There are no known adverse ecological effects.				
13. DISPOSAL CONSIDERATIONS				
Get hold of Contact Energy if disposal of LPG is required.				
LPG cylinders should be returned to the owning organisation stamped on the cylinder when no longer required Do NOT incinerate LPG cylinders.				
14. TRANSPORT INFORMATION				
Transport information	Class	2.1	Hazchem code	2YE
	Shipping name	Propane	Butane	LPG
	UN Number	1978	1011	1075
15. REGULATORY INFORMATION				
Poisons schedule number	None allocated			
LPG is a prescribed Hazardous Substance and its storage and handling is covered by various pieces of legislation. The installation of LPG equipment must be performed only by appropriately licensed or authorised persons.				
16. OTHER INFORMATION				
'Empty' container warning	Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not attempt to clean since residue is difficult to remove. Do <b>NOT</b> pressurise, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks and other sources of ignition. They may explode and cause injury or death.			

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	All containers should be returned to the supplier. Seek expert advice if repairs or modifications to installation are required.
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### ERMA Approval Numbers

Butane HSR000989

Propane HSR001010

LPG HSR001009