

# Material Safety Data Sheet (MSDS)

Autogas

Issue 6- May 2010



1. PRODUCT AND COMPANY DETAILS		
Product name	Autogas	
Other names	LPG, LP Gas, Liquefied Petroleum Gas	
Use	As fuel in automotive applications	
Company	Origin Energy LPG Limited Australia Square 264 - 278 George Street Sydney NSW 2000	
General Enquiries Telephone 13 24 62	Technical Information Telephone	07 3867 0362
	Technical Information Fax	07 3867 0278
Emergency Telephone 1800 808 526 all hours		
2. HAZARDS IDENTIFICATION		
Autogas as supplied by Origin contains less than 0.1% of 1, 3 Butadiene and is not classified as hazardous according to criteria of Safe Work Australia. Autogas is classified as a Dangerous Good by the Australian Dangerous Goods Code.		
UN number <b>1075</b>	Hazchem Code <b>2YE</b>	
Dangerous Goods Class <b>2.1</b>	Emergency Guide <b>EPG 2A2</b>	
Flammable (F)	R12 – Extremely flammable	
S9, 16 Keep container in a well ventilated place away from sources of ignition – No Smoking		
<b>Smell:</b> People with poor or no sense of smell should be made aware of the risk in the event of a gas leak.		
3. COMPOSITION AND INFORMATION ON INGREDIENTS		
Chemical Entity	CAS Number	Proportion
Ethane	[74-84-0]	0-10%
Propane	[74-98-6]	50-90%
Propene	[115-07-1]	0-20%
Butane (Mixture of Isomers)	[106-97-8]	0-50%
Butene (Mixture of Isomers)	[106-98-9]	0-5%
Ethyl Mercaptan (Odorant)	[75-08-1]	25mg/kg
<b>NOTICE</b> - Origin believes that information given herein is accurate and reliable at the date of compilation, and conforms to the guidelines of Safe Work Australia for the preparation of MSDS, but no warranty, express or implied, is made. While the MSDS provides adequate information for most users, an MSDS is not a substitute for expert advice on development of engineering and safe handling practices.		

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4. FIRST AID	
Swallowed	Due to the high volatility of the product, this is not likely to occur.
Eyes	Hold eyes open and continuously wash with clean water while seeking urgent medical attention. Eye wash bottles containing sterile water or normal saline solution should be kept readily available.
Skin	Immediately wash affected areas with plenty of water at room temperature to overcome frostbite. Do not use iced water. Warm up gently. In hot conditions, cover with damp sheet to prevent too rapid heating up of affected area. Seek urgent medical attention.
Inhaled	Remove patient to fresh air and allow to rest. If patient is unconscious and breathing, place them in the coma position, check airway and observe. If patient is not breathing, clear airway and apply mouth to mouth resuscitation.  If patient is not breathing and does not have a pulse, commence cardio pulmonary resuscitation. Seek urgent medical attention.
Advice to doctor	Treat symptomatically.
5. FIRE FIGHTING MEASURES	
Fire/explosion hazard	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.  <b>Note:</b> If ignition has occurred and water is not available, the tank metal may weaken from the heat and may result in an explosion.  <b>The area should be evacuated immediately.</b>  <b>From a safe location, notify emergency services.</b>  Hazchem Code <b>2YE</b>
Combustion products	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.

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6. ACCIDENTAL RELEASE MEASURES	
Spills and disposal (Contact Origin if disposal of material is required)	<p><b>Any release of Autogas to the atmosphere poses a risk of fire or explosion.</b></p> <p>Move people away and upwind from spill.</p> <p>Shut off supply of gas if it is safe to do so.</p> <p>Eliminate sources of ignition e.g. power supply, matches, non-intrinsically safe communication equipment.</p> <p>Ventilate area.</p> <p>Avoid breathing vapour and contact with liquid or vapour.</p> <p>Disperse vapour with water spray.</p> <p>Note: Vapour is heavier than air and will settle at the lowest point e.g. ditches, drains and water courses.</p>
7. HANDLING AND STORAGE	
	<p>Store in approved areas as defined by current issue of AS1596.</p> <p>Comply with the current issue of the Australian Code for the Transportation of Dangerous Goods by Road and Rail, and with the relevant Dangerous Goods Legislation in each State or Territory.</p> <p>Ensure dust and rain caps are fitted at all times.</p> <p>Store away from oxidising substances e.g. pool chlorine.</p> <p>Store in well ventilated area.</p>
8. EXPOSURE CONTROLS AND PERSONAL PROTECTION	
	<p>Propane is an asphyxiant – Safe Work Australia Exposure Standard</p> <p>Propylene is an asphyxiant – Safe Work Australia Exposure Standard</p> <p>Butane – ES-TWA 800 ppm TWA 1900mg/m3</p>
Engineering controls	
Ignition sources	<p><b>No Smoking. No Flames.</b></p> <p>Follow procedures to avoid static discharges.</p> <p>Use only intrinsically safe communication equipment (e.g. mobile phones and pagers).</p> <p>Use non-spark generating tools and flameproof (intrinsically safe) equipment.</p>
Ventilation	<p>Do not use Autogas as fuel in LPG appliances.</p> <p>Maintain adequate ventilation.</p>

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Usage	Use only equipment approved for LPG installations. Install in accordance with AS1596 and AS1425.
<b>Personal protection</b>	
	Thermally insulated gloves and either goggles or close fitting protective glasses with side visors are recommended when handling liquid LPG.  Long sleeved shirts and long trousers made from natural materials should be worn when handling.  If personnel are required to work in areas where the concentration of LPG may be above the exposure standard respiratory protection should be used. This should be a supplied air facemask or self contained breathing apparatus complying with AS1715 and AS1716.
<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>	
<b>Physical description/properties</b>	
Appearance	Colourless, odourless gas supplied in compressed liquid form in a pressure container.  A strong and distinctive odour is added to assist in the early detection of even minor leaks.
Boiling Point -42 to 0°C	Flash Point -104 to -60°C
Vapour Pressure (at 40°C) 520-1530 kPa Max	Flammability Limits 1.5% to 9.6% in air (v/v)
Solubility in Water (at 20°C) <200ppm	Auto ignition Temperature 494°C to 600°C
Specific Gravity Liquid 0.51- 0.58 (water = 1)	Specific Gravity Gas 1.52-2.01 (air = 1)
<b>10. STABILITY AND REACTIVITY</b>	
	Stable under normal ambient conditions of storage and use. Avoid heat sources.
	Can react violently with oxidising agents - chlorine, pool chlorine or nitric acid.
<b>11. TOXICOLOGICAL INFORMATION</b>	
<b>Health effects from acute exposure</b>	
Swallowed	Due to high volatility of product, this is not likely to occur.
Eyes	Liquid will cause severe damage. Vapour will cause irritation.
Skin	Vapourising liquid or liquid contact can result in cold contact burns.

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Inhaled	May cause light-headedness, dizziness and drowsiness. Excessive exposure may cause unconsciousness or even death, due to asphyxiation (refers to vapour not liquid).	
<b>Health effects from chronic exposure</b>		
	No chronic systemic effects reported from industrial exposures.	
Carcinogenicity	No known effect	
Mutagenicity	No known effect	
Teratogenicity	No known effect	
<b>12. ECOLOGICAL INFORMATION</b>		
	Autogas will vapourise rapidly when released to atmosphere. Autogas consists of hydrocarbons that photo chemically decompose under atmospheric conditions.	
<b>13. DISPOSAL CONSIDERATIONS</b>		
	Contact Origin if disposal of LPG is required.	
	LPG cylinders should be returned to the owning organisation stamped on the cylinder when no longer required. Small customer owned cylinders should be made safe at a Gas Cylinder Test Station before disposal. Check with local Council re acceptance for disposal to landfill. Do not incinerate LPG cylinders.	
<b>14. TRANSPORT INFORMATION</b>		
Transport information	UN number <b>UN 1075</b>	Shipping name <b>LPG</b>
	Class 2.1	Hazchem Code <b>2YE</b>
	Cylinders must be secured in an upright position for transport.	
	Transport in accordance with the requirements of ADG Code and the Load Restraint Guide.	
<b>15. REGULATORY INFORMATION</b>		
	Poisons schedule number – none allocated.	
	LPG is a prescribed Dangerous Good and its storage and handling is covered by various pieces of legislation in all States. The installation of LPG equipment must be performed only by appropriately licensed or authorised persons.	

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## 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 not 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.**

All containers should be returned to the supplier.

Privately owned containers no longer required, should be disposed of in an environmentally safe manner, and in accordance with Government regulations.

Seek expert advice if repairs or modifications to installation are required.

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Authorised by:

Manager LPG Policies and Procedures

Telephone MSDS enquiries only:

(07) 3867 0362

Telephone all other enquiries

13 24 62