

SAFETY DATA SHEET

SHELL AUTOGAS

Infosafe No.: LQ4CR
 ISSUED Date : 18/07/2016
 ISSUED by: VIVA ENERGY AUSTRALIA PTY
 LTD (FORMERLY: SHELL COMPANY OF
 AUSTRALIA LTD)

1. IDENTIFICATION

GHS Product Identifier

SHELL AUTOGAS

Company Name

VIVA ENERGY AUSTRALIA PTY LTD (FORMERLY: SHELL COMPANY OF AUSTRALIA LTD) (ABN 46 004 610 459)

Address

Level 16, 720 Bourke Street Docklands
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Emergency phone number

1800 651 818 (Australia) / Poisons Information Centre:13 11 26 (Australia)

Recommended use of the chemical and restrictions on use

As fuel in domestic, commercial, industrial and automotive applications.

Other Names

Name	Product Code
AUTOGAS	

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Flammable Gases: Category 1

Gases under Pressure: Compressed Gas

Signal Word (s)

DANGER

Hazard Statement (s)

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

Pictogram (s)

Flame, Gas cylinder



Precautionary statement – Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Precautionary statement – Response

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381 Eliminate all ignition sources if safe to do so.

Precautionary statement – Storage

P403 Store in a well-ventilated place.

P410+P403 Protect from sunlight. Store in a well-ventilated place.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Name	CAS	Proportion
Propane	74- 98- 6	25- 99 %
Propene	115- 07- 1	0- 60 %
Butane	106- 97- 8	0- 7. 5 %
Butene	106- 98- 9	0- 2 %
Ethyl Mercaptan (Odorant)	75- 08- 1	0. 0025

Other Information

Product as supplied by Origin Energy contains less than 0.1% of 1,3 Butadiene and is not classified as hazardous according to criteria of Worksafe Australia.

4. FIRST-AID MEASURES

Inhalation

Avoid becoming a casualty - to protect rescuer, use air-viva, oxy-viva or one-way mask. Remove affected person from contaminated area - Apply artificial respiration if not breathing. Do not give direct mouth to mouth resuscitation. Resuscitate in a well ventilated area. Seek IMMEDIATE medical attention. Note: in confined space - DO NOT ATTEMPT RESCUE WITHOUT ADEQUATE RESPIRATORY PROTECTION.

Ingestion

Not considered a potential route of exposure.

Skin

Remove all contaminated clothing immediately. Clothing frozen to the skin should be thawed before being removed. Wash affected area thoroughly with soap and water. For Frostbite: Flush affected areas with lukewarm water. Do not use hot water. Treat as thermal burns. Seek IMMEDIATE medical attention.

Eye contact

If eye tissue is frozen, seek IMMEDIATE medical attention. If tissue is not frozen, immediately irrigate with copious amounts of water for at least 15 minutes. Remove contact lenses. Eyelids to be held open. Seek medical attention.

First Aid Facilities

Eyewash and normal washroom facilities.

Advice to Doctor

Contact with liquefied gas may lead to frostbite of the exposed part. Frozen tissues may appear waxy and mottled blue. Clothing should be removed gently, if possible, to avoid further damage to skin. Local rewarming in water at no more than 40°C should be undertaken until completely rewarmed. Analgesia may be required.

Other Information

For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Shut off supply. Dry powder and carbon dioxide may be used for small fires.

Water fog should be used to assist the approach to the source of the fire.

Unsuitable Extinguishing Media

Do not use water jet.

Hazards from 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.

Specific Hazards Arising From The Chemical

Extremely flammable gas. Explosive gas-air vapour mixtures may form. Flashback along the vapour trail may occur. Keep away from heat, naked flames, and sparks. Cylinders may explode when heated or may become a projectile in a fire.

Hazchem Code

2YE

Decomposition Temperature

Not available

Precautions in connection with Fire

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. In case of fire the product may be violently or explosively reactive. Use water spray to disperse vapours. This product should be prevented from entering drains and watercourses.

6. ACCIDENTAL RELEASE MEASURES**Emergency Procedures**

Remove all sources of ignition. Increase ventilation. Evacuate all unprotected personnel. Use self-contained breathing apparatus (S.C.B.A) and full protective clothing to minimise exposure. Allow gas to vent safely to atmosphere, preferably in well ventilated, remote location. Monitor oxygen concentration in confined spaces. Check for leaks using pressure drop test or soapy water on joints and outlets. Shut cylinder valve to stop leak if possible and safe to do so. Check gas concentration to ensure area is safe before removing protective equipment. Damaged gas cylinders should be returned to the supplier.

7. HANDLING AND STORAGE**Precautions for Safe Handling**

Use in a well ventilated area. Use away from all sources of heat and ignition. Avoid skin and eye contact and breathing of gas. Post 'NO SMOKING' signs in area of use. Avoid release of gas into workplace air. Have emergency equipment (for fires, leaks, spills, etc.) readily available. Wear appropriate personal protective equipment and clothing to prevent exposure. Use smallest possible amounts in designated areas with adequate ventilation. Maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or using toilet facilities. DO NOT enter confined spaces where gas may have collected. Suck back of water into the container must be prevented. Do not allow back feed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Refer to supplier's container handling instructions.

Conditions for safe storage, including any incompatibilities

Cylinders shall be stored in a cool, dry, well-ventilated area out of direct sunlight and away from heat and ignition sources. Outside or detached storage is preferred. No part of cylinders shall be exposed to temperatures above 50 °C. Cylinders shall be stored upright on a level, fireproof floor, secure in position and protected from damage. Full cylinders shall be stored separately from empties. Keep cylinder valve cover on. Label empty cylinders and store full cylinders separately from empty ones. Consider leak detection and alarm systems, as required. Limit quantity in storage. Restrict access to storage area and post warning signs. Inspect periodically for deficiencies such as damage or leaks. Have fire extinguishers available in and near the storage area. Ensure that storage conditions comply with applicable local and national regulations.

For information on the design of the storeroom, reference should be made to AS 4332 The storage and handling of gases in cylinders.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Occupational exposure limit values**

No exposure value assigned for this specific material by the National Occupational Health and Safety Commission (NOHSC), Australia. However, the available exposure limits for ingredients are listed below:

Butane

TWA: 800 ppm

TWA: 1900 mg/m³

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

Biological Limit Values

No biological limits allocated.

Appropriate Engineering Controls

Use with good general ventilation. If mists or vapours are produced, local exhaust ventilation should be used.

Before entering a confined space where Butane and Propane are present, check to make sure sufficient Oxygen (19.5%) exists. Refer to relevant regulations for further information concerning ventilation requirements.

Refer to AS 2865 Australian Standard Safe working in a confined space, for further information concerning ventilation requirements.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations.

Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Other Information

Butane and Propane are asphyxiant gases which when present in an atmosphere in high concentration, lead to reduction of oxygen concentration by displacement or dilution. It is not appropriate to recommend an exposure standard for an asphyxiant, rather it should be required that a sufficient oxygen concentration be maintained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form

Gas

Appearance

Colourless, odourless gas supplied in compressed liquid form in a pressure container.

Colour

Colourless

Odour

Odourless, a strong and distinctive odour is added to assist in the early detection of even minor leaks.

Decomposition Temperature

Not available

Melting Point

Not available

Boiling Point

-42°C

Solubility in Water

< 200ppm (at 20°C)

Specific Gravity

Liquid 0.51

Gas 1.52

pH

Not available

Vapour Pressure

1530 kPa max. at 40°C

Vapour Density (Air=1)

Not available

Evaporation Rate

Not available

Odour Threshold

Not available

Volatile Component

Not available

Partition Coefficient: n-octanol/water

Not available

Density

Not available

Flash Point

-104°C

Flammability

Extremely flammable

Auto-Ignition Temperature

494°C to 549°C

Flammable Limits - Lower

2.4% in air (v/v)

Flammable Limits - Upper

9.6% in air (v/v)

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under normal conditions of storage and handling.

Reactivity and Stability

Reacts with incompatible materials.

Conditions to Avoid

Heat, open flames and other sources of ignition.

Incompatible materials

Incompatible with oxidising agents (eg. hypochlorites, peroxides), acids (eg. nitric acid), heat and ignition sources. Do not use natural rubber flexible hoses. Also incompatible (potentially violently) with oxygen, halogens and metal halides. Also incompatible with nickel carbonyl and oxygen (explodes at 20-40°C), barium peroxide (violent exothermic reaction) and chlorine dioxide (spontaneous explosion).

Hazardous Decomposition Products

Heating to decomposition produces acrid smoke and irritating fumes such as carbon monoxide and other unidentifiable organic compounds.

Possibility of hazardous reactions

Not available

Hazardous Polymerization

Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information

No toxicity data available for this product.

Ingestion

Not a likely source of exposure, however, liquid may cause freeze burns to mouth and throat.

Inhalation

Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.

Butane and Propane are asphyxiant gases which when present in an atmosphere in high concentration, leads to reduction of oxygen concentration by displacement or dilution. Symptoms include decreased visual acuity, decreased coordination and judgment, headache, dizziness, confusion, drowsiness, fatigue, shortness of breath, muscular weakness, convulsions, unconsciousness, coma and eventually death

Skin

May be irritating to skin. The symptoms may include redness, itching and swelling.

May cause frostbite injuries to skin due to uncontrolled release of compressed gas resulting in redness, tissue destruction.

Eye

May be irritating to eyes. The symptoms may include redness, itching and tearing.

May cause frostbite injuries to eyes due to uncontrolled release of compressed gas resulting in stinging, tearing, blurred vision and possibly permanent damage to eyes.

Respiratory sensitisation

Not expected to be a respiratory sensitiser.

Skin Sensitisation

Not expected to be a skin sensitiser.

Germ cell mutagenicity

Not considered to be a mutagenic hazard.

Carcinogenicity

Not considered to be a carcinogenic hazard.

Reproductive Toxicity

Not considered to be toxic to reproduction.

STOT-single exposure

Not expected to cause toxicity to a specific target organ.

STOT-repeated exposure

Not expected to cause toxicity to a specific target organ.

Aspiration Hazard

Not expected to be an aspiration hazard.

Other Information

LPG is an asphyxiant. Symptoms of exposure are directly related to displacement of oxygen from air. As the amount of oxygen inhaled is reduced from 21-14% volume, the pulse rate will accelerate and the rate and volume of breathing will increase. The ability to maintain attention and think clearly is diminished, muscular co-ordination is somewhat disturbed. As oxygen decreases from 14-10% volume, judgement becomes faulty, severe injuries may cause no pain. Muscular effort lead to rapid fatigue. Further reduction to 6% may cause nausea and vomiting. Ability to move may be lost. Permanent brain damage may result even after resuscitation from exposure to this low level of oxygen. Below 6% breathing is in gasps and convulsions may occur. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death will follow in minutes.

12. ECOLOGICAL INFORMATION

Ecotoxicity

No ecological data available for this material.

Persistence and degradability

Consists of hydrocarbons that photochemically decompose under atmospheric conditions.

Mobility

Evaporates extremely rapidly from water or soil surfaces. Disperses rapidly in air.

Bioaccumulative Potential

Not available

Other Adverse Effects

Not available

Environmental Protection

Prevent this material entering waterways, drains and sewers.

13. DISPOSAL CONSIDERATIONS

Disposal considerations

Dispose of waste according to applicable local and national regulations. '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 applicable regulations.

14. TRANSPORT INFORMATION

Transport Information

Road and Rail Transport (ADG Code):

This material is classified as a Division 2.1 Flammable Gases Dangerous Goods

Division 2.1 Dangerous Goods are incompatible in a placard load with any of the following:

- Class 1, Explosives
- Division 2.2 Non-flammable, Non toxic gas that have a subsidiary risk 5.1 except when all are packed in cylinders or pressure drums not exceeding 500L capacity.
- Class 3, Flammable Liquids, if both the Division 2.1 and Class 3 dangerous goods are in tanks or other receptacles with a capacity individually exceeding 500L.

- Division 4.1, Flammable Solids
- Division 4.2, Spontaneously Combustible Substances
- Division 4.3, Dangerous When Wet Substances
- Division 5.1, Oxidising Agents
- Division 5.2, Organic Peroxides
- Class 7, Radioactive Substances

Marine Transport (IMO/IMDG):

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Class/Division: 2.1

UN No: 1978

Proper Shipping Name: PROPANE

EMS : F-D, S-U

Air Transport (ICAO/IATA):

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Class/Division: 2.1

UN No: 1978

Proper Shipping Name: Propane

Packaging Instructions (passenger & cargo): Forbidden

Packaging Instructions (cargo only): 200

Hazard Label: Flammable gas

Special Provisions: A1

U.N. Number

1978

UN proper shipping name

PROPANE

Transport hazard class(es)

2.1

Hazchem Code

2YE

IERG Number

04

IMDG Marine pollutant

No

Transport in Bulk

Not available

Special Precautions for User

Not available

15. REGULATORY INFORMATION

Regulatory information

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of chemicals (GHS) including Work, Health and Safety regulations, Australia.

Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Poisons Schedule

Not Scheduled

16. OTHER INFORMATION

Date of preparation or last revision of SDS

SDS Reviewed: July 2016

Supersedes: April 2015

References

- Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.
 - Standard for the Uniform Scheduling of Medicines and Poisons.
 - Australian Code for the Transport of Dangerous Goods by Road & Rail.
 - Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
 - Workplace exposure standards for airborne contaminants, Safe work Australia.
 - American Conference of Industrial Hygienists (ACGIH).
 - Globally Harmonised System of classification and labelling of chemicals.
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END OF SDS

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