

## Section 1 - Identification of The Material and Supplier

Coleman Brands Pty Limited  
Suite W2C1, 75-85 O'Riordan St  
Sydney Corporate Park, Alexandria, NSW 2015

Phone: 1800 224 350 (bus hours)

**Chemical nature:** Liquefied butane gas.  
**Trade Name:** Butane  
**Product Use:** Disposable cartridges for use in portable gas stoves.  
**Creation Date:** June, 2010  
**This version issued:** June, 2010 and is valid for 5 years from this date.

## Section 2 - Hazards Identification

### Statement of Hazardous Nature

This product is classified as: Xn, Harmful. Not classified as hazardous according to the criteria of SWA.  
Dangerous according to the Australian Dangerous Goods (ADG) Code.

**Risk Phrases:** R20. Harmful by inhalation.

**Safety Phrases:** S45. In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show this MSDS where possible).

**SUSDP Classification:** None allocated.

**ADG Classification:** Class 2.1: Flammable gases.

**UN Number:** 1075, PETROLEUM GASES, LIQUEFIED

## Emergency Overview

**Physical Description & Colour:** Clear colourless gas. Occurs in odourless form, but a stenching agent (ethyl mercaptan) has been added so leaks can be detected.

**Odour:** Mild sulfurous odour. Occurs in odourless form, but a stenching agent (ethyl mercaptan) has been added so leaks can be detected.

**Major Health Hazards:** harmful if inhaled.

## Potential Health Effects

### Inhalation:

**Short Term Exposure:** May cause central nervous system disorder (e.g. loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Breathing high vapour concentrations (saturated vapours) for a few minutes may be fatal. Saturated vapours can be encountered in confined spaces and/or under conditions of poor ventilation. May cause irritation, breathing failure, coma and death without any warning odour being sensed.

Inhalation exposure to this product at extremely high concentrations, as in accidental releases in which concentrations reach or exceed the flammable range, may result in cardiac arrhythmias.

**Long Term Exposure:** No data for health effects associated with long term inhalation.

### Skin Contact:

**Short Term Exposure:** Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burns) and permanent eye damage.

**Long Term Exposure:** No data for health effects associated with long term skin exposure.

### Eye Contact:

**Short Term Exposure:** Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burns) and permanent eye damage.

**Long Term Exposure:** No data for health effects associated with long term eye exposure.

### Ingestion:

**Short Term Exposure:** Significant oral exposure is considered to be unlikely. This product is unlikely to cause any irritation problems in the short or long term.

**Long Term Exposure:** No data for health effects associated with long term ingestion.

### Carcinogen Status:

**SWA:** No significant ingredient is classified as carcinogenic by SWA.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

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IARC: No significant ingredient is classified as carcinogenic by IARC.

### Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
isobutane	75-28-5	78-83	not set	not set
Butane	106-97-8	18-22	1900	not set
Ethyl mercaptan	75-08-1	trace	1.3	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

### Section 4 - First Aid Measures

#### General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

**Inhalation:** If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

**Skin Contact:** In case of cold burns caused by rapidly expanding gas or vaporizing liquid, get prompt medical attention. If possible loosely wrap the affected area in towels wet with warm (NOT hot) water.

**Eye Contact:** In case of cold burns caused by rapidly expanding gas or vaporizing liquid, get prompt medical attention.

**Ingestion:** If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

### Section 5 - Fire Fighting Measures

**Fire and Explosion Hazards:** There is a moderate risk of an explosion from this product if commercial quantities are involved in a fire. Firefighters should take care and appropriate precautions. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Suitable extinguishing media are dry chemical, foam, water fog. Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade. There is a danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus. Cool closed, undamaged containers exposed to fire with water spray.

**Flash point:** -117°C (Cleveland open Cup) ASTM D 92

**Upper Flammability Limit:** 8.4%

**Lower Flammability Limit:** 1.8%

**Autoignition temperature:** No data.

**Flammability Class:** Highly flammable gas.

### Section 6 - Accidental Release Measures

**Accidental release:** This product is sold in small packages, and the accidental release from one of these is not usually a cause for concern. For minor spills, clean up, rinsing to sewer and put empty container in garbage. Although no special protective clothing is normally necessary because of occasional minor contact with this product, it is good practice to wear impermeable gloves when handling chemical products.

In the event of a major spill, evacuate the spill area and deny entry to unnecessary and unprotected personnel. Immediately call the Fire Brigade. Wear full protective clothing including eye/face protection Self Contained Breathing Apparatus. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include cotton, rubber, PVC.

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Stop leak if safe to do so, and contain spill. Take suitable precautions eg use of non-sparking equipment to avoid creating sparks or flames which may ignite the spilled material. Leaking gases may form an explosion hazard. Any equipment capable of building an electrostatic charge should be electrically grounded. Recycle containers wherever possible after careful cleaning.

Empty containers may contain product residue. Do not pressurize, cut, heat, or weld empty container. Do not reuse empty containers without commercial cleaning or reconditioning. Ensure legality of disposal by consulting regulations prior to disposal.

## Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** Store in a cool, well ventilated area, and make sure that surrounding electrical devices and switches are suitable. Material will accumulate static charges which may cause a spark. Static charge build-up could become an ignition source. Use proper relaxation and grounding procedures

Check containers and valves periodically for leaks. If you keep more than 25kg of flammable gases, you are probably required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

## Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Ethyl mercaptan	1.3	not set
Butane	1900	not set

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

**Ventilation:** This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

**Eye Protection:** Eye protection such as protective glasses or goggles is recommended when this product is being used.

**Skin Protection:** You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: cotton, rubber, PVC.

**Respirator:** Not normally necessary unless there is a major spill in which case, Self Contained Breathing Apparatus is recommended.

## Section 9 - Physical and Chemical Properties:

<b>Physical Description &amp; colour:</b>	Clear colourless gas. Occurs in odourless form, but a stenching agent (ethyl mercaptan) has been added so leaks can be detected.
<b>Odour:</b>	Mild sulfurous odour. Occurs in odourless form, but a stenching agent (ethyl mercaptan) has been added so leaks can be detected.
<b>Boiling Point:</b>	Approx -12°C at 100kPa
<b>Freezing/Melting Point:</b>	No specific data.
<b>Volatiles:</b>	Completely volatile at 100°C.
<b>Vapour Pressure:</b>	approx 192 kPa at 20°C
<b>Vapour Density:</b>	>1
<b>Specific Gravity:</b>	<1 at 15°C (under pressure)
<b>Water Solubility:</b>	Insoluble.
<b>pH:</b>	Not applicable.
<b>Volatility:</b>	>1
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	>1

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**Coeff Oil/water Distribution:** No data  
**Viscosity:** Not applicable.  
**Autoignition temp:** No data.  
**Refractive index:** Not applicable.  
**Optical rotation:** Not applicable.°

### Section 10 - Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Keep containers and surrounding areas well ventilated. Keep away from sources of sparks or ignition. Any electrical equipment in the area of this product should be flame proofed.

**Incompatibilities:** strong oxidising agents.

**Fire Decomposition:** Combustion forms carbon dioxide, and if incomplete, carbon monoxide and smoke. Water is also formed. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

### Section 11 - Toxicological Information

**Local Effects:**

**Target Organs:** There is no data to hand indicating any particular target organs.

Isobutane is a SWA Class 2 Mutagen, likely to be mutagenic to humans.

### Classification of Hazardous Ingredients

Ingredient	Risk Phrases
No ingredient mentioned in the HSIS Database is present in this product at hazardous concentrations.	

### Section 12 - Ecological Information

Insufficient data to be sure of status. Expected to not be an environmental hazard.

### Section 13 - Disposal Considerations

**Disposal:** Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

### Section 14 - Transport Information

**ADG Code:** 1075, PETROLEUM GASES, LIQUEFIED

**Hazchem Code:** 2YE

**Special Provisions:** None allocated

**Dangerous Goods Class:** Class 2.1: Flammable gases.

**Packaging Group:** Not set

**Packaging Method:** P200

Class 2.1 Flammable gases shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 3 (Flammable Liquids) (where both flammable liquids and flammable gases are in bulk), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides), and 7 (Radioactive Substances). They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.2 (Non-flammable Non-Toxic gases), 3 (Flammable liquids except where both flammable liquids and flammable gases are in bulk), 6 (Toxic Substances), 8 (Corrosive Substances) 9 (Miscellaneous dangerous goods), Foodstuffs and foodstuff empties.

### Section 15 - Regulatory Information

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations.

### Section 16 - Other Information

This MSDS contains only safety-related information. For other data see product literature.

**Acronyms:**

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<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 <sup>th</sup> edition)
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<b>CAS number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Code</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
<b>IARC</b>	International Agency for Research on Cancer
<b>NOS</b>	Not otherwise specified
<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSDP</b>	Standard for the Uniform Scheduling of Drugs & Poisons
<b>UN Number</b>	United Nations Number

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the SWA document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]

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<http://www.kilford.com.au/> Phone (02)9251 4532

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