
MATERIAL SAFETY DATA SHEET

Section 1: IDENTIFICATION OF THE MATERIAL

Product name: N-Butane
Part number: Not Applicable
Other names: 1-Butane, Butane, Normal Butane
Recommended use: A flammable gas used as a fuel or propellant in Cabac Auto Ignition Butane Powered Pro Torch, Part no. GT1400, Butane powered soldering iron kit, Part no. GT150K., normally stored under pressure in liquid form.
Dangerous Goods Class: 2.1

Section 2: HAZARD IDENTIFICATION

US NFPA Classification

Health: 1
Flammability: 3
Reactivity: 0

Hazard classification:

Commercial Butane is classified as a Dangerous Good by the Australia Goods Code.

Risk phrases:

Inhalation may cause irritation of the respiratory tract. May also cause headaches or dizziness at moderate exposures. Asphyxiant. Causes unconsciousness and respiratory arrest at elevated exposures.

Eye contact can be irritating if the liquid gets into the eyes, with a possible hazard from freezing due to rapid evaporation. Vapors in high concentration may also be irritating.

Excessive prolonged skin contact to the liquid can cause skin irritation and frostbite due to rapid evaporation.

Ingesting/Swallowing unlikely a problem due to high evaporation rate.

Safety phrase:**Chronic Health Effects:**

No effects reported from long-term industrial exposure to this product.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture of Components:

Chemical Identity	Proportion %	CAS number
Propane	<10	74-98-6
Butane	>90	106-97-8

- Butane may be stored and transported as a mixture of ingredients.

- Butane contains odorant ethyl mercaptan unless otherwise authorized. (recommended 25 mg/kg).
- This is detectable to 25 % of its lower flammability limit.

Section 4: FIRST AID MEASURES

If Ingested:

Unlikely to be a problem, owing to high evaporation rate.

If in eyes:

Avoid eye contact with the product. Remove any contact lenses carefully. Hold eyelids open and flush eyes with fresh tepid water for 15 minutes. Seek medical advice immediately for all eye contact.

Where significant splashing of Butane liquid may occur, eyewash Facilities stations Should be installed.

If on skin:

Avoid skin contact with the liquid. Remove contaminated clothing and wash the exposed areas with plenty of soap and water. Seek medical advice if irritation or frostbite (see below) occurs.

If inhaled:

Avoid breathing vapors and fumes as much as possible. If fumes overcome someone, remove them to fresh air immediately. However, rescuers should avoid becoming a casualty by wearing suitable respiratory protection. If the affected individual is not breathing, administer artificial respiration. Seek medical advice promptly in serious cases of over-exposure.

Frostbite:

Obtain medical assistance.

If medical advice is not available immediately, place casualty in a warm area as soon as possible and allow the injured area to warm gradually (further damage may occur if the area of injury warms too rapidly). **DO NOT EXPOSE THE INJURED AREA TO EXCESS HEAT OR COLD** (such as heat lamps, hot water, snow or ice). Gently cover or drape the injured area with clean material, such as a dressing or sheet. To relieve pain, immerse the injured area in water that is near or at body temperature (35-40 deg C). If possible, get the casualty to exercise the injured area gradually. Give them something warm to drink, **BUT NO ALCOHOL**. Seek medical advice as soon as possible.

Advice to Doctor:

No specific treatment recommended. Treat symptomatically. Show a copy of this material safety data sheet to medical personnel dealing with cases of over-exposure.

Section 5: FIRE FIGHTING MEASURES

Suitable Extinguishing media:

Water spray or BC fire extinguisher. Stay out of gas or vapor. Use water to disperse uninvited gas or vapor. Allow burning out, if possible.

Hazards from Combustion Products:

Hazardous combustion products of carbon dioxide (carbon monoxide under poor conditions of combustion) and smoke may be produced. Hazardous polymerization will not occur.

Precautions for fire fighters:

Butane is heavier than air, and vapors will tend to flow downwards and accumulate in low-lying areas such as drains and pits at ground level.

Special protective equipment:

Fire fighters should wear full protection and breathing apparatus.

Additional Information:

Cool fire exposed containers with water spray. If ignition has occurred and water is not available, tank metal may weaken from overheating.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures for Spills:

Cut off source of leak. If the release is large, cut off all ignition sources and evacuate all non-essential personnel from the area. If possible, ventilate the area. If the incident is significant, seek immediate assistance from local fire authorities and police. If possible, monitor the vapor concentration until dissipated.

Methods and Materials for containment and clean up:

If possible, allow evaporating. Large volumes should be removed by tanker or by controlled burning. Butane can be disposed by approved incineration methods. Contact local supplier or fire brigade for further advice on disposal.

Section 7: HANDLING AND STORAGE

Butane is classified under the Taiwan Code for the Transport of Dangerous Goods by Road and Rail as a FLAMMABLE GAS (Class 2.1).

Precautions for safe handling:

Overalls or a long sleeved shirt and closed-in shoes or safety footwear should be worn as a general precaution

Conditions for safe storage, including any incompatibilities:

Butane should be stored in approved areas only. Minimum conditions of storage include dry, cool, secure storage away from heat, sources of ignition and oxidizing substances. Keep containers closed and upright when not in use.

Transport:

Butane must be transported in accordance with the latest edition of TAIWAN Code . Large volumes must be transported in approved tankers, and smaller volumes in approved pressure containers.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure standards:

Worksafe Australia has established comments and exposure standards for the following ingredients of this product:

Butane	1000 ppm (1800 mg/m ³) as Short Time Weighted Average.
	800 ppm (1900 mg/m ³) as an 8-hour Time Weighted Average.

Most Butane is odorized before transport handling and is detectable to 20% of its LEL. If no stanching agent has been added, Butane has a high odor threshold (in the order of 10 - 25 times the exposure standard). Therefore, Butane does not have good warning properties.

Biological limit values:

No data

Engineering controls:

Ensure there is good ventilation of the area in which the product is used to keep concentrations below the exposure standard or lower explosive limit. While dilution by air may be sufficient in most cases, mechanical exhaust ventilation may be required. In such cases, use spark proof equipment if possible. A ventilation velocity of at least 0.3 m/s is recommended.

Personal Protective Equipment:

Avoid contact with eyes and skin.

Respiratory Protection–

If ventilation of the area is not sufficient, respiratory protection may be required. This should be at least approved air supplied or self-contained breathing apparatus where the exposure standard is likely to be exceeded or if work is required close to large gas leaks.

Respiratory protection should comply with AS 1715/ 1716.

Protective Gloves –

Eye protection is required (face shield, chemical safety glasses or side shield glasses) where splashing is likely. Eye protection should comply with AS 1336/1337.

Eye Protection –

Eye protection is required (face shield, chemical safety glasses or side shield glasses) where splashing is likely. Eye protection should comply with AS 1336/1337.

Other Protective Clothing or Equipment -

Overalls or a long sleeved shirt and closed-in shoes or safety footwear should be worn as a general precaution.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Rapidly evaporating liquid or gas
Odour:	Rotten cabbage - like smell.
pH:	No data
Vapour Pressure @ 20°C:	17 Psi (70°F)
Vapour Density:	2.0 air = 1, 0.58 water = 1
Initial Boiling point/range:	-1°C
Freezing/melting point:	Not Applicable
Solubility:	Very Slight
Specific gravity (H2O=1) or density:	0.582 (liquid)
Flashpoint:	- 60 °C (-75 °F)
Upper flammable (explosive) limits in air:	8.6 % in air
Lower flammable (explosive) limits in air:	1.5 % in air
Ignition temperature:	287 °C (549 °F), Auto ignition point
Evaporation Rate:	Rapid
% Volatiles:	100%

Section 10: STABILITY AND REACTIVITY

Chemical Stability (Reactivity):	Stable
Conditions to avoid:	No data
Incompatible Materials:	Oxidizers
Hazardous decomposition products:	No data
Hazardous reactions:	No data

Section 11: TOXICOLOGICAL INFORMATION

Acute and Chronic health affects:

No effects reported from long term-term industrial exposure to this product.

Possible routes of exposure: No data

Range of affects following exposure: No data

Dose, concentration or conditions of exposure likely to cause injury:

LC50, 658gm/m³/4hr, 680 gm/m³/2h

Delayed affects: No data

Relevant negative data: No data

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: No data

Persistence and degradability: No data

Mobility: No data

Section 13: DISPOSAL CONSIDERATION

Disposal methods and containers:

If possible, allow evaporating. Large volumes should be removed by tanker or by controlled burning. Butane can be disposed by approved incineration methods. Contact local supplier or fire brigade for further advice on disposal.

Special precautions for landfill or incineration:

No data

Dispose of in accordance with all applicable local, state and federal regulations.

Section 14: TRANSPORT INFORMATION

Domestic Highway

UN number: 1011

UN Proper shipping name: No data

Class and subsidiary risk: 2.1, None

Packing group: No data

Special precaution for user: No data

Hazchem code: 2WE

Section 15: REGULATORY INFORMATION

The regulatory status of a material (including its ingredients) under relevant Australian health, safety and environmental legislation:

No data

Section 16: OTHER INFORMATION

Date of Preparation/last Revision of the MSDS

December 2012

New Zealand Emergency Telephone: 111

New Zealand National Poisons Centre Telephone: 0800 POISON (0800 764 766)

The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and to develop work practice procedures for a safe work environment.

DISCLAIMER: The information contained herein, is to the best of our knowledge and belief; accurate. However, because the condition of handling and use are beyond our control, **we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all federal, state and local laws and regulations.**