

Butane



SAFETY DATA SHEET

Issued: 30/11/2010 | Version 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Butane
Chemical Formula C₄H₁₀
Recommended Use Fuel
Company Name Irish Oxygen Co Ltd,
Waterfall Road, Cork
Email sds@irishoxygen.com
Emergency Phone 021-4541821
(office hours only)

2. HAZARDS IDENTIFICATION

Liquefied gas
Extremely flammable

GHS Hazard Pictograms



3. COMPOSITION INFORMATION

Substance/Preparation Substance
Composition No other components
CAS No 00106-97-8
EINECS No 203-448-7

4. FIRST AID MEASURES

Inhalation
In high concentrations, may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. In low concentrations may cause narcotic effects including dizziness, nausea and headache Remove victim to uncontaminated area wearing self breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
Ingestion
Not considered a potential route of exposure
Skin contact
In case of cold burns form liquid contact, spray with water for at least 15 minutes
Eye contact
Flush thoroughly with water for at least 15 minutes. Get medical help

5. FIRE FIGHTING MEASURES

Specific hazard

Exposure to fire may cause containers to rupture or explode.

Hazardous combustion products

Incomplete combustion may form carbon monoxide

Suitable extinguishing media

All known extinguishers can be used.

Specific methods

If possible, stop flow of product.
Move container away or cool with water from protected position.
Do not extinguish a leaking gas flame unless absolutely necessary.
Spontaneous/explosive re-ignition may occur.
Extinguish any other fire.

Special protective equipment for fire fighters

In confined space use self contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area.
Wear self contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Ensure adequate air ventilation.
Eliminate ignition sources.

Environmental precautions

Try to stop release. Prevent from entering sewers or workpits where its accumulation may be dangerous

Clean up methods

Ventilate area.

7. HANDLING AND STORAGE

Close cylinder valve when not in use to prevent contamination of cylinder. Open valve slowly to avoid pressure shock. Purge air from system before introducing gas. Do not allow back feed into cylinder. Use only properly specified equipment that is suitable for butane, its supply pressure and temperature. Keep cylinder below 50°C in a well ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ensure adequate ventilation.
Do not smoke while handling butane cylinder or equipment.
Wear suitable hand, body and head protection.
Wear goggles with suitable filter lenses when use in cutting or welding.
Long term exposure limit LTEL 600 ppm
Short term exposure limit STEL 750 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Colour /Odour	Colourless gas with a sweetish odour – stenchant often added
Molecular Weight	58.1
Melting Point	-138.3°C
Boiling Point	-0.5°C
Critical Temperature	152°C
Relative Density - Gas	2.07 (Air=1)
Relative Density - Liquid	0.58 (Water=1)
Vapour Pressure 20°C	1.12 bar
Solubility mg/l water	88 mg/l
Auto ignition temperature	365°C
Flammability Range	1.9%-8.5% volume in air
Other Data	Gas/vapour heavier than air. May accumulate in confined spaces at or below ground level

10. STABILITY AND REACTIVITY

Can form explosive mixture with air.
May react violently with oxidants.

11. TOXICOLOGICAL INFORMATION

No known toxicological effects from this product.

12. ECOLOGICAL INFORMATION

No known ecological damage caused by this product.

13. DISPOSAL CONSIDERATIONS

Do not discharge into areas where there is a risk of forming an explosive mixture with air.
Waste gas should be flared through a suitable burner with flash back arrester.
Do not discharge into any place where its accumulation could be dangerous

14. TRANSPORT INFORMATION

UN Number:	1978
Class/Div:	2.1
ADR/RID Classification code:	2F
ADR/RID Hazard Number:	23
Labelling ADR:	2.1:flammable gas

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or emergency. Before transporting product cylinders, ensure that they are firmly secured, that cylinder valve is closed and not leaking, that there is adequate ventilation and that applicable regulations are complied with

15. REGULATORY INFORMATION

Number in Annex 1 of Dir 67/548	601-004-00-0
EC Classification	R12/F+
Risk Phrases	F+ Extremely flammable R12 Extremely flammable
Safety Phrases	S9 Keep cylinder in a well ventilated place S16 Keep cylinder away from ignition sources S33 Keep cylinder away from possible static discharge

16. OTHER INFORMATION

The information given here is based on the present state of knowledge and describes the product under the aspects of safety. It should not therefore be construed as guaranteeing specific properties. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

CYLINDER DETAILS

Cylinder Type	Nominal Capacity Kg	Approx Dimensions (mm)	Approx gross Cylinder weight (Kg)
11	11.34	560 x Ø 300	24

Outlet Connection: 30mm vertical automatic valve for push down regulator or 1¼ ACME Left hand male flat seal.