

PROPANE

MATERIAL SAFETY DATA SHEET



1. PRODUCT IDENTIFICATION

Product Name: Propane

Supplier: FLOGAS
Airport Road West
Belfast
BT3 9ED

24 Hour Emergency Tel. No. (028) 9073 2611

2. COMPOSITION

Product Description: Propane mixed with other hydrocarbons with added stenching agent.
Risk Phrases Applicable: F+, R12.

3. HAZARDS

Risk Phrase (R12): *Extremely Flammable*

- Under normal conditions of handling, storage and use of propane containers, the risk of hazardous exposure is small.
- Direct contact of liquid propane with the skin may cause frostbite or cold burns. Handling precautions should be observed.
- Propane vapour is heavier than air and therefore vapour releases will collect in confined spaces.
- Inhalation of vapours in small amounts may cause headaches, nausea, drowsiness; larger amounts may act as an asphyxiant.

4. FIRST AID MEASURES

Inhalation: Remove immediately to fresh air, if necessary administer artificial respiration. Obtain medical attention urgently.

Skin Contact: In case of cold burns drench with water and obtain medical attention.

Eye Contact: Wash eyes thoroughly with copious quantities of water and obtain immediate medical attention.

Ingestion: Unlikely to occur.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Do not attempt to extinguish the fire until source is shut off, then allow to burn out. Extinguish small residue fires with dry powder.

Special Fire Fighting Procedures: Shut off gas supply at source. Use water to keep fire-exposed containers cool and to protect personnel effecting the shut off. If a leak or spill has not ignited, use water spray to disperse vapour and to protect personnel effecting the shut off.

Hazardous Combustion Products: Smoke and carbon monoxide may be formed in the event of incomplete combustion.

6. ACCIDENTAL RELEASE MEASURES

Treat any spillage as a potential fire and explosion risk. Evacuate all personnel from the area. Remove ignition sources and ensure sufficient ventilation. Provided it is safe to do so, isolate the source of the leak.

Do not attempt to wash into drains; liquid spills will rapidly evaporate.

7. HANDLING & STORAGE

Always store and transport cylinders in an upright position. Never store or use below ground level. Storage should be well ventilated, preferably outdoors. Do not use or store cylinders in residential buildings. Do not smoke or use naked flames in storage area or whilst changing cylinders. Always switch off valves and replace safety plugs when the cylinder is empty or not in use. Personnel should be instructed in the potential hazards of LPG, safe handling of cylinders and emergency procedures.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

Occupational Exposure Limit: 1,000ppm TWA for 8 hours/day.

Personal Protection

- a) Skin Protection: Thick impervious gloves and suitable overalls should be used to prevent cold burns caused by rapid evaporation on the skin or from contact with cold metal.
- b) Eye Protection: Face visor or chemical goggles should be worn when making or breaking pipe or valve connections containing liquid propane.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance & Odour:	Colourless liquid stored under pressure. Strong characteristic odour due to presence of stenching agent.
Boiling Point:	-48°C to -42°C.
Vapour Pressure:	@ 20°C: 8.6 Bar
Vapour Density:	1.56 (Air = 1)
Solubility in Water:	@ 20°C Negligible
Density of Liquid:	0.5 – 0.53 g/ml
Flammable Limits (Lower):	2.2% v/v
Flammable Limits (Upper):	10% v/v
Auto Ignition Temp:	Approx. 500°C.

10. STABILITY & REACTIVITY

Conditions to Avoid:	Keep away from heat and ignition sources.
Materials to Avoid:	Avoid contact with strong oxidising agents.
Hazardous Decomposition Products:	Incomplete combustion will generate hazardous gases including carbon monoxide

11. TOXICOLOGICAL INFORMATION

Inhalation:	Negligible hazard at ambient/normal handling temperatures. Inhalation of low-concentration vapours may cause headaches, nausea and drowsiness. Abuse involving deliberate inhalation of very high concentrations of vapour, even for short periods, can produce unconsciousness and/or result in sudden fatality.
Skin Contact:	Liquid splashes or spray may cause cold burns.
Eye Contact:	Liquid splashes or spray may cause cold burns, seriously damaging the eyes.

12. ECOLOGICAL INFORMATION

Persistence & Degradability: Propane is unlikely to cause long-term adverse effects in the environment.

Bioaccumulative Potential: Propane does not bioaccumulate.

Aquatic Toxicity: Unlikely to cause long term effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Do not dispose of any propane cylinder. Return all Flogas cylinders to Flogas or their authorised agent. Empty containers represent a fire hazard as they may contain flammable product residues and vapours. Never weld, solder, or braze empty cylinders.

14. TRANSPORT INFORMATION

U.N. Number: 1978

ADR/RID: Class 2; Item No. 3(b)

Hazard Identification: 23

Emergency Action Code: Flammable Gas, 2WE

15. REGULATORY INFORMATION

All information contained within this data sheet is in accordance with the following Directives/Regulations:-

- ◆ **Chemicals (Hazards Information and Packaging) Regulations 1993.**
- ◆ **Health & Safety at Work Act 1974**
- ◆ **Control of Substances Hazardous to Health Regulation 1988.**

EC Labelling Classification: F+ (Extremely Flammable)

Risk Phrases: R12 (Extremely Flammable)

Safety Phrases: S9 Keep container in well ventilated area.

S16 Keep away from sources of ignition. No smoking.

16. OTHER INFORMATION

Uses: Multi Purpose Fuel

The data supplied in this Material Safety Data Sheet applies only when the product is used in the manner and for the purposes specified.

For additional information on the use of this product contact Flogas on Belfast (028) 9073 2611

If you have purchased the product for supply to a third party, it is your duty to pass on the information given in this Data Sheet. If the third party is not an employer it is his duty to pass this information to the employer or whoever uses or handles the product.

It is an employers duty to advise and instruct his employees handling the product of any hazards associated with it and any precautions which should be taken to ensure safe handling of the product.

BUTANE

MATERIAL SAFETY DATA SHEET



1. PRODUCT IDENTIFICATION

Product Name: Butane

Supplier: Flogas
Airport Road West
Belfast
BT3 9ED

24 HR Emergency Tel. No. (028) 9073 2611

2. COMPOSITION

Product Description: Butane mixed with other hydrocarbons with added stenching agent.
Risk Phrases Applicable: F+, R12.

3. HAZARDS

Risk Phrase (R12): *Extremely Flammable*

- Under normal conditions of handling, storage and use of butane containers, the risk of hazardous exposure is small.
- Direct contact of liquid propane with the skin may cause frostbite or cold burns. Handling precautions should be observed.
- Butane vapour is heavier than air and therefore vapour releases will collect in confined spaces.
- Inhalation of vapours in small amounts may cause headaches, nausea, drowsiness; larger amounts may act as an asphyxiant.

4. FIRST AID MEASURES

Inhalation: Remove immediately to fresh air, if necessary administer artificial respiration. Obtain medical attention urgently.

Skin Contact: In case of cold burns drench with water and obtain medical attention.

Eye Contact: Wash eyes thoroughly with copious quantities of water and obtain immediate medical attention.

Ingestion: Unlikely to occur.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Do not attempt to extinguish the fire until source is shut off, then allow to burn out. Extinguish small residue fires with dry powder.

Special Fire Fighting Procedures: Shut off gas supply at source. Use water to keep fire-exposed containers cool and to protect personnel effecting the shut off. If a leak or spill has not ignited, use water spray to disperse vapour and to protect personnel effecting the shut off.

Hazardous Combustion Products: Smoke and carbon monoxide may be formed in the event of incomplete combustion.

6. ACCIDENTAL RELEASE MEASURES

Treat any spillage as a potential fire and explosion risk. Evacuate all personnel from the area. Remove ignition sources and ensure sufficient ventilation. Provided it is safe to do so, isolate the source of the leak.

Do not attempt to wash into drains; liquid spills will rapidly evaporate.

7. HANDLING & STORAGE

Always store and transport cylinders in an upright position. Never store or use below ground level. Storage should be well ventilated, preferably outdoors. Do not use or store cylinders in residential buildings. Do not smoke or use naked flames in storage area or whilst changing cylinders. Always switch off valves and replace safety plugs when the cylinder is empty or not in use. Personnel should be instructed in the potential hazards of LPG, safe handling of cylinders and emergency procedures.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

Butane Occupational Exposure Limit: 600ppm TWA for 8 hours/day.

Personal Protection

- a) Skin Protection: Thick impervious gloves and suitable overalls should be used to prevent cold burns caused by rapid evaporation on the skin or from contact with cold metal.
- b) Eye Protection: Face visor or chemical goggles should be worn when making or breaking pipe or valve connections containing liquid butane.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance & Odour: Colourless liquid stored under pressure. Strong characteristic odour due to presence of stenching agent.

Boiling Point: -2°C to 0°C.

Vapour Pressure: @ 20°C: 1.1 Bar

Vapour Density: 2.0 (Air = 1)

Solubility in Water: @ 20°C Negligible

Density of Liquid: 0.58 g/ml @ 15°C

Flammable Limits (Lower): 1.8% v/v

Flammable Limits (Upper): 10% v/v

Auto Ignition Temp: Approx. 500°C.

10. STABILITY & REACTIVITY

Conditions to Avoid: Keep away from heat and ignition sources.

Materials to Avoid: Avoid contact with strong oxidising agents.

Hazardous Decomposition Products: Incomplete combustion will generate hazardous gases including carbon monoxide

11. TOXICOLOGICAL INFORMATION

Inhalation: Negligible hazard at ambient/normal handling temperatures. Inhalation of low-concentration vapours may cause headaches, nausea and drowsiness. Abuse involving deliberate inhalation of very high concentrations of vapour, even for short periods, can produce unconsciousness and/or result in sudden fatality.

Skin Contact: Liquid splashes or spray may cause cold burns.

Eye Contact: Liquid splashes or spray may cause cold burns, seriously damaging the eyes.

12. ECOLOGICAL INFORMATION

Persistence & Degradability: Butane is unlikely to cause long-term adverse effects in the environment.

Bioaccumulative Potential: Butane does not bioaccumulate.

Aquatic Toxicity: Unlikely to cause long term effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Do not dispose of any butane cylinders. Return all Flogas cylinders to Flogas or their authorised agent. Empty containers represent a fire hazard as they may contain flammable product residues and vapours. Never weld, solder, or braze empty cylinders.

14. TRANSPORT INFORMATION

U.N. Number: 1101

ADR/RID: Class 2; Item No. 3(b)

Hazard Identification: 23

Emergency Action Code: Flammable Gas, 2WE

15. REGULATORY INFORMATION

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