PUREGAS	SAFETY DATA SHEET	Version: 4 Revision date: 2025-04-25
	Hydrocarbon Aerosol Propellant (HAP)	PG-SDS-16

This SDS conforms to the Globally Harmonised System (GHS), South African Regulations on Hazardous Chemical Agents, and SANS 10234, SANS 11014 & SANS 10228.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product name	Hydrocarbon Aerosol Propellant (HAP)
Chemical Name	Mixture of n-butane (C4H10), isobutane (C4H10), and propane (C3H8).
Other means of identification	Butane, Cosmetic Butane, Propane, Normal Butane, N-Butane, B/CB31, B/CB36, B/CB40, B/CB45, B/CB46, B/CB48, B/CB56, B/CB62, B/CB74, B/CB5.6
Recommended Intended Purpose	Aerosol Propellants, Foaming (blowing) agent.
Company Information	**Puregas (Pty) Ltd** PO Box 123884, Alrode, 1451, Gauteng, South Africa **Tel:** (011) 903 9760 **Fax:** (011) 903 9766 **Cellphone:** 082 889 6946 (1st) 082 885 7475 (2nd) **Email:** info@puregas.co.za Website: www.puregas.co.za
Emergency Telephone	0800 172 743 Rapid Spill Response - 24 hours, 7 days a week

SECTION 2. HAZARDS IDENTIFICATION

Classification of the mixture - GHS classification as published through ECHA

Hazard Classification	Category	Hazard Statement	
Flammable Gas	1	H220 H280	Extremely flammable gas. Contains gas under pressure; may explode if heated

Hazard Pictograms

GHS02

GHS04

Signal Word: Danger

Precautionary Statements

General:	P101 P102 P103	If medical advice is needed, have product container or label at hand Keep out of reach of children Read carefully and follow all instructions
Prevention	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Response	P377 P381	Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources
Storage	P403 P405	Store in a well-ventilated place. Store locked up.
Disposal	P501	Dispose of contents/ container to an approved facility in accordance with local, regional, national, and international regulations.
Main Hazard	This mixture is an extremely flammable gas.	
Other Hazards	An asphyxiant at high concentrations – oxygen depletion can be fatal. Contact with evaporating liquid may cause frostbite or freezing of skin	

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

B/CB31, B/CB36, B/CB40, B/CB45, B/CB46, B/CB48, B/CB56, B/CB62, B/CB74, B/CB5.6

This product is a blend of n-butane (C4H10), isobutane (C4H10), and propane (C3H8).

CAS No	EC No	Name	Weighting
106-97-8	203-448-7	n-butane (C4H10),	> 50%
75-28-5	200-857-2	isobutane (C4H10)	> 40%
74-98-6	200-827-9	propane (C3H8).	< 3%
UN Number:	1950	**Mixture CAS No**	68476-85-7

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 4. FIRST AID MEASURES

Inhalation	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Give oxygen. Seek medical attention.
Skin contact	For exposure to liquid, immediately warm the frostbite area with warm water not to exceed 41°C. In case of massive exposure, remove contaminated clothing while showering with warm water. Obtain medical attention.
Eye contact	Immediately flush your eyes thoroughly with warm water for at least 15 minutes. Remove contact lenses. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Seek medical attention immediately.
Ingestion	Ingestion is considered unlikely. If accidentally swallowed obtain immediate medical attention.
Notes to physician	Symptoms: Dizziness, Headache, Nausea, Frostbite, Vomiting, Discomfort Hazards: This material may be a cardiac sensitizer; avoid the use of epinephrine. Treatment: Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, Dry chemicals, Foam, Carbon dioxide (CO_2), and Fire should not be extinguished unless flow of gas can be immediately stopped.
Specific hazards during firefighting	Flammable Gas. Vapours are heavier than air and may travel long distances to a point of ignition and flashback. Exposure to fire may cause containers to rupture.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full protective clothing as needed for protection from heat and airborne combustion products. Use water to cool equipment, surfaces, and containers exposed to

	fire and excessive heat. For large fires, the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure.
Further information	Allow the fire to burn under controlled conditions. The fire should not be extinguished unless the flow of gas can be immediately stopped. Stop the leak if you can do it without risk. Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapours and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Use water to cool equipment, surfaces, and containers exposed to fire and excessive heat. For large fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Ventilate the area. Warn or evacuate occupants in surrounding and downwind areas if required due flammability of the material. Emergency eye wash capability should be available in the vicinity of any potential splash exposure. Promptly remove contaminated clothing and wash it before reuse.
Environmental precautions	Prevent entry into waterways, sewers, basements, or confined areas.
Methods for cleaning up	The product evaporates readily. Land Spill: Eliminate all ignition sources (no smoking, flares, sparks, or flames in the immediate area). CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. Allow the liquid to evaporate from the surface. All equipment used when handling the product must be grounded. Do not direct water at the spill or source of the leak. Do not touch or walk through spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate the area until the gas has dispersed. Prevent the spreading of vapours through sewers, ventilation systems, and confined areas. Use water spray to reduce vapours or divert vapour cloud drift. Avoid allowing water runoff to contact spilled material. Water Spill: Eliminate all ignition sources (no smoking, flares, sparks, or flames in the immediate area). Allow the liquid to evaporate from the surface.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Keep away from fire, sparks, and heated surfaces. No smoking near areas where material is stored or handled. Use only with adequate ventilation. The product should only be stored and handled in areas with suitably safe electrical classification. Hydrocarbon liquids including this product can act as a non-conductive flammable liquid (or static accumulators) and may form ignitable vapour-air mixtures in storage tanks or other containers. Precautions to prevent static-initiated fire or explosion during transfer, storage or handling should be taken, including but not limited to ground and bond containers during product transfers. Grounding and bonding may not be adequate protection to prevent ignition or explosion of hydrocarbon liquids and vapours that are static accumulators.

Conditions for safe storage, including incompatibilities	Keep away from flame, sparks, excessive temperatures, and open flame. Use approved containers suitable for this product, temperature, and pressure. Keep containers closed and clearly labelled. Empty or partially full product containers or vessels may contain explosive vapours. Do not pressurize, cut, heat, weld or expose containers to sources of ignition. Store in a well-ventilated area. The storage area should comply with local and national legislation and standards. Contact your gas supplier if in doubt. Incompatible with oxidizing agents.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Guideline:

List	Components	CAS-No	Type	Value
OSHA Z1	Propane	74-98-6	PEL	1,000 ppm 1,800 mg/m3
ACGIH	Butane	106-97-8	TWA	1,000 ppm
	Isobutane	75-28-5	TWA	1,000 ppm
	Propane	74-98-6	TWA	1,000 ppm

Protective measures	Avoid contact with skin. When using do not smoke. Keep out of reach of children. Keep away from heat and flame. Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration, and ventilation. Information on the selection of protective equipment for material is based upon intended, normal usage.
Eye protection	Goggles and face shields as needed to prevent eye and face contact.
Hand protection	Suitable gloves made of plastic or rubber. If contact with forearms is likely, wear gauntlet-style gloves.
Skin and body protection	Where contact with liquid may occur, wear an apron and face Shield. Flame-resistant clothing is recommended in areas where material is stored or handled.
Respiratory protection	Use a positive pressure-supplied air respirator or self-contained breathing apparatus if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.
Work / Hygiene practices	Emergency eye wash capability should be available in near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove contaminated clothing and wash it before reuse.
Engineering Controls	Use only flameproof electrical equipment approved for use in classified areas. Adequate ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless gas. Cold vapour clouds may be white, but the lack of visible gas clouds does not indicate the absence of gas. A colourless liquid when pressurized.
Odour	Sweet odour. Poor warning properties in low concentrations.
Odour threshold	No data available
Melting point/freezing point	Butane -138°C; Propane -188°C
Initial boiling point & range	Butane -0.5°C; Propane -42.1°C at 101.3 kPa
Flash point	< -60 °C Method: ASTM D 92
Evaporation rate	High
Flammability (solid, gas)	Extremely Flammable
Lower flammability limit	1.8 % Vol
Upper flammability limit	9.5 % Vol
Vapour pressure	Butane 2.1 bar; Propane 8.1 bar at 25°C
Vapour density	Butane 2.1; Propane 1.5 (Air = 1.0)
Relative density	Butane 0.575; Propane 0.51 at 20°C
Solubility (H20)	Butane 88mg/ℓ; Propane 75mg/ℓ
Partition coefficient (Octanol/H2O)	Butane 2.89 $_{\log pow}$; Propane 2.36 $_{\log pow}$
Auto Ignition temperature	Butane 365°C; Propane 470°C
Decomposition temperature	Heating may cause a fire or explosion. The material does not decompose at ambient temperatures. Carbon monoxide, carbon dioxide, and non-combusted hydrocarbons (smoke) are possible hazardous decomposition products.
Viscosity	No data available
Conductivity	Hydrocarbon liquids without static dissipater additive may have conductivity below 1 pico Siemens per meter (pS/m). The highest electro-static ignition risks are associated with “ultra-low conductivities” below 5pS/m.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Vapours may form an explosive mixture with air.
Chemical Stability	Stable under normal conditions.
Hazardous reactions	Can react with strong acids and strong oxidizers.
Conditions to avoid	Keep away from flame, sparks, excessive temperatures, and open flame.
Incompatible materials	Can react with strong acids and strong oxidizers

SECTION 11. TOXICOLOGICAL INFORMATION

Inhalation	May cause central nervous system disorder (e.g. narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Simple asphyxiate: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness, and death. Since exercise increases the tissue's need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21% by volume. Exposure to high concentrations may cause cardiac sensitization.
Ingestion	Considered unlikely.
Skin and eye contact	Not classified as an irritant. Rapid release of gases which are liquids under pressure may cause frost burns of exposed tissues (skin, eye) due to evaporative cooling.
Chronic Toxicity	No chronic effects
Mutagenicity	No evidence of mutagenic potential
Carcinogenicity	No evidence of carcinogenic effects
Toxicity to Reproduction	No evidence of toxicity to reproduction

SECTION 12. ECOLOGICAL INFORMATION

Bioaccumulation	Accumulation in aquatic organisms is unlikely.
Toxicity to fish	Not expected to be harmful to aquatic organisms
Additional ecological information	Liquid release is only expected to cause localized, non-persistent environmental damage, such as freezing. Biodegradation of this product may occur in soil and water. Volatilization is expected to be the most important removal process in soil and water. This product is expected to exist entirely in the vapour phase in ambient air.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:
Small amounts may be blown to the atmosphere under controlled conditions. Large amounts should only be handled by the gas supplier. In general, should it become necessary to dispose of the mixture, the best procedure, as for other flammable gases, is to burn them in any suitable burning unit available in the plant. This should be done in accordance with appropriate regulations
Packaging: The disposal of cylinders must only be handled by the gas supplier

SECTION 14. TRANSPORT INFORMATION

UN Pictogram

Land and inland navigation transport ADR/RID
UN No. 1075, Shipping Name Flammable mixture-gas, ERG No. 115, Class 2.1, Subsidiary Risk: Flammable Gas 1, Hazchem Warning 2A-Flammable gas.

Marine transport IMDG
MDG 1075, Shipping Name Flammable mixture - gas, ERG No. 115, Class 2.1, Subsidiary Risk: Flammable Gas 1, Hazchem Warning Flammable gas.

Air transport ICAO/IATA-DGR
ICAO/IATA Code 1075, Class 2.1, Subsidiary risk Flam gas 1, Packaging instructions: Cargo: 200, Passenger: Forbidden

Special precautions for user
The protective measures listed in Sections 6, 7, and 8 of the Safety Data Sheet have to be considered.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:
Occupational Health and Safety Act, Hazardous Chemical Agents Regulations
SANS 11014:2010 Edition 1
SANS 10228:2012 Edition 6
SANS 10234:2019 Edition 2
SUPPLEMENT TO SANS 10234 Edition 1
National Road Traffic Act
Dangerous Goods Regulations

SECTION 16. OTHER INFORMATION

SELECTED BIBLIOGRAPHY

1. Data sheets as supplied by various Suppliers and Manufacturers
2. Emergency Response Handbook - Annex A of SABS 0232-3
3. GHS Purple booklet
4. Handling Chemicals Safety, 2nd. Ed. Dutch Association of Safety Experts, Dutch Chemical Industry Association, Dutch Safety Institute, 1980
5. NIOSH Pocket Guide to Chemical Hazards, NIOSH, June 1990
6. ECHA
7. Occupational Health and Safety Act, Hazardous Chemical Agents Regulations
8. SANS 11014:2010 Edition 1
9. SANS 10228:2012 Edition 6
10. SANS 10234:2019 Edition 2
11. SUPPLEMENT TO SANS 10234 Edition 1
12. National Road Traffic Act

13. Dangerous Goods Regulations

S/R- phrases:
R12 – Extremely Flammable
R18 – In use may form a flammable explosive vapour –air mixture.
R44 – Risk of explosion if heated under confinement.
S2 Keep out of reach of children
S3 Keep in a cool place
S9 Keep the container in well-ventilated place
S15 Keep away from heat
S29 Do not empty into drains
S16 Keep away from sources of ignition
S33 Keep away from static discharge
S41 in case of fire and/or explosion do not breathe fumes

Disclaimer:
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety, and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.