



EQUIPMENT FOR L.P. GAS

Material Safety Data Sheet.

Hi-Pro® (Propylene).

Data sheet No. 4 Rev. 01 (04/14)

This data sheet has been prepared in accordance with the requirements of Article 31 of EU Regulation 1907/2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Section 1 – Product and company identification.

Product Name: Hi-Pro® Gas.
Chemical Name: Propylene 99.5% / Propane 0.5%.
Chemical Formula: C_3H_6 / C_3H_8

Bullfinch (Gas Equipment) Limited
Diadem Works,
Kings Road,
Tyseley,
Birmingham B11 2AJ.
Tel: 0121 765 2000

Section 2 – Composition/Information on Ingredients.

Substance/Preparation: Preparation.

Description: Liquefied petroleum gas consisting predominately C_3 Hydrocarbons supplied as a fuel in a closed system.

As a liquefied petroleum gas, which occurs in nature and is not chemically modified this is exempted from Titles II (Registration), V (Downstream Users) and VI (Evaluation) of the EU REACH (registration, Evaluation, Authorisation and Restriction of Chemicals) Regulation by virtue of article 2(7).

CAS Number: 115-07-1 (Propylene). 74-98-6 (propane).

EINECS Number: 204-062-1 (Propylene). 200-827-9 (Propane).

Section 3 – Hazards Identification.

- Extremely Flammable (F+).
- Readily forms an explosive air-vapour mixture at ambient temperature.
- Vapour is heavier than air and may travel to remote sources of ignition (e.g. along drainage systems, into basements etc.).
- Liquid leaks generate large volumes of flammable vapour (approximately 250:1).
- Cold burns (frostbite) will result from skin/eye contact with liquid.
- Liquid release or vapour pressure jets present a risk of serious damage to the eyes.
- Abuse involving willful inhalation of high concentrations of vapour, even for short periods, can produce unconsciousness and might prove fatal. Inhalation may cause irritation to the nose and throat, headache, nausea, vomiting, dizziness and drowsiness. In poorly ventilated or confined spaces, unconsciousness or asphyxiation may result.



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Section 4 - First Aid Measures:

Inhalation:	Remove the affected person to fresh air. If breathing has stopped, administer artificial respiration. Give external cardiac massage if necessary. If the person is breathing, but unconscious, place in the recovery position. Obtain medical assistance immediately.
Skin:	In case of cold burns, flush with water to normalize temperature and until circulation returns. Cover burns with sterile dressings. Do not apply ointments or powders. Obtain medical assistance immediately.
Eyes:	Cold burns should be flushed immediately with tepid water to normalize temperature. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Cover eye with sterile dressing and obtain medical assistance immediately.
Ingestion:	Risk of ingestion is extremely low. Obtain medical assistance immediately.

Section 5 - Fire Fighting Measures:

These materials are delivered, stored and used at temperatures above their flash point. Avoid all naked flames, sparks, cigarettes etc.

- **IN CASE OF FIRE, VACATE THE AREA AND IMMEDIATELY ALERT THE FIRE BRIGADE.**
- Ensure an escape path is always available from any fire.
- If gas has ignited, do not attempt to extinguish but, if safe to do so, stop gas flow and allow to burn out.
- Use water spray to cool heat –exposed containers, and to protect surrounding areas and personnel effecting shut-off.
- Beware of vapour accumulating to form explosive concentrations. Explosive vapour may travel, be ignited at remote locations and flash back. A water spray may be used for vapour dispersal.

Pressurised containers are liable to explode violently when subjected to high temperatures.

Every precaution must be taken to keep containers cool to avoid the possibility of a boiling liquid expanding vapour explosion (BLEVE).

Extinguishing Media:

Large fire:	<ul style="list-style-type: none">• None. Product flow must be stopped and container cooled by water spray. Water fog should be used to assist approach to source of the fire. Large fires should only be fought by the Fire Brigade.• DO NOT USE WATER JET.
Small fire:	<ul style="list-style-type: none">• Dry powder.• DO NOT USE WATER OR FOAM.

Special Protective Equipment



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for Fire Fighters: In confined spaces use self-contained breathing apparatus.

Hazardous Combustion Products: Incomplete combustion may form carbon monoxide.

Section 6 – Accidental release Measures:

Immediate Emergency Action:

- Clear people away from the area to a safe place.
- Do not operate electrical equipment unless flame proof.
- Summon the emergency services.
- Treat or refer casualties if necessary.

Further Action – Fire:

If Safe:

- Stop product flow.
- Use dry powder or carbon dioxide extinguishers.
- Cool containers exposed to fire by water fog/spray.

Further Action – Spillage:

If Safe:

- Extinguish all naked lights, e.g. cigarettes – AVIOD MAKING SPARKS. Do not use a mobile phone.
- Isolate power from sources of ignition and ventilate the area.
- Position fire fighting equipment.
- Try to stop the flow of liquid product.
- Cover drains and sewers. Disperse vapour with water spray.

Note: Vapour may collect in confined spaces.

INFORM THE RELEVANT AUTHORITIES IF A MAJOR SPILLAGE OCCURS

Section 7 – Handling and Storage.

General: Bullfinch disposable cylinders containing Liquefied Propane Gas are designed to give vapour offtake only,

- Cylinders must be used in the vertical position unless the equipment fitted to the cylinder specifically allows the cylinder to be used in an inverted position.

Storage: Bullfinch disposable cylinders containing Liquefied Propane gas must be stored in a well ventilated storeroom segregated from oxidant gases and other oxidants in store. Reference should be made to the relevant Codes of Practice for Safe Storage and Handling of LPG produced by HSE and UKLPG.

- Keep away from sources of ignition.
- Keep container below 50°C in a well ventilated place.
- Store cylinders upright.

Section 8 – Exposure Controls – Personal Protection.

Exposure Limit Values: Bullfinch Hi-Pro® Gas is not subject to a specific Occupational Exposure Limit (OEL). However as a Liquefied Petroleum Gas the following limits should be applied:
500 ppm. ACGIH TWA.



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Personal Protective Equipment:

- Wear suitable protective gloves and overalls to prevent cold burns and frostbite.
- When handling cylinders wear protective footwear to BS EN 345.
- If operations are such that significant exposure to vapour may be anticipated, then suitable approved respiratory equipment should be worn.

Section 9 – Physical and Chemical Properties.

Appearance:	Colourless liquefied gas.
Odour:	Odorant added to provide a distinctive smell.
Boiling Point:	-47°C.
Flash Point:	-108°C.
Flammability Limits:	2% to 11% in air.
Auto Flammability:	460 – 580°C.
Vapour Pressure:	7.56 bar at 21°C.
Specific Gravity (Liquid):	0.52 at 15°C. (Water = 1.0).
Specific Gravity (Vapour):	1.5 at 15°C. (Air = 1.0).
Solubility in Water:	0.61 g/m ³ .

Section 10 – Stability and Reactivity.

Bullfinch Liquefied Hi-Pro® is stable at ambient temperatures. Hazardous polymerization may occur, and, it can form an explosive mixture with air.

Conditions to Avoid:

- Sources of ignition.
- Storage above 50°C.

Materials to Avoid:

Propane reacts violently with strong oxidizing agents (e.g. chlorates which may be used in agriculture), peroxide, plastics, chlorine dioxide and concentrated nitric acid.

Decomposition Products:

The substances arising from the thermal decomposition of these products will largely depend upon the conditions bringing about decomposition. The following hazardous substances may be expected from normal combustion:

- Carbon Dioxide.
 - Carbon Monoxide may be produced (if there is insufficient air for complete combustion).
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Section 11 – Toxicology Information.**Eye Contact:**

Contact with liquid Hi-Pro® gas will present a risk of serious damage to the eyes.

Skin Contact:

Contact with liquid Hi-Pro® gas will cause cold burns and frost bite to the skin.

Inhalation:

Low vapour concentrations may cause nausea, dizziness, headaches and drowsiness. May have a narcotic effect if high concentrations are inhaled. High vapour concentrations may produce symptoms of oxygen deficiency which, coupled with central nervous system depression may lead to rapid loss of consciousness.



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Volatile Substance Abuse:	Under normal conditions of use the product is not hazardous; however, abuse involving deliberate inhalation of very high concentrations of vapour, even for short periods, can produce unconsciousness and/or result in a sudden fatality.
Carcinogenicity:	No known behaviour.
Mutagenicity:	No known behaviour.
Tetratogenicity:	No known behaviour.

Section 12 – Ecological Information.

No known ecological effects from this product.

Section 13 – Disposal Considerations.

- Bullfinch 400g Hi-Pro® disposable gas cylinders must not be refilled; once they are empty they may be discarded in a safe manner.
 - Do not discharge product into areas where there is a risk of forming an explosive mixture with air.
 - Empty cylinders may contain some remaining product. Hazard warning labels are a guide to the safe handling of cylinders and should not be removed.
 - For the safe disposal of empty cylinders a tool is available from Bullfinch (Gas Equipment) limited that enables the relief valve to be removed so that any residual gas can be vented to air before the cylinder can be disposed of as scrap or recyclable steel.
 - This operation must be carried out with the utmost care and should only be carried out in an outdoor environment.
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Section 14 – Transport Information.

UN Classification number:	UN 1077
Proper shipping name:	Propylene
Class/Division:	2.1
ADR/RID:	2F
Hazchem Code:	2YE.
Hazard Identification Number:	23
Symbol:	Flammable Gas

Section 15 – Regulatory Information:

EC classification:	F+; R12
Symbols:	Road transport symbols are used and selected to the most stringent product classification.
EC or ADR:	Model No. 2.1: Flammable gas.
Risk Phrases:	R12 Extremely flammable.
Safety Phrases:	S2 Keep out of reach of children.
	S9 Keep in a well ventilated space.
	S16 Keep away from sources of ignition – NO SMOKING.
	S33 Take precautionary measures against static discharge.

Section 16 – Other Information.



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Gas Valve connection: CGA 600 (1" x 20 UNEF mal thread)

- Ensure that all national/local regulations are observed.
- Ensure all users of this product understand the flammability hazard and hazards of asphyxiation.
- Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

The UKLPG produce over 30 Industry Codes of Practice, which can be obtained from UKLPG. For a comprehensive publication list please go to the UKLPG website www.uklpg.org

Further guidance can be obtained from the HSE. Publications can be purchased from HSE Books, PO Box 1999, Sudbury, Suffolk, CO10 6FS. Tel: 0178 881165 or www.hsebooks.co.uk

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