murco petroleum limited

MATERIAL SAFETY DATA SHEET

PROPANE

1 IDENTIFICATION OF THE SUBSTANCE & OF THE COMPANY / UNDERTAKING

IDENTIFICATION OF THE SUBSTANCE OR PREPARATION:

Propane

A liquified petroleum gas with applications including gaseous fuel for domestic, commercial and industrial uses; internal combustion engine fuel; aerosol propellant; chemical feedstock.

COMPANY IDENTIFICATION: **Murco Petroleum Limited**
4 Beaconsfield Road
St.Albans, Hertfordshire
AL1 3RH

EMERGENCY TELEPHONE NO: 0870 190 6777

2 COMPOSITION / INFORMATION ON INGREDIENTS:

Substances presenting a health hazard:

Propane: Chemical formula: C3H8

Propane
CAS No. 74-98-6 EINECS No. 200-827-9

Symbol(s) F+ : Extremely flammable

R Phrase(s) 12

3 HAZARDS IDENTIFICATION

Extremely flammable liquefied gas. Asphyxiant. Frostbite from contact with liquid.

Eyes: Liquid or cold vapour may cause frostbite and corneal damage.

Skin: Liquid or cold vapour may cause frostbite

Inhalation: As a simple asphyxiant, symptoms of oxygen deficiency, leading to loss of consciousness if exposure continues

Exposure to vapour at high concentration may cause:
central nervous system depression
loss of consciousness
cardiac sensitisation leading to risk of fatal arrhythmias

4 FIRST AID MEASURES

TYPE OF EXPOSURE	**FIRST AID MEASURES**
Ingestion	**Ingestion**
Not normally applicable.	Immediately seek hospital attention
Skin	**Skin**
Liquid or cold vapour may cause frostbite.	Thaw the affected area by placing in warm water (40 - 42 °C). Obtain medical attention.
Eyes	**Eyes**
Liquid or cold vapour may cause frostbite and corneal damage.	Immediately flood the eye with plenty of water, preferably warm, for at least 20 minutes, holding the eye open. Obtain medical attention urgently.
Inhalation	**Inhalation**
May cause symptoms of oxygen deficiency, leading to loss of consciousness if exposure continues	Remove from exposure. Keep warm and at rest. If breathing difficult give oxygen. If breathing stops, give artificial respiration. If heartbeat absent, give external cardiac compression.

5 FIRE-FIGHTING MEASURES

Extinguish with Dry Powder or Carbon dioxide only. Do not extinguish a leaking gas flame unless absolutely necessary.

Isolate source of gas if possible Otherwise allow fires to burn out under controlled conditions.

Keep containers and surroundings cool with water spray. Disperse any accumulating vapour with water spray.

Do not use water jets.

Be aware of the possibility of re-ignition.

Wear full protective clothing and self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

Consider the need for evacuation. Eliminate all sources of ignition.

Disperse vapour with water spray. Allow to evaporate if safe to do so, or contain or absorb using earth, sand or other inert material.

7 HANDLING AND STORAGE

7.1 Handling

Avoid contact with eyes, skin and clothing. Adequate ventilation should be provided where there is risk of vapour build-up. Vessels should preferably be bottom filled. Filling arrangements should minimise the possibility of splashing. Never subject cylinders to severe mechanical shock

7.2 Storage

Store away from sources of heat or ignition. Storage tanks must be positioned within a bunded area. Storage and transfer equipment should be adequately earthed and bonded to prevent the accumulation of static charges. Pipes which can entrap liquid or vapours require pressure release facilities.

Auto refrigeration: drains can become plugged and valves may become inoperable because of formation of ice due to expanding vapours or vapourising liquids.

Suitable storage materials include aluminium and its alloys, mild steel and stainless steel.

8 EXPOSURE CONTROL / PERSONAL PROTECTION

Simple asphyxiant. The minimal atmospheric oxygen concentration should be 18% by volume under normal atmospheric pressure.

Respiratory protection - Unlikely to be required in normal use but ensure good ventilation - note classified Extremely Flammable. It is suggested that exposure is kept well below the current occupational exposure standards for this type of liquified petroleum gas in EH 40 -

8 hour TWA	- 600 ppm - 1450 milligrams per cubic metre
15 minute STEL	- 750 ppm - 1810 milligrams per cubic metre

Hand protection: leather, thick textile or other thermal gloves

Eye protection: suitable chemical goggles must be worn

Body protection: anti-static footwear

9 PHYSICAL AND CHEMICAL PROPERTIES

Typical properties:

Appearance	gas or liquefied gas - colourless
Odour	typical
pH	not soluble in water
Boiling point / boiling range °C	boils above -45
Melting point / melting range °C	melts above -189
Flash Point (PMC) °C	-105
Flammability limits %	2.2 -9.5
Autoflammability °C	450
Explosive properties	n/a
Oxidising properties	n/a
Vapour pressure hPa @ 20°C	7800 to 8500
Density @ 20°C, kg/m$^{3=}$	506 to 510
Solubility - water	insoluble
Partition coefficient n-octanol/water	n/a
Relative Vapour Density (Air = 1)	1.4 to 1.55

10 STABILITY AND REACTIVITY

Stability: stable at ambient temperatures, hazardous polymerisation reactions will not occur

Conditions to Avoid - sources of ignition

Materials to Avoid -. Nitric acid, nitrogen dioxide Sulphuric acid. Oxidising agents.

Hazardous Decomposition Products - oxides of carbon

11 TOXICOLOGICAL INFORMATION

Acute toxicity: is of a low order: not considered toxic during normal handling

12 ECOLOGICAL INFORMATION

The product is gaseous and will partition to the air phase where it will be rapidly broken down by hydroxyl radicals

96 hour LC50 – fish >1000 mg/l

13 DISPOSAL CONSIDERATIONS

If recovery is not possible, allow to evaporate, if it is safe. If not, then incinerate.

Empty containers may contain hazardous residues; do not cut, puncture or weld, or remove labels, until cleaned. Return all cylinders to supplier

14 TRANSPORT INFORMATION

TRANSPORT CLASSIFICATION

HAZCHEM Code:	2/WE:
UN:	Propane
	S.I.N. 1978
IMO	Class 2 (2.1)
ICAO	Class 2.1
ADR/RID	Class 2 Flammable (F)

15 REGULATORY INFORMATION

Classification: Extremely Flammable
Symbol: Black flame on orange background

Risk Phrase

R12 - Extremely flammable

Safety Phrases:

(S2) - Keep out of reach of children)
S9 - Keep containers in a well ventilated place
S16 - Keep away from sources of ignition - no smoking
S33 - Take precautionary measures against static discharges

16 OTHER INFORMATION

Further information can be found in Health and Safety Executive publications, a list of which may be made available on request from HSE Books - Tel: 01787 881165

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