

# SAFETY DATA SHEET

## PROPANE



### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

<b>Product name</b>	: PROPANE
<b>Commercial name(s).</b>	: Propane
<b>EC number</b>	: 200-827-9
<b>REACH Registration number</b>	: Registration exempt under Regulation (EC) No. 1907/2006 (REACH), Annex V
<b>CAS number</b>	: 74-98-6
<b>Product code</b>	: Not available.
<b>Other means of identification</b>	: Not available.
<b>Chemical formula</b>	: C <sub>3</sub> H <sub>8</sub>

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

<b>Identified uses</b>	: A liquified petroleum gas with applications including gaseous fuel for domestic, commercial and industrial uses; internal combustion engine fuel; aerosol propellant; chemical feedstock.
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#### 1.3 Details of the supplier of the safety data sheet

Murco Petroleum Limited  
 4 Beaconsfield Road  
 St.Albans  
 Hertfordshire  
 AL1 3RH  
 Tel: 01727 892400  
 Web Site: <http://www.murco.co.uk/welcome.htm>

**e-mail address of person responsible for this SDS** : [murco\\_msds@murphyoilcorp.com](mailto:murco_msds@murphyoilcorp.com)

#### 1.4 Emergency telephone number

##### National advisory body/Poison Centre

**Telephone number** : Carechem24 Agreement through AEA Technology Plc who act through its National Emergency Centre.  
 0870 190 6777  
 (7/24)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Product definition** : Mono-constituent substance

##### Classification according to Directive 67/548/EEC [DSD]

F+; R12

See Section 16 for the full text of the R phrases declared above.

See Section 11 for more detailed information on health effects and symptoms.

#### 2.2 Label elements

**Hazard symbol or symbols** : **F+**





## SECTION 2: Hazards identification

**Risk phrases** : R12- Extremely flammable.  
**Safety phrases** : S9- Keep container in a well-ventilated place.  
 S16- Keep away from sources of ignition - No smoking.  
 S33- Take precautionary measures against static discharges.

**Contains** : Propane  
**Supplemental label elements** : Not applicable.

### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** : Not applicable.  
**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII** : No.  
**Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : Not available.  
**Other hazards which do not result in classification** : Not available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/preparation** : Mono-constituent substance

Ingredient name	CAS number	%	EC number	Classification
Propane	74-98-6	100	200-827-9	F+; R12 [A]
Propylene		60 - 100		F+; R12
Butane		60 - 100		F+; R12 [2]
Ethylene	74-85-1	60 - 100	200-815-3	F+; R12 [1] [2] R67
<b>See section 16 for the full text of the R-phrases declared above</b>				

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

- [1] Substance classified with a health or environmental hazard  
 [2] Substance with a workplace exposure limit  
 [3] PBT-substance  
 [4] vPvB-substance

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids.  
**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes.  
**Inhalation** : Move exposed person to fresh air.  
**Ingestion** : As this product is a gas, refer to the inhalation section.

### 4.2 Indication of any immediate medical attention and special treatment needed



## SECTION 4: First aid measures

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical or CO<sub>2</sub>.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide

### 5.3 Advice for firefighters

- Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

- : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.
- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

### 6.4 Reference to other sections

- : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.



## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use.

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
Propane	Oxygen Depletion [Asphyxiant]

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

### 8.2 Exposure controls

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.

#### Individual protection measures

**Hygiene measures** : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

**Eye/face protection** : Safety eyewear should be used when there is a likelihood of exposure. Recommended: Chemical splash goggles.

#### Skin protection

**SECTION 8: Exposure controls/personal protection**

- Hand protection** : Use gloves appropriate for work or task being performed. Recommended: Leather gloves.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Overalls.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Flame-resistant antistatic protective clothing.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Ensure an MSHA/NIOSH-approved respirator or equivalent is used.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**Appearance

- Physical state** : Gas or liquefied gas.
- Colour** : Colourless.
- Odour** : Typical
- pH** : Not soluble in water.
- Melting point/freezing point** : -189°C
- Initial boiling point and boiling range** : -45°C
- Flash point** : Closed cup: -105°C [Pensky-Martens.]
- Evaporation rate** : >1 (ether (anhydrous) = 1)
- Flammability** : Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.  
Highly flammable in the presence of the following materials or conditions: heat.
- Upper/lower flammability or explosive limits** : Lower: 2.2%  
Upper: 9.2%
- Vapour pressure** : 1039.9 to 1133.2 kPa [20°C]
- Vapour density** : 1.4 to 1.55 [Air = 1]
- Relative density** : 0.59
- Specific gravity** : 0.59 g/cm<sup>3</sup>
- Solubility(ies)** : Insoluble
- Auto-ignition temperature** : 450°C
- Viscosity** : Not applicable.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.



## SECTION 10: Stability and reactivity

**10.5 Incompatible materials** : Nitric acid, nitrogen dioxide, sulphuric acid and oxidising agents.

**10.6 Hazardous decomposition products** : Decomposition products may include the following materials:  
carbon oxides

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

#### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Dermal, Inhalation.

#### Potential acute health effects

**Inhalation** : No known significant effects or critical hazards.

**Ingestion** : As this product is a gas, refer to the inhalation section.

**Skin contact** : Contact with rapidly expanding gas may cause burns or frostbite.

**Eye contact** : Contact with rapidly expanding gas may cause burns or frostbite.

#### Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation** : May cause symptoms of oxygen deficiency, leading to loss of consciousness if exposure continues.

**Ingestion** : No specific data.

**Skin contact** : No specific data.

**Eye contact** : No specific data.

#### Delayed and immediate effects and also chronic effects from short and long term exposure

##### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

##### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Propane	LC50 >1000 mg/l	Fish	96 hours

**Remarks** : Not available.

### 12.2 Persistence and degradability

**Remarks** : Not available.



## SECTION 12: Ecological information

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : No.

**vPvB** : Not available.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.





**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## SECTION 14: Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
<b>14.1 UN number</b>	UN1978	UN1978	UN1978	UN1978
<b>14.2 UN proper shipping name</b>	PROPANE	PROPANE	PROPANE	PROPANE
<b>14.3 Transport hazard class(es)</b>	2 	2 	2.1 	2.1 
<b>14.4 Packing group</b>	-	-	-	-
<b>14.5 Environmental hazards</b>	No.	No.	No.	No.



## SECTION 14: Transport information

<b>14.6 Special precautions for user</b>	Not available.	Not available.	Not available.	Not available.
<b>Additional information</b>	<b>Hazard identification number</b> 23  <b>Limited quantity</b> LQ0  <b>CEPIC Tremcard</b> 20S1978	-	-	<b>Passenger and Cargo Aircraft</b> Quantity limitation: Forbidden <b>Cargo Aircraft Only</b> Quantity limitation: 150 kg

PG\* : Packing group

Exemption to the above classification may apply.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU Regulation (EC) No. 1907/2006 (REACH)

##### Annex XIV - List of substances subject to authorisation

##### Substances of very high concern

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

#### Other EU regulations

**Europe inventory** : This material is listed or exempted.

**Black List Chemicals** : Not listed

**Priority List Chemicals** : Not listed

**Integrated pollution prevention and control list (IPPC) - Air** : Not listed

**Integrated pollution prevention and control list (IPPC) - Water** : Not listed

**15.2 Chemical Safety Assessment** : Not available.

## SECTION 16: Other information

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number

**Full text of abbreviated R phrases** : R12- Extremely flammable.  
 R67- Vapours may cause drowsiness and dizziness.

**Full text of classifications [DSD/DPD]** : F+ - Extremely flammable

#### History

**Date of issue (dd/mm/yyyy)** : 16/12/2010

**Version** : 1



## SECTION 16: Other information

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.