

# OPERATING & SAFETY GUIDE

## PROPANE SAFETY DATA

### Substance Identification

Product Name Propane  
Chemical Formula C3 H8

### Composition

Preparation: Substance  
Components/ Impurities: Contains no other components or impurities which will influence the classification of the product.

CAS Nr74-98-6 EEC Nr 200-827-9 ASHRAE Nr R290

### Hazards Identification

Extremely flammable Liquefied Gas

### Stability/Reactivity

Can form explosive mixture with air. May react violently with oxidants.

### Toxicological Information

No known toxicological effects from this product.

### Ecological Information

No known ecological damage caused by this product.

### Physical & Chemical Properties

Appearance/Colour: Colourless gas.  
Odour Sweetish. Poor warning properties at low concentrations.  
Stenchant (odour additive) often added.

### Other Properties

Gas/Vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

Molecular Weight	44
Melting Point	-180 C
Boiling Point	-42.1 C
Critical Temperature	97 C
Relative Density - Gas	1.5 (air=1)
Relative Density - Liquid	0.58 (water=1)
Vapour Pressure 20 C	8.3 bar
Solubility mg/l water	75 mg/l
Auto-ignition Temperature	470 C
Flamability Range	2.2 – 9.5 vol% in air

### Exposure Control

**Ensure adequate ventilation.**  
**Do not smoke while handling product.**  
**First Aid Measures**

### Inhalation

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of coordination. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

### Skin/Eye Contact

In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Immediately flush eyes thoroughly with water for at least 15 minutes. Obtain medical assistance.

### Ingestion

Ingestion is not considered a potential route of exposure.

### Fire Fighting Measures

### Specific Hazards

Exposure to fire may cause cylinders to rupture/explode.

### Inform Fire Brigade

### Combustion Bi-Product

Incomplete combustion may form carbon monoxide.

### Suitable Extinguishers

All extinguisher types can be used.

### Specific Methods

If possible, stop flow of product. Move away from container and cool with water from a protected position. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.

### Protective equipment

Fire fighters use self-contained breathing apparatus.

### Accidental Release Measures

### Personal Protection

Evacuate area.  
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.  
Ensure adequate air ventilation.  
Eliminate ignition sources.  
Post warning notices, including No Smoking

### Environmental Precautions

Try to stop release. Prevent from entering sewers, basements and work-pits or any place where its accumulation can be dangerous.

### Clean up Method

Ventilate area.

### Handling/Storage

- Ensure equipment is adequately earthed.
- Close cylinder valve when not in use to prevent contamination of the cylinder.
- Purge air from system before introducing gas.
- Do not allow back-feed into the container.
- Use only properly specified equipment which is suitable for this product, its supply pressure and temperature.
- Contact your gas supplier if in doubt.
- Keep away from heat and ignition sources (including static discharges).
- Segregate from oxidant gases and other oxidants in store.
- Refer to supplier's container handling instructions.
- Keep container below 50°C in a well ventilated place