



# Safety Data Sheet

Document No: SOXAL/SDS/70  
Revision No: Rev. 1  
Revision Date: 01 Jan. 08  
Issue/Print Date:

## BLUESHIELD™ 18

### 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

**Commercial name** BLUESHIELD 18  
**Product name** Hydrogen in Argon  
**Chemical name/formula** H<sub>2</sub> in Ar  
**Company identification** See header and footer  
**Emergency phone no.** See footer

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Substance/Preparation** Substance  
**Components/Impurities** Hydrogen: 1 – 5%  
Argon: 95 – 99%  
**CAS No.** 1333-74-0 Hydrogen  
7440-37-1 Argon

### 3. HAZARDS IDENTIFICATION

**General**

- Non-flammable compressed gas.
- In high concentrations may cause asphyxiation.

### 4. FIRST-AID MEASURES

**Inhalation**

- In high concentrations may cause asphyxiation. Symptoms may include loss of mobility or consciousness. Victim may not be aware of asphyxiation.
- 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**

- No adverse effects anticipated.

**Ingestion**

- Ingestion is not considered a potential route of exposure.

### 5. FIRE-FIGHTING MEASURES

**Specific hazards**

- Exposure to fire may cause containers to rupture or explode.

**Hazardous combustion products**

- None.

**Suitable extinguishing media**

- All known extinguishants can be used.

**Specific methods**

- If possible, stop flow of product.
- Move container away or cool with water from a protected position.

**Special protective equipment (for fire fighters)**

- In confined space, use a self-contained breathing apparatus.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

- Evacuate area.
- Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

- Ensure adequate air ventilation.

**Environmental precautions**

- Try to stop release.

**Clean up methods**

- Ventilate area.

### 7. HANDLING & STORAGE

**General**

- Suck back of water into the container must be prevented. Do not allow back-feed into the container.
- Use only properly specified equipment, which is suitable for this product, its supply pressure and temperature.
- Keep container below 50°C in a well-ventilated place.
- Refer to SOXAL's booklet on "safe handling, transport and storage of compressed gas cylinder" or contact SOXAL if in doubt.

### 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

**Exposure limit value**

- None

**Personal protection**

- Ensure adequate ventilation.

### 9. PHYSICAL & CHEMICAL PROPERTIES

**Molecular weight** Not applicable  
**Melting point** - 191°C (Argon)  
**Boiling point** Not applicable  
**Critical temperature** - 240°C (Hydrogen)  
**Relative density, gas** 1.34 (air = 1)  
**Relative density, liquid** Not applicable  
**Vapour pressure @ 20°C** Not applicable  
**Solubility mg/l water** Partially soluble  
**Appearance/Colour** Colourless gas  
**Odour** No odour warning properties  
**Auto-ignition temperature** Not applicable  
**Flammability range** Not flammable  
**Others** Gas or vapour is heavier than air. May accumulate in confined space, particularly at or below ground level.

### 10. STABILITY & REACTIVITY

**General**

- Stable under normal conditions.

### 11. TOXICOLOGICAL INFORMATION

**General**

- No known toxicological effects from this product.

For product and/or safety enquiry, please send, call, fax or log on to:

**SINGAPORE OXYGEN AIR LIQUIDE PTE LTD**  
16, Jalan Buroh, Singapore 619475.

Tel: (65) 6265 3788 or 6265 4555 Fax: (65) 6265 1441 or 6268 8403 Website: [www.soxal.com](http://www.soxal.com) Business Registration No: 197001157D

## BLUESHIELD™ 18

### 12. ECOLOGICAL INFORMATION

- General**
- No known ecological effects from this product.

### 13. DISPOSAL CONSIDERATIONS

- General**
- Do not discharge into any place where its accumulation could be dangerous.
  - Vent to atmosphere in a well ventilated place.
  - Contact SOXAL if guidance is required.

### 14. TRANSPORT INFORMATION

- UN No.** 1956  
**Class/Division** 2.2 (Non-Flammable Gas)  
**Subsidiary risk** None  
**UN proper shipping name** Compressed Gas, N.O.S (Hydrogen in Argon)

**IMO/IATA shipping label**



**Other transport information**

- Avoid transport on vehicles where the load space is not separated from the driver's compartment.
- Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.
- Before transporting product containers, ensure that they are firmly secured and:
  - compliance with applicable regulations;
  - cylinder valve is closed and not leaking;
  - valve outlet cap nut or plug (where provided) is correctly fitted;
  - valve protection device (where provided) is correctly fitted; and
  - there is adequate ventilation.

### 15. REGULATORY INFORMATION

- General**
- Singapore's WSH (General Provisions) Regulations, Sections 42 & 43.
  - Singapore Standards:
    - CP 12:2000 Part 1
    - CP 98:2003
    - SS 152:2003
    - SS 286:1984 Part 1 to Part 5
- Risk and safety phrases**
- S09 – Keep container in a well ventilated place.
  - S51 – Use only in well ventilated area.

### 16. OTHER INFORMATION

- General**
- Ensure all local regulations or legislations are observed.
  - Asphyxiant in high concentrations. Keep container in a well-ventilated place. Do not breathe gas.
  - The hazard of asphyxiation is often overlooked and must be stressed before use.
  - Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

----- End of Document -----

**Disclaimer:**

The information, recommendations and data contained in this document are intended to be used by properly trained and qualified personnel only and at their sole risks and discretion. The information, recommendations and data herein contained are derived from sources which we believe to be reliable. However, SOXAL makes no representation and gives no warranty of any kind whatsoever with respect to their accuracy or completeness and assumes no liability for damages or loss arising directly or indirectly from their use, whether proper or improper.

For product and/or safety enquiry, please send, call, fax or log on to:

**SINGAPORE OXYGEN AIR LIQUIDE PTE LTD**  
16, Jalan Buroh, Singapore 619475.

Tel: (65) 6265 3788 or 6265 4555 Fax: (65) 6265 1441 or 6268 8403 Website: [www.soxal.com](http://www.soxal.com) Business Registration No: 197001157D