



# Safety Data Sheet

Document No: SOXAL/SDS/88  
Revision No: Rev. 1  
Revision Date: 01 Jan. 08  
Issue/Print Date:

## LASAL 102

### 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Commercial name	LASAL 102
Product name	Carbon Monoxide, Carbon Dioxide, Nitrogen in Helium
Chemical name/formula	CO, CO <sub>2</sub> , N <sub>2</sub> in He
Company identification	See header and footer
Emergency phone no.	See footer

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Preparation	Substance
Components/Impurities	Carbon Monoxide: 1 – 3%
	Carbon Dioxide: 7-10%
	Nitrogen: 15-25%
	Helium: 62-77%
CAS No.	630-08-0 Carbon Monoxide
	124-29-9 Carbon Dioxide
	7727-37-9 Nitrogen
	7440-59-7 Helium

### 3. HAZARDS IDENTIFICATION

General	<ul style="list-style-type: none"><li>Very toxic by inhalation. In high concentrations may cause headache, dizziness, palpitations, weakness, nausea and followed by convulsions, fainting and death.</li><li>Because it is a colorless and odourless gas, nothing will warn from its presence, except for the above symptoms.</li></ul>
---------	--

### 4. FIRST-AID MEASURES

Inhalation	<ul style="list-style-type: none"><li>If inhaled, and persons still conscious, they must be brought far from uncontaminated area and allow to breathe fresh air. Wear self-contained breathing apparatus when moving victim.</li><li>Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.</li></ul>
Skin/Eye contact	<ul style="list-style-type: none"><li>No adverse effects anticipated.</li></ul>
Ingestion	<ul style="list-style-type: none"><li>Ingestion is not considered a potential route of exposure.</li></ul>

### 5. FIRE-FIGHTING MEASURES

Specific hazards	<ul style="list-style-type: none"><li>Exposure to fire may cause containers to rupture or explode.</li></ul>
Hazardous combustion products	<ul style="list-style-type: none"><li>Products of combustion are carbon oxides and nitrogen oxides.</li></ul>
Suitable extinguishing media	<ul style="list-style-type: none"><li>All known extinguishants can be used.</li></ul>
Specific methods	<ul style="list-style-type: none"><li>If possible, stop flow of product.</li><li>Move container away or cool with water from a protected position.</li></ul>

### 5. FIRE-FIGHTING MEASURES (continue)

Special protective equipment (for fire fighters)	<ul style="list-style-type: none"><li>In confined spaces, use a self-contained breathing apparatus.</li></ul>
--	---

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	<ul style="list-style-type: none"><li>Evacuate area.</li><li>Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.</li><li>Ensure adequate air ventilation.</li><li>Try to stop release.</li></ul>
Environmental precautions	
Clean up methods	<ul style="list-style-type: none"><li>Ventilate area.</li></ul>

### 7. HANDLING & STORAGE

General	<ul style="list-style-type: none"><li>Suck back of water into the container must be prevented. Do not allow back-feed into the container.</li><li>Use only properly specified equipment, which is suitable for this product, its supply pressure and temperature.</li><li>Keep container below 50°C in a well-ventilated place.</li><li>Refer to SOXAL's booklet on "safe handling, transport and storage of compressed gas cylinder" or contact SOXAL if in doubt.</li></ul>
---------	---

### 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

Exposure limit value (Carbon Monoxide, CO)	<ul style="list-style-type: none"><li>25 ppm PEL Short Term</li></ul>
Exposure limit value (Carbon Dioxide, CO <sub>2</sub> )	<ul style="list-style-type: none"><li>5,000 ppm PEL Short Term</li><li>30,000 ppm PEL Long Term</li></ul>
	Engineering controls
Person protection	<ul style="list-style-type: none"><li>Respiratory protection required.</li><li>General PPE required.</li></ul>

### 9. PHYSICAL & CHEMICAL PROPERTIES

Molecular weight	Not applicable
Melting point	- 243°C
Boiling point	Not applicable
Critical temperature	- 147°C (Nitrogen)
Relative density, gas	0.37 (air = 1)
Relative density, liquid	Not applicable
Vapour pressure @ 20°C	Not applicable
Solubility mg/l water	Partially soluble
Appearance/Colour	Colorless gas
Odour	No odour warning properties
Auto-ignition temperature	Not applicable
Flammability range	Not flammable

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

## LASAL 102

### 10. STABILITY & REACTIVITY

- General**
- Stable under normal conditions.

### 11. TOXICOLOGICAL INFORMATION

- General**
- Very toxic by inhalation, due to the presence of Carbon Monoxide.
  - No known carcinogenic and mutagenic effects.

### 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 (Carbon Monoxide, Carbon Dioxide, Nitrogen in Helium)  
**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 2, 40, 42, 43 & First Schedule.
  - 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