



Safety Data Sheet

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ARCAL™ 21

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Commercial name ARCAL 21
Product name Carbon Dioxide in Argon
Chemical name/formula CO₂ in Ar
Company identification See header and footer
Emergency phone no. See footer

2. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Preparation Substance
Components/Impurities Carbon Dioxide: 8 – 30%
Argon: 70 – 92%
CAS No. 124-39-9 Carbon Dioxide
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

- 5,000 ppm PEL Short Term
- 30,000 ppm PEL Long Term
- (Singapore Factories Order 1996).

Personal protection

- Ensure adequate ventilation.

9. PHYSICAL & CHEMICAL PROPERTIES

Molecular weight Not applicable
Melting point - 189°C (Argon)
Boiling point Not applicable
Critical temperature - 122°C (Argon)
Relative density, gas 1.41 (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 Business Registration No: 197001157D

ARCAL™ 21

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 Dioxide 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.

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