AFROX

MATERIAL SAFETY DATA SHEET

ARGON

DATE: April 2001

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name	ARGON
Chemical Formula	Ar
Trade Names	Argon, Compressed
	Argon, High Purity (N4.8)
	Argon, Instrument grade (N5.0)
Colour coding	Argon Compressed
	Peacock blue (F.08)body.
	Argon High Purity.(N4.8)
	Peacock blue (F.08) Body with the "HP" decal affixed centrally on the body of the cylinder.
	Argon Instrument grade (N5.0)
	Peacock blue (F.08) body with the "Instrument Grade" logo affixed to the body of the cylinder.
	Argon, Ultra High Purity (N5.0)
	Peacock blue (F.08) body with the "UHP" decal affixed centrally to the body of the cylinder.
Valve	All of the above grades have the Neriki- Brass 5/8 inch right hand BSP female positive pressure valve.
Company Identification	African Oxygen Limited 23 Webber Street Johannesburg, 2001 Tel. No: (011) 490-0400 Fax No: (011) 490-0506

2 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Argon
Chemical Family	Inert Rare Gas
CAS No.	7440-37-1
UN No.	1006
ERG No.	121
Hazard Warning	2 C Non flammable gas

3 HAZARDS IDENTIFICATION

Main Hazards All cylinders are portable gas containers, and must be regarded as pressure vessels at all times. Argon does not support life. It can act as a simple asphyxiant by diluting the concentration of oxygen in air below the levels necessary to support life.

Adverse health effects. Inhalation of Argon in excessive concentrations can result in dizziness, nausea, vomiting, loss of consciousness and death.

Chemical Hazards Argon is extremely inert and forms no known chemical compounds.

Biological Hazards No known effect.

Vapour Inhalation As Argon acts as a simple asphyxiant death may result from errors in judgement, confusion, or loss of consciousness which prevents self-rescue. At low oxygen concentrations, unconsciousness and death may occur in seconds without warning.

Eye Contact No known effect.

Skin Contact No known effect.

Ingestion (See "Vapour Inhalation" above).

4 FIRST AID MEASURES

Prompt medical attention is mandatory in all cases of overexposure to Argon. Rescue personnel should be equipped with self-contained breathing apparatus. Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be removed to an uncontaminated area, and given mouth-to-mouth resuscitation and supplemental oxygen.

Eye Contact No known effect.

Skin Contact No known effect.

Ingestion (See section 3 above)

5 FIRE FIGHTING MEASURES

Extinguishing media As Argon is an inert gas, it does not contribute to the fire, but could help with the extinguishing by reducing the oxygen content of the air by dilution to below the level to support combustion.

Specific Hazards Argon does not support life. It can act as a simple asphyxiant by diluting the concentration of oxygen in the air below the levels to support life.

Emergency Actions If possible, shut off the source of excess Argon. Evacuate area. All cylinders should be removed from the vicinity of the fire. Cylinders that cannot be removed should be cooled with water from a safe distance to prevent the build-up of excessive pressure. Cylinders which have been exposed to excessive heat should be clearly identified and returned to the supplier. CONTACT THE NEAREST AFROX BRANCH.

Protective Clothing Self-contained breathing apparatus. Safety gloves, goggles and shoes, or boots, should be worn when handling cylinders.

Environmental precautions. Argon is heavier than air and could accumulate in low-lying areas. Care should be taken when entering a potentially oxygen-deficient environment. If possible, ventilate the affected area.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions Do not enter any area where Argon has been spilled unless tests have shown that it is safe to do so.

Environmental precautions. Argon does not pose a hazard to the environment.

Small spills Shut off the source of escaping Argon. Ventilate the area.

Large spills Evacuate the area. Shut off the source of the spill if this can be done without risk. Restrict access to the area until completion of the clean-up procedure. Ventilate the area using forced-draught if necessary.

7 HANDLING AND STORAGE

Do not allow cylinders to slide or come into contact with sharp edges. Argon cylinders may be stacked horizontally provided that they are firmly secured at each end to prevent rolling. Use a "first in - first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Keep out of reach of children.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Hazards. As Argon is a simple asphyxiant, avoid any areas where spillage has taken place. Only enter once testing has proved the atmosphere to be safe.

Engineering control measures. Engineering control measures are preferred to reduce exposure to oxygen-depleted atmospheres. General methods include forced-draught ventilation, separate from other exhaust ventilation systems. Ensure that sufficient fresh air enters at, or near, floor level.

Personal protection Self-contained breathing apparatus should always be worn when entering area where oxygen depletion may have occurred. Safety goggles, gloves and shoes or boots should be worn when handling cylinders.

Skin No known effect.

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA

Chemical Symbol	Ar
Molecular Weight	39,948
Specific Volume @ 20°C & 101,325 kPa	603,7ml/g
Colour	None
Taste	None
Odour	None

10 STABILITY AND REACTIVITY

Conditions to avoid The dilution of the oxygen concentration in the atmosphere to levels which cannot support life. Never use cylinders as rollers or supports, or for any other purpose than the storing of Argon. Never expose cylinders to excessive heat, as this may cause sufficient build-up of pressure to rupture the cylinders.

Incompatible Materials. As Argon is inert it may be contained in systems constructed of any of the common metals which have been designed to safely withstand the pressures involved.

Hazardous Decomposition Products. None

11 TOXICOLOGICAL INFORMATION

Acute Toxicity	No known effect.
Skin & eye contact	No known effect.
Chronic Toxicity	No known effect.
Carcinogenicity	No known effect.
Mutagenicity	No known effect.
Reproductive Hazards	No known effect

(For further information see Section 3. Adverse Health Effects).

12 ECOLOGICAL INFORMATION

Argon is heavier than air and can cause pockets of oxygen-depleted atmosphere in low-lying areas. It does not pose a hazard to the ecology.

13 DISPOSAL CONSIDERATIONS

Disposal Methods. Small amounts may be blown to the atmosphere under controlled conditions. Large amounts should only be handled by the gas supplier.

Disposal of packaging. The disposal of cylinders must only be handled by the gas supplier.

14 TRANSPORT INFORMATION

ROAD TRANSPORTATION

UN No.	1006
ERG No	121
Hazchem warning	2C Non-flammable gas

SEA TRANSPORTATION

IMDG	1006
Class	
Packaging group	
Label	Non-flammable gas

AIR TRANSPORTATION

ICAO/IATA Code	1006
Class	2.2
Packaging group	
Packaging instructions	
- Cargo	200
- Passenger	200
Maximum quantity allowed	
- Cargo	150kg
- Passenger	75kg

15 REGULATORY INFORMATION

EEC Hazard class	Non-flammable
Risk phrases	R44 Risk of explosion if heated under confinement
Safety phrases	S2 Keep out of reach of children
	S9 Keep container in a well-ventilated place
	S15 Keep away from heat
	S37 Wear suitable gloves
	S39 Wear eye/face protection
	S51 Use only in well-ventilated areas
National legislation	None

Refer to SABS 0265 for explanation of the above.

16 OTHER INFORMATION

Bibliography

Compressed Gas Association, Arlington, Virginia
Handbook of Compressed Gases - 3rd Edition
Matheson. Matheson Gas Data Book - 6th Edition
SABS 0265 - Labelling of Dangerous Substances

17 EXCLUSION OF LIABILITY

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