

**MATERIAL SAFETY DATA SHEET (MSDS)
P-10 QUENCH GAS**

(Please ensure that this MSDS is received by the appropriate person)

Date: July 2011

Version 2

Ref. No.: MS046

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name P-10 QUENCH GAS
Chemical Formula CH4 plus Ar
Trade Names P-10 Quench Gas
 10% Methane/Balance Argon
Colour coding Peacock Blue (F.08) body with Red (A11) and Silver (Plascon 720/022) bands on the shoulder. The red band shall be adjacent to the valve. The relevant decal shall be affixed centrally to the body of the cylinder.
Valve 3 SH – Brass, 5/8 inch BSP left hand female.
Company Identification African Oxygen Limited
 23 Webber Street
 Johannesburg, 2001
 Tel. No: (011) 490-0400
 Fax No: (011) 490-0506
Emergency Number **086 011 1185 Or (011) 873 4382**
(24 hours)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Families Paraffin plus Inert gas
UN No. 1954
Hazchem Code: 2 SE
Hazchem Warning 2 A Flammable gas

3 HAZARDS IDENTIFICATION

Main Hazards Both methane and argon do not support life. They can act as simple asphyxiants by diluting the concentration of oxygen in air below the levels necessary to support life. As the mixture is heavier than air it will tend to concentrate at lower levels. All cylinders are portable gas containers, and must be regarded as transportable vessels at all times
Adverse Health effects. Apart from being an asphyxiant the mixture has no adverse health effects.
Chemical hazards None.
Biological Hazards None
Vapour Inhalation Simple asphyxiant
Eye contact No known effect
Skin contact No known effect
Ingestion (See "Vapour Inhalation")

4 FIRST AID MEASURES

Prompt medical attention is mandatory in all cases of overexposure to methane/argon mixtures. 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 methane/argon mixture does not contribute significantly to the fire, it could help with the extinguishing by reducing the oxygen content of the air by dilution to below the level to support combustion.

Specific hazards The mixture 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. Methane could also separated from the Argon, and collect in confined areas, possible forming explosive Methane/Air mixtures.

Emergency actions If possible, shut off the source of excess mixture. 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 and shoes, or boots, should be worn when handling cylinders.

Environmental precautions. The mixture 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 precaution. Do not enter any areas where the mixture has been spilled unless tests have shown that it is safe to do so.

Environmental precautions. The mixture does not pose a hazard to the environment.

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

Large spills Evacuate the area. Shut off the source of the spill if it 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. P-10 cylinders may be stacked horizontally provided that they are firmly secured at each end to prevent rolling. Use "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 the mixture is a simple asphyxiant, avoid any areas where spillage has taken place. Only enter once testing has proved the atmosphere to be safe, and remember that the gas is heavier than air.

Engineering control measures Engineering control measures are preferred to reduce exposures to oxygen-depleted atmospheres. General methods include forced-draught ventilation, separate from other exhaust ventilation systems.

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 containers.

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA

Argon

Chemical Symbol	Ar
Molecular Weight	39,948
Specific volume @ 20°C & 101,325 kPa	603,7 ml/g
Relative density of gas @ 101,325 kPa (Air = 1)	1,380
Colour	None
Taste	None
Odour	None

Methane

Chemical Symbol	CH4
Molecular Weight	16,043
Specific volume @ 20°C & 101,325 kPa	1402,4 ml/g
Relative density of gas @ 101,325 kPa (Air = 1)	0,555
Flammability limits in air	5,0 - 15,4% by vol.
Colour	None
Taste	None
Odour	Sweet, oil-type

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10 STABILITY AND REACTIVITY

Conditions to avoid The dilution of 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 P-10 Quench gas. Never expose the cylinders to excessive heat, as this may cause sufficient build-up of pressure to rupture the cylinders.

Incompatible materials As the mixture 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

The mixture 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. 1954

Hazchem code	2 SE
Hazchem warning	2 A Flammable gas
SEA TRANSPORTATION	
IMDG	1954
Label	Flammable gas
AIR TRANSPORTATION	
ICAO/IATA Code	1954
Class	2.1
Packaging instructions	
- Cargo	200
- Passenger	Forbidden
Maximum quantity allowed	
- Cargo	150 kg
- Passenger	Forbidden

15 REGULATORY INFORMATION

EEC Hazard class	Flammable gas
Risk phrases	R 20 Harmful by inhalation. R 44 Risk of explosion if heated under confinement.
Safety phrases	S2 Keep out of reach of children S3 Keep in a cool place S9 Keep container in a well ventilated place S37 Wear suitable gloves S39 Wear eye / face protection
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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