MATERIAL SAFETY DATA SHEET (MSDS)
FROZEN AIR 22
(Please ensure that this MSDS is received by the appropriate person)

Ref. no: MS030 DATE: December 2015

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name	FROZENAIR 22
Chemical Formula	CH Cl F2
Trade Name	FrozenAir 22
Colour Coding	Cornflower Blue (F.29) body with a Lime Green shoulder and guard.
Valve	Neriki U6 – 5/8 inch BSP right hand male.

Company Identification African Oxygen Limited
23 Webber Street
Johannesburg, 2001
Tel. No: (011) 490-0400
Fax No: (011) 490-0506

EMERGENCY NUMBER **0860111185 or (011) 873 4382** (24 hours)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Names:	Chlorodifluoromethane
Chemical Family	Chlorofluorocarbon
Cas No.	75-45-6
UN No.	1018
ERG No	126
Hazchem Warning	2C non-flammable gas

3 HAZARDS IDENTIFICATION

Main Hazards All cylinders are portable gas containers, and must be regarded as pressure vessels at all times. FrozenAir 22 does not support life. It can act as a simple asphyxiant by diluting the concentration of oxygen in air to below the levels necessary to support life.

Adverse Health effects Contains a liquefied gas. Contact with liquid may cause frostbite and injury to the cornea.

Chemical hazards Heating will cause a rise in pressure with a risk of bursting. On combustion, toxic gases are released.

Biological hazards Contact with the liquid phase could cause freeze burns.

Labelling elements
Hazard pictograms

Signal word: Warning
Hazard Statement:
H361: Suspected of damaging fertility or the unborn child

Precautionary Statements:

P201:	Obtain special instructions before use
P202:	Do not handle until all safety precautions have been read and understood.
P281:	Use personal protective equipment
P308 +P313:	If exposed call a POISON CENTRE or doctor/physician
P405:	Store locked up
P501:	Dispose of container safely

4 FIRST AID MEASURES

Prompt medical attention is mandatory in all cases of overexposure to vapourised FrozenAir 22. 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. The use of adrenaline or similar drugs should be avoided.

Eye contact (Vapour) No known effect.
(Liquid) Immediately flush with large quantities of tepid water, or with sterile saline solution. Seek medical attention.

Skin contact (Vapour) No known effect.
(Liquid) In case of frostbite from contact with liquid FrozenAir 22, place the frost-bitten part in warm water, about 40-42°C. If warm water is not available, or is impractical to use, wrap the affected part gently in blankets. Encourage the patient to exercise the affected part whilst it is being warmed. Do not remove clothing whilst frosted..

Ingestion Provided the patient is conscious, wash out the mouth with water, and give 200-300 ml to drink. Obtain immediate medical attention.

MATERIAL SAFETY DATA SHEET (MSDS)
FROZEN AIR 22
(Please ensure that this MSDS is received by the appropriate person)

5 FIRE FIGHTING MEASURES

Extinguishing media As FrozenAir 22 is non-flammable, it will 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. If possible shut off the source of FrozenAir 22. 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. Cylinders which have been exposed to excessive heat should be clearly identified for inspection. CONTACT THE NEAREST AFROX BRANCH.

Specific hazards Pressurised container. On heating there is a risk of bursting due to internal pressure build-up NOT flammable. However, it may present a risk in the event of fire. Toxic vapours (Halogen compounds) are released. Vapour / air mixture may be flammable under specific conditions.

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

Environmental precautions. 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 areas where FrozenAir 22 has been spilled unless tests have shown that it is safe to do so.

Environmental Precautions Prevent the product from spreading into the environment. Contain the spilled material by bunding.

Small spills Shut off source of the ForzenAir 22. 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. FrozenAir 22 cylinders should be stacked vertically at all times, and should be firmly secured in order to prevent them from being knocked over. 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 FrozenAir 22 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 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

AFROX
A Member of The Linde Group

MATERIAL SAFETY DATA SHEET (MSDS)
FROZEN AIR 22
(Please ensure that this MSDS is received by the appropriate person)

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA

Molecularr Weight	86,47
Chemical Symbol	CHCIF2
Boiling point @ 101,325 kPa	-40,8^{0}C
Density (saturated vapour) at boiling point	
Vapour pressure @ 21°C	1040 kPa
Ozone depletion potential	0,55
Colour	Colourless
Taste	Not applicable
Odour	Slightly ethereal

10 STABILITY AND REACTIVITY

Conditions to avoid Never use cylinders as rollers or supports, or for any other purpose than the storing of FrozenAir 22. Never expose the cylinders to excessive heat, as this may cause sufficient build-up of pressure to rupture the cylinders.

Incompatible materials Since the performance of plastic materials is affected by polymer variations, compounding agents, fillers, and moulding processes, verify compatibility using actual fabricated parts under end-use conditions. The effects on specific elastomers depend on the nature of the polymer, the compounding formulation used and the curing of vulcanizing conditions. Actual samples should be tested under end-use conditions before specifying elastomers for critical components.

Hazardous Decomposition Products. FrozenAir 22 vapours will decompose when exposed to high temperatures from flames or electric resistance heaters. Decomposition may produce toxic and irritating compounds, such as hydrogen fluoride.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity (TWA 8+12 hr)	1000 ppm
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

Environmental Dangerous to the ozone layer.

13 DISPOSAL CONSIDERATIONS

Disposal Methods Do not allow the product to be released into the environment. Consult the manufacturer of supplier for information regarding recovery and recycling of the product.

14 TRANSPORT INFORMATION

Un No.	1018
ERG No	126
Hazchem warning	2 C Non Flammable Gas

SEA TRANSPORTATION

IMDG	1018
Class	2.2
Label	Non-flammable gas

AIR TRANSPORTATION

ICAO/IATA code	1018
Class	2.2
Packaging instructions	
- Cargo	200
- Passenger	200
Maximum quantity allowed	
- Cargo	150 kg
- Passenger	75 kg

15 REGULATORY INFORMATION

National legislation OHSact and Regulations 85 of 1993
SABS 10234 and its supplement for explanation of the above.

16 OTHER INFORMATION

All the constituents of this preparation are registered in the EINECS inventory. All the components of this preparation are registered in the TSCA inventory.

17 EXCLUSION OF LIABILITY

Information contained in this publication is accurate at the date of publication. The company does not accept liability arising from the use of this information, or the use, application, adaptation or process of any products described herein.

For product and safety enquiries please phone

EMERGENCY N°:
0860020202 (24 hr)