AFROX
A Member of The Linde Group

MATERIAL SAFETY DATA SHEET (MSDS)
FROZEN AIR 507A
(Please ensure that this MSDS is received by the appropriate person)

Ref. no.: MS117 DATE: December 2015

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name	FROZENAIR 507
Chemical Formula	CHF2 – CF3 plus CH3 – CF3
Trade Name	FrozenAir 507
Colour Coding	Disposable cylinder with a French Blue (F.09) body and the relevant grade stencilled onto the cylinder
Valve	¼ inch flare fitting
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	A preparation of HFC125, HFC143a
Chemical Family	Mixtures of Halocarbons
Cas Nos.	HFC125 HFC143a 354-33-6, 420-46-2
UN No.	1078
ERG No	126
Hazchem 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.

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 the cylinders bursting. On combustion, toxic gases are released.

Biological hazards. Contact with liquid could cause frost burns

Vapour Inhalation. High exposures may cause an abnormal heart rhythm and prove suddenly fatal. May have a narcotic effect, very high concentrations may cause anaesthetic effects and asphyxiation.

Eye Contact. Vapour - unknown effect
Liquid - could cause serious burns

Skin Contact. Vapour - unknown effect

Ingestion. Liquid - see vapour inhalation above

4 FIRST AID MEASURES

Prompt medical attention is mandatory in all cases of overexposure to vapourised FrozenAir 507. 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. (Liquid) Rinse with water whilst keeping the eyes wide open for at least 10 minutes. Consult an eye specialist immediately.

Skin contact. (Liquid)Thaw affected areas with water. Remove contaminated clothing and then rinse again with water. If it sticks, do not pull it off. Call a doctor immediately.

Ingestion. Not Specifically applicable (gas). Do not induce vomiting. If patient conscious, wash out mouth with water and give 200 - 300ml water to drink. Obtain immediate medical attention.

Inhalation. Remove patient from exposure, keep warm and at rest. Administer oxygen if necessary. Apply artificial respiration if breathing as ceased or shows signs of failing. In the event of cardiac arrest apply external cardiac massage. Obtain immediate medical attention.

5 FIRE FIGHTING MEASURES

Extinguishing media. All extinguishing agents can be used. It there is a fire close by, use suitable extinguishing agents.

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 compound are released).

Emergency Actions. Stay upwind. Evacuate the personnel away from the fumes. Cool down the containers/equipment exposed to heat with a water spray.

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

Environmental precautions. Prevent the product from spreading into the environment

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions. Avoid contact with skin and eyes. Do not breathe gas. Shut off low-level openings in the vicinity (Ventilation Shafts, drains) Prevent the product from entering cellars, basements of pits. Stop the leak. Ventilate spillage area.

Environmental precautions. Prevent the product from spreading into the environment.

Small spills. Shut off the source of the escaping gas. 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

Suck back of water into the container must be prevented. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Refer to supplier's container handling instructions. Keep container below 50^0C in a well ventilated place. Do not shake container when handling product.

Do not allow cylinders to slide or come into contact with sharp edges. 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 507 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. 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.

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9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA

Chemical Symbol	Mixture
Molecular Weight	Mixture
Vapour pressure @ 20°C	1.10
Relative Density of gas (Air = 1)	3,54
Colour	Colourless
Taste	N/A
Odour	slight ethereal

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 cylinders. 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. On combustion or on thermal decomposition (pyrolysis) releases: Toxic gases (Fluorinated compounds)

11 TOXICOLOGICAL INFORMATION

Acute Toxicity (TWA 8+12 hr)

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

Product is volatile when in aqueous solution. Ultimate destination of the product could be the atmosphere

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

ROAD TRANSPORTATION

UN No.	1078
ERG No	126
Hazchem warning	2 C non-flammable gas

SEA TRANSPORTATION

IMDG	1078
Class	2.2
Label	Non-flammable gas

AIR TRANSPORTATION

ICAO/IATA Code	1078
Class	2.2
Packaging instructions	
- Cargo	200
- Passenger	200
Maximum quantity allowed	
- Cargo	150 kg
- Passenger	75 kg

15 REGULATORY INFORMATION

EEC Hazard class Non-flammable gas
National legislation: OHSact & Regulations (85 of 1993)
SANS 10234 and its supplement

16 OTHER INFORMATION

Bibliography
IATA Dangerous Goods Regulations 1996

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)