LES GAZ INDUSTRIELS LTD.
UNE VALEUR SÛRE
Est. 1952

MATERIAL SAFETY DATA SHEET (MSDS)
FROZEN AIR 152A
(Please ensure that this MSDS is received by the appropriate person)

Ref. no.: MS061 DATE: December 2018

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name	FROZENAIR 152A
Chemical Formula	C2 H4 F2
Trade Name	FrozenAir 152A
Colour Coding	French Blue (Dulux BS 381 C166) body with a Signal Red (A.11) shoulder
Valve (cylinders)	Neriki U6 – 5/8 inch BSP right hand male.

Company Identification Les Gaz Industriels Ltd
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2 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Names:	1-1 Difluoroethane
Chemical family	Halocarbons
Cas No.	75-37-6
UN No.	1030
ERG No	115
Hazchem Warning	2A - 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 Contacts with liquid may cause frost bite and injury to the cornea. Inhalation of high concentration of vapour is harmful and may cause unconsciousness or death.

Chemical hazards Material can be decomposed by high temperatures forming hydrofluoric acid, and possibly, carbonyl fluoride.

Biological hazards Contact with the liquid phase could cause frost bite.

Vapour inhalation High exposure may cause heart irregularities, unconsciousness, or death.

Eye contact (Vapour) Unknown
(Liquid) Could cause serious cold burns.

Skin contact (Vapour) Unknown
(Liquid) Contact with liquid may cause cold burns.

Ingestion As per vapour inhalation.

4 FIRST AID MEASURES

Prompt medical attention is mandatory in all cases of overexposure to vapourised FrozenAir 152A. 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 15 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 200-300 ml 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 has ceased or shows signs of failing. In the event of cardiac arrest apply external cardiac massage. Obtain immediate medical attentions

5 FIRE FIGHTING MEASURES

Extinguishing media. Water spray, water fog, dry chemical.

Specific hazards Rupture of cylinder or bulk containers due to excessive exposure to a fire could result in a BLEVE (Boiling Liquid Expanding Vapour Explosion) with disastrous effects. The products of combustion are hazardous.

Emergency actions. DO NOT EXTINGUISH FIRE UNLESS THE LEAKAGE CAN BE STOPPED. Evacuate area. Post notices "NO NAKED LIGHTS / NO SMOKING" Prevent liquid or vapour from entering sewers, basements and workpits. Keep cylinders or bulk vessels cool by spraying with water if exposed to a fire. CONTACT THE NEAREST AFROX BRANCH.

Protective Clothing. Self-contained breathing apparatus. Safety glovesand shoes or boots should be worn when handling containers.

Environmental Precautions. Vapourised FrozenAir 152A is heavier than air and could form pockets of oxygen deficient atmospheres and / or highly explosive gas mixtures in low lying areas.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions . Do not enter any areas where FrozenAir 152A has been released unless it is safe to do so.

Environmental precautions. Danger of wide spread formation of explosive FrozenAir 152A / air mixtures should be taken into account. Accidental ignition could result in a massive explosion.

Small spills Shut off source of product. Ventilate the area.

Large spills Stop the source if it can be done without risk.

7 HANDLING AND STORAGE

The hazards due to the handling of FrozenAir 152A stem mainly from its flammability. Store and use cylinders in well ventilated areas away from heat and all ignition sources such as flames and sparks. Do not use around sparking motors or other nonexplosion-proof equipment. Do not store reserve stocks of FrozenAir 152A with cylinders containing oxygen, or other highly oxidising or flammable materials. Ground all equipment and cylinders before use. Conspicuous signs should be posted in the storage area forbidding smoking or the use of naked lights. Use the "first-in, firs-out" inventory system to prevent full cylinders from being stored for excessive periods of time.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure hazards As FrozenAir 152A 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. General methods include mechanical ventilation, process or personal enclosure, and control of process conditions. Administrative controls and personal protective equipment may also be required. Use a suitable flameproof ventilation system separate from other exhaust ventilation systems. Exhaust direct out outside. Supply sufficient replacement air to make up for air removed by exhaust system.

Personal protection Use self-contained breathing apparatus when fighting large fires

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Eyes	Use safety glasses when working with cylinders.
Hands	Use suitable protective gloves when working with cylinders.

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA

Chemical Symbol	CH2H4F2
Molecular Weight	66,1
Boiling point @ 101,325 kPa	-24,7^{0}C
Ozone depletion potential	0
Colour	Colourless
Odour	Slightly 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 FrozenAir 152A Never expose the cylinders to excessive heat, as this may cause sufficient build-up of pressure to rupture the cylinders. In presence of moisture FrozenAir 152A is hydrolysed and becomes corrosive.
Hazardous Decomposition Produce	Incompatible with alkaline or alkaline earth metals FrozenAir 152A can decompose at high temperatures forming hydrofluoric acid and carbonyl fluoride.

11 TOXICOLOGICAL INFORMATION

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

Vapourised FrozenAir 152A 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, unless the gas/air mixture is ignited.

13 DISPOSAL CONSIDERATIONS

Disposal of packaging	Disposal of containers must only be handled by the gas supplier.

14 TRANSPORT INFORMATION

ROAD TRANSPORATATION

UN No.	1030
ERG No	115
Hazchem warning	2.1 Flammable gas

SEA TRANSPORTATOION

IMDG	1030
Class	2.1
Label	Flammable gas

AIR TRANSPORTATION

ICAO/IATA Code	1030
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
National legislation: OHSact & Regulations (85 of 1993)
SANS 10234 and its supplement

16 OTHER INFORMATION

Bibliography

Compressed gas Association, Arlington, Virginia.

Handbook of Compresses Gases – 3rd Edition.

Matheson. Matheson Gas Data Book – 6th Edition.

SABS 0265 Labeling of Dangerous Substances

17 EXCLUSION OF LIABILITY