

MATERIAL SAFETY DATA SHEET

R152A

DATE: April 2001

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name	R152A
Chemical Formula	C2 H4 F2
Trade Name	R152A
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	African Oxygen Limited 23 Webber Street Johannesburg, 2001 Tel. No: (011) 490-0400 Fax No: (011) 490-0506

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 vaporised R152A. 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 gloves and shoes or boots should be worn when handling containers.

Environmental Precautions. Vaporised R152A 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 R152A has been released unless it is safe to do so.

Environmental precautions. Danger of wide spread formation of explosive R152A / 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 R152A 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 R152A 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, first-out" inventory system to prevent full cylinders from being stored for excessive periods of time.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure hazards As R152A 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

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
Molecular Weight

CH2H4F2
66,1

Boiling point @ 101,325 kPa	-24,7°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 R152A. Never expose the cylinders to excessive heat, as this may cause sufficient build-up of pressure to rupture the cylinders. In presence of moisture R152A is hydrolysed and becomes corrosive.

Hazardous Decomposition Produce Incompatible with alkaline or alkaline earth metals R152A 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

Vaporised R152A 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 TRANSPORTATION

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

SEA TRANSPORTATION

IMDG	1030
Class	2.1
Label	Flammable gas

AIR TRANSPORTATION

ICAO/IATA Code	1030
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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	R2 Risk of explosion by shock, friction, fire or other sources of ignition. R13 Extremely flammable liquefied gas R18 In use may form flammable explosive vapour/air mixture R34 Liquid phase could cause burns. R44 Risk of explosion if heated under confinement.
Safety phrases	S2 Keep out of reach of children S3 Keep in a cool place S4 Keep away from living quarters S9 Keep container in a well-ventilated place S15 Keep away from heat S16 Keep away from sources of ignition S29 Do not empty into drains S33 Take precautionary measures against static discharges S41 In case of fire/explosion do not breathe fumes 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 Labeling of Dangerous Substances

17 EXCLUSION OF LIABILITY

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