



## 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)<br>body with a Signal Red (A.11)<br>shoulder   |
| Valve (cylinders)      | Neriki U6 – 5/8 inch BSP right hand<br>male.   |
| Company Identification | Les Gaz Industriels Ltd<br>Pailles Road<br>G.R.N.W. – Republic of Mauritius<br>Tel. No: (+230) 212 8306<br>Fax No: (+230) 212 0235 |

### 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

|                               |   |
|-------------------------------|---|
| <b>Main Hazards</b>           | All cylinders are portable gas containers, and must be regarded as pressure vessels at all times  |
| <b>Adverse Health effects</b> | 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. |
| <b>Chemical hazards</b>       | Material can be decomposed by high temperatures forming hydrofluoric acid, and possibly, carbonyl fluoride.   |
| <b>Biological hazards</b>     | Contact with the liquid phase could cause frost bite.   |
| <b>Vapour inhalation</b>      | High exposure may cause heart irregularities, unconsciousness, or death.  |
| <b>Eye contact</b>            | (Vapour) Unknown<br>(Liquid) Could cause serious cold burns.  |
| <b>Skin contact</b>           | (Vapour) Unknown<br>(Liquid) Contact with liquid may cause cold burns.  |
| <b>Ingestion</b>              | 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.

|                     |  |
|---------------------|--|
| <b>Eye contact</b>  | (Liquid) Rinse with water whilst keeping the eyes wide open for at least 15 minutes. Consult an eye specialist immediately.  |
| <b>Skin contact</b> | (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.                |
| <b>Ingestion</b>    | 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. |
| <b>Inhalation</b>   | 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             | CH <sub>2</sub> H <sub>4</sub> F <sub>2</sub> |
| Molecular Weight            | 66,1  |
| Boiling point @ 101,325 kPa | -24,7 <sup>0</sup> 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      |
| 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.<br>R13 Extremely flammable liquefied gas<br>R18 In use may form flammable explosive vapour/air mixture<br>R34 Liquid phase could cause burns.<br>R44 Risk of explosion if heated under confinement.   |
| Safety phrases                                   | S2 Keep out of reach of children<br>S3 Keep in a cool place<br>S4 Keep away from living quarters<br>S9 Keep container in a well-ventilated place<br>S15 Keep away from heat<br>S16 Keep away from sources of ignition<br>S29 Do not empty into drains<br>S33 Take precautionary measures against static discharges<br>S41 In case of fire/explosion do not breathe fumes<br>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 – 3<sup>rd</sup> Edition.  
Matheson. Matheson Gas Data Book – 6<sup>th</sup> Edition.  
SABS 0265 Labeling of Dangerous Substances

### 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.

A member of The AFROX Group  
For product and safety enquiries please phone

**EMERGENCY N°:**

**+230 800 1133 (business hours)**

**+230 212 8306 (business hours)**

**+230 5421 5944 (24 hours)**

**+230 5729 3846 (24 hours)**

**+230 5729 3845 (24 hours)**

**+230 5421 1511 (24 hours)**

**+230 5497 5432 (24 hours)**

**+230 5421 9526 (24 hours)**