### 1 Identification of the substance/mixture and of the company/undertaking

<table>
<thead>
<tr>
<th>Product identifier</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name</td>
<td>Difluoromethane (R32)</td>
</tr>
<tr>
<td>SDS Nr</td>
<td>SDS_130_CLP</td>
</tr>
<tr>
<td>Chemical description</td>
<td>Difluoromethane (R32)</td>
</tr>
<tr>
<td>CAS No</td>
<td>000075-10-5</td>
</tr>
<tr>
<td>EC No</td>
<td>200-839-4</td>
</tr>
<tr>
<td>Index No</td>
<td>---</td>
</tr>
<tr>
<td>Chemical formula</td>
<td>CH2F2</td>
</tr>
<tr>
<td>Registration-No.</td>
<td>Registration deadline not expired.</td>
</tr>
<tr>
<td>Use</td>
<td>Industrial and professional. Perform risk assessment prior to use.</td>
</tr>
<tr>
<td>Company identification</td>
<td>Air Liquide UK Ltd.</td>
</tr>
<tr>
<td></td>
<td>Station Road</td>
</tr>
<tr>
<td></td>
<td>Coleshill</td>
</tr>
<tr>
<td></td>
<td>Birmingham</td>
</tr>
<tr>
<td></td>
<td>B46 1JY</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
</tr>
<tr>
<td>E-Mail address (competent person)</td>
<td>David Hopper</td>
</tr>
<tr>
<td>Emergency telephone number</td>
<td>01675 462695</td>
</tr>
</tbody>
</table>

### 2 Hazards identification

#### Classification of the substance or mixture

- **Hazard Class and Category Code**
  - Regulation EC 1272/2008 (CLP)
  - Physical hazards: Flammable gases - Category 1 - Danger (H220)
  - Gases under pressure - Liquefied gas - Warning (H280)

- **Classification EC 67/548 or EC 1999/45**
  - Not included in Annex VI. F+; R12

#### Label elements

- **Labelling Regulation EC 1272/2008 (CLP)**
  - **Hazard pictograms**

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2 Hazards identification (continued)

- Hazard pictograms code : GHS02 - GHS04
- Signal word : Danger
  H280 : Contains gas under pressure; may explode if heated.
- Precautionary statements
  - Prevention : P210 : Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
  - Response : P377 : Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
  : P381 : Eliminate all ignition sources if safe to do so.
  : P403 : Store in a well-ventilated place.
- Labelling EC 67/548 or EC 1999/45
  Symbol(s) : F+ : Extremely flammable
  R Phrase(s) : R12 : Extremely flammable.
  S Phrase(s) : S9 : Keep container in a well-ventilated place.
  : S16 : Keep away from sources of ignition - No smoking.
  : S33 : Take precautionary measures against static discharges.

Other hazards

Other hazards : None.

3 Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance / Preparation</th>
<th>Substance.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance name</td>
<td>Contents</td>
</tr>
<tr>
<td>Difluoromethane (R32)</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Contains no other components or impurities which will influence the classification of the product.
Note 1: Listed in Annex IV / V REACH, exempted from registration.
Note 2: Registration deadline not expired.
Full text of R-phrases see chapter 16

4 First aid measures

First aid measures
- Inhalation : In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination.
  In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.
  Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- Skin/eye contact : In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
  Immediately flush eyes thoroughly with water for at least 15 minutes.

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4 First aid measures (continued)

- Ingestion
  Ingestion is not considered a potential route of exposure.

5 Fire-fighting measures

Specific hazards
Exposure to fire may cause containers to rupture/explode.

Hazardous combustion products
If involved in a fire the following toxic and/or corrosive fumes may be produced by thermal decomposition:
- Carbonyl fluoride.
- Carbon monoxide.
- Hydrogen fluoride.

Extinguishing media
- Suitable extinguishing media
  All known extinguishants can be used.

Specific methods
- If possible, stop flow of product.
  Move away from the container and cool with water from a protected position.
  Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.

Special protective equipment for fire fighters
Use self-contained breathing apparatus and chemically protective clothing.

6 Accidental release measures

Personal precautions
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Evacuate area.
Ensure adequate air ventilation.
Eliminate ignition sources.

Environmental precautions
Try to stop release.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Clean up methods
Ventilate area.

7 Handling and storage

Handling
Take precautionary measures against static discharge.
Suck back of water into the container must be prevented.
Purge air from system before introducing gas.
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.
Keep away from ignition sources (including static discharges).
Refer to supplier's container handling instructions.

Storage
Separate from oxidant gases and other oxidants in store.
Keep container below 50°C in a well ventilated place.

8 Exposure controls/personal protection

Personal protection
Ensure adequate ventilation.
Do not smoke while handling product.
Difluoromethane (R32)

9 Physical and chemical properties

- **Physical state at 20 °C**: Gas.
- **Colour**: Colourless gas.
- **Odour**: Ethereal. Poor warning properties at low concentrations.
- **Molecular weight**: 52
- **Melting point [°C]**: -136
- **Boiling point [°C]**: -51.7
- **Vapour pressure [20°C]**: 13.8 bar
- **Relative density, gas (air=1)**: 1.8
- **Relative density, liquid (water=1)**: 1.1
- **Solubility in water [mg/l]**: No reliable data available.
- **Flammability range [vol% in air]**: 14 to 31
- **Auto-ignition temperature [°C]**: 648
- **Other data**: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10 Stability and reactivity

- **Hazardous decomposition products**: Thermal decomposition yields toxic products which can be corrosive in the presence of moisture.
- **Conditions to avoid**: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

11 Toxicological information

- **Toxicity information**: May produce irregular heart beat and nervous symptoms.

12 Ecological information

- **Ecological effects information**: When discharged in large quantities may contribute to the greenhouse effect. Not covered by the 'Montreal Protocol'.
- **Ozone depletion factor [R11=1]**: 0
- **Global warming potential [CO2=1]**: 550

13 Disposal considerations

- **General**: Avoid discharge to atmosphere. Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. Toxic and corrosive gases formed during combustion should be scrubbed before discharge to atmosphere. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.
14 Transport information

UN number : 3252
- Labelling ADR, IMDG, IATA

: 2.1 : flammable gas.

Land transport

ADR/RID
H.I. nr : 23
UN proper shipping name : DIFLUOROMETHANE (REFRIGERANT GAS R 32)
Transport hazard class(es) : 2
- ADR/RID Classification code : 2 F
- Packing Instruction(s) - General : P200
- Tunnel Restriction
  : B/D  Tank carriage: Passage forbidden through tunnels of category B, C, D and E;
  Other carriage: Passage forbidden through tunnels of category D and E

Sea transport

- IMO-IMDG code
- Proper shipping name : DIFLUOROMETHANE (REFRIGERANT GAS R 32)
- Class : 2.1
- IMO Packing group : P200
- Emergency Schedule (EmS) - Fire : F-D
- Emergency Schedule (EmS) - Spillage : S-U
- Instructions - Packing : P200

Air transport

- ICAO/IATA
- Proper shipping name : DIFLUOROMETHANE (REFRIGERANT GAS R 32)
- Class : 2.1
- Passenger and Cargo Aircraft :
- Cargo Aircraft only :
  - Packing instruction : 200

Avoid transport on vehicles where the load space is not separated from the driver's compartment.
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.
Before transporting product containers :
- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.
- Ensure there is adequate ventilation.
- Compliance with applicable regulations.
15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture:
- Ensure all national/local regulations are observed.
- Seveso regulation 96/82/EC: Listed

16 Other information

Ensure operators understand the flammability hazard.
The hazard of asphyxiation is often overlooked and must be stressed during operator training.
Contact with liquid may cause cold burns/frostbite.
Users of breathing apparatus must be trained.

List of full text of R-phrases in section 3:
- R12: Extremely flammable.

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

DISCLAIMER OF LIABILITY:
- Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.
Details given in this document are believed to be correct at the time of going to press. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

End of document