

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: * REFRIGERANT R32

REACH registered number(s): 01-2119471312-47

CAS number: 75-10-5

EINECS number: 200-839-4

Product code: R32

Synonyms: DIFLUOROMETHANE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance / mixture: ES 1 - Formulating, blending, repacking - Industrial use. Refrigerant

1.3. Details of the supplier of the safety data sheet

Company name: Star International
Star House, Turbine Road
Turbine Business Park
Birkenhead
Merseyside
CH41 9BA
United Kingdom

Tel: + 44 (0) 1244 504 500

Email: enquiries@star-international.co.uk

Web: www.star-international.co.uk

1.4. Emergency telephone number

Emergency tel: + 44 (0) 1244 504 500

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Flam. Gas 1: H220; Press. Gas: H280; -: EUH044

Most important adverse effects: Extremely flammable gas. Contains gas under pressure; may explode if heated. Risk of explosion if heated under confinement.

2.2. Label elements

Label elements:

Hazard statements: * H220: Extremely flammable gas.

H280: Contains gas under pressure; may explode if heated.

EUH044: Risk of explosion if heated under confinement.

Hazard pictograms: GHS02: Flame
GHS04: Gas cylinder



Signal words: Danger

Precautionary statements: * P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking.
P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P410+403: Protect from sunlight. Store in a well-ventilated place.

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.1. Substances

Chemical identity: REFRIGERANT R32

CAS number: 75-10-5

EINECS number: 200-839-4

REACH registered number(s): 01-2119471312-47

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Do not use hot water. If frostbite has occurred call a physician.

Eye contact: Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

Ingestion: * Ingestion is unlikely due to its physical properties and is not expected to be dangerous. Since this product is a gas, refer to the inhalation section.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If unconscious, check for breathing and apply artificial respiration if necessary. Consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Skin contact: There may be redness or whiteness of the skin in the area of exposure. Frost-bite may occur causing the affected area to become white and numb.

Eye contact: There may be pain and redness. Corneal burns may occur. May cause permanent damage.

Ingestion: * Ingestion is unlikely due to the physical properties of the product. As product is a gas refer to inhalation section.

Inhalation: * Inhalation may produce the following symptoms: Shortness of breath, dizziness, weakness,

nausea, headache, narcosis, irregular cardiac activity. asphyxia May cause cardiac arrhythmia.

Delayed / immediate effects: No data available.

4.3. Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Do Not give adrenaline or similar drugs.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: * Do not extinguish burning gas. cut off source of gas if safe to do so - IF NOT POSSIBLE LEAVE GAS TO BURN. Extinguish secondary fire with: carbon dioxide, Powder, Sand, Foam. Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: * Extremely flammable. Forms explosive air-vapour mixture. In combustion emits toxic fumes of hydrogen fluoride.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: * Evacuate the area immediately. Ventilate the area, especially low or enclosed places where heavy vapours might collect. Refer to section 8 of SDS for personal protection details.

6.2. Environmental precautions

Environmental precautions: Stop release if safe to do so. The product evaporates readily. Prevent from entering sewers, basements and work pits, or any place where the accumulation can be dangerous.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: * Material evaporates. Ventilate the area, especially low or enclosed places where heavy vapours might collect. Do not use equipment in clean-up procedure which may produce sparks. Refer to section 13 of SDS for suitable method of disposal.

6.4. Reference to other sections

Reference to other sections: * Refer to section 8 of SDS. Refer to section 13 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Ensure there is sufficient ventilation of the area. Ensure there is exhaust ventilation of the area. Do not handle in a confined space. Earth any equipment used in handling. Use non-sparking tools. Smoking is forbidden.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area. Keep away from sources of ignition. Keep container tightly closed. Keep away from direct sunlight. Store at a temperature not exceeding 45°C.

Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Specific end use(s): * ES1 - Formulation, blending, repacking - Industrial use.

Section 8: Exposure controls/personal protection

8.1. Control parameters

*** Workplace exposure limits:** **Respirable dust**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	1000 ppm	-	-	-

DNEL/PNEC Values

REFRIGERANT R32

Type	Exposure	Value	Population	Effect
DNEL	Inhalation (developmental tox)	13936 mg/m3	Workers	Systemic
DNEL	Inhalation (developmental tox)	2476 mg/m3	Consumers	Systemic
PNEC	Fresh water	0.142 mg/l	-	-
PNEC	Fresh water sediments	0.534 mg/kg	-	-

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area. Ensure there is exhaust ventilation of the area. Ensure lighting and electrical equipment are not a source of ignition. Use only in closed systems.

Respiratory protection: * Respiratory protection not required. Self-contained breathing apparatus must be available in case of emergency.

Hand protection: * Protective gloves. Material: Low temperature resistant gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection: Safety glasses with side-shields. Safety goggles.

Skin protection: * Protective clothing. Avoid skin contact with leaking liquid (danger of frostbite).

Environmental: Gas escapes to be kept to the minimum by engineering processes and operating methods.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- State:** Liquefied gas
- Colour:** Colourless
- Odour:** Characteristic odour

Evaporation rate: No data available.

Oxidising: Not applicable.

Solubility in water: No data available.

Also soluble in: Diethyl ether. Acetone. Chloroform.

Boiling point/range°C: -51.7

Melting point/range°C: -136

Flammability limits %: lower: 12.7

upper: 33.4

Flash point°C: Not applicable.

Part.coeff. n-octanol/water: log Pow: 0.21

Autoflammability°C: 530

Vapour pressure: 17.01 Bar at 20oC

Relative density: 1.1

pH: No data available.

9.2. Other information

Other information: * R32 Liquid density: 959 kg / m3 at 25 degrees C. R32 Vapour Density: 1.86 (Air=1)

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Can form potential explosive atmosphere in air. May react violently with oxidants.

10.4. Conditions to avoid

Conditions to avoid: Heat. Hot surfaces. Sources of ignition. Flames. Direct sunlight.

10.5. Incompatible materials

Materials to avoid: Oxidising agents. Finely powdered metals. Alkali metals. Alkali earth metals.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes of carbon dioxide / carbon monoxide. In combustion emits toxic fumes of hydrogen fluoride.

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values:

Route	Species	Test	Value	Units
GASES	RAT	LD50	520000	ppmV

Symptoms / routes of exposure

Skin contact: There may be redness or whiteness of the skin in the area of exposure. Frost-bite may occur causing the affected area to become white and numb.

Eye contact: There may be pain and redness. Corneal burns may occur. May cause permanent damage.

Ingestion: * Ingestion is unlikely due to the physical properties of the product. As product is a gas refer to inhalation section.

Inhalation: * Inhalation may produce the following symptoms: Shortness of breath, dizziness, weakness, nausea, headache, narcosis, irregular cardiac activity. asphyxia May cause cardiac arrhythmia.

Delayed / immediate effects: No data available.

Other information: Not applicable.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values:

Species	Test	Value	Units
ALGAE	96H ErC50	142	mg/l
Daphnia magna	48H EC50	652	mg/l
FISH	96H LC50	1.057	mg/l

12.2. Persistence and degradability

Persistence and degradability: Only slightly biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: No bioaccumulation potential.

12.4. Mobility in soil

Mobility: Absorbed only slowly into soil.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Ozone Depletion Potential (ODP): 0 (R11 = 1) R32 Global Warming Potential (GWP): 650 (CO2=1) Contains fluoronated greenhouse gases covered by the Kyoto Protocol.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Product evaporates.

Recovery operations: Consult manufacturer or supplier for information regarding recovery and recycling of the product. If recovery is not possible, incinerat at a licensed installation.

Waste code number: 14 06 01

Disposal of packaging: Return to supplier.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: UN3252

14.2. UN proper shipping name

Shipping name: DIFLUOROMETHANE (R 32)

14.3. Transport hazard class(es)

Transport class: 2

14.4. Packing group

14.5. Environmental hazards

Environmentally hazardous: No

Marine pollutant: No

14.6. Special precautions for user

Tunnel code: B/D

Transport category: 2

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Specific regulations: * Contains fluorinated greenhouse gases covered by the Kyoto Protocol. Regulation on Fluorinated Greenhouse Gases 842/2006/EC: Listed

15.2. Chemical Safety Assessment

Chemical safety assessment: * A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 2015/830.

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and s.3: EUH044: Risk of explosion if heated under confinement.

H220: Extremely flammable gas.

H280: Contains gas under pressure; may explode if heated.

Legal disclaimer: * The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.