

Section 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier****Product name:** * REFRIGERANT R125**REACH registered number(s):** 01-2119485636-25**CAS number:** 354-33-6**EINECS number:** 206-557-8**Product code:** R125**Synonyms:** PENTAFLUOROETHANE**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of substance / mixture:** Refrigerant**1.3. Details of the supplier of the safety data sheet****Company name:** National Refrigerants Ltd
4 Watling Close
Sketchley Meadows Business Park
Hinckley
Leicestershire
LE10 3EZ
United Kingdom**Tel:** 01455 630790**Fax:** 01455 630791**Email:** sds@nationalref.com**1.4. Emergency telephone number****Emergency tel:** Carechem24 +44 (0)1865 407333**Section 2: Hazards identification****2.1. Classification of the substance or mixture****Classification under CLP:** Press. Gas: H280**Most important adverse effects:** Contains gas under pressure; may explode if heated.**2.2. Label elements****Label elements:****Hazard statements:** H280: Contains gas under pressure; may explode if heated.**Hazard pictograms:** GHS04: Gas cylinder

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Signal words: Warning

Precautionary statements: * 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 R125

CAS number: 354-33-6

EINECS number: 206-557-8

REACH registered number(s): 01-2119485636-25

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.

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

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

Skin contact: There may be mild irritation at the site of 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 irritation and pain.

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. Drowsiness or mental confusion may occur. There may be loss of consciousness.

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

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5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Water spray. Alcohol resistant foam. Carbon dioxide. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes of hydrogen fluoride. In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

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: Notify the police and fire brigade immediately. If outside keep bystanders upwind and away from danger point. Do not attempt to take action without suitable protective clothing - see section 8 of SDS.

6.2. Environmental precautions

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

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.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 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.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: 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): * PC16: Heat transfer fluids.

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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
EU	1000 ppm	-	-	-

DNEL/PNEC Values

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Type	Exposure	Value	Population	Effect
DNEL	Inhalation	16444 mg/m ³	Workers	Systemic
DNEL	Inhalation	1753 mg/m ³	Consumers	Systemic
PNEC	Fresh water	0.1 mg/l	-	-
PNEC	Fresh water sediments	0.6 mg/kg	-	-

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area. Use only in closed systems.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency. Vapours are heavier than air and can cause suffocation by reducing the oxygen available for breathing.

Hand protection: Protective gloves.

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

Skin protection: Protective clothing.

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: Liquified gas

Colour: Colourless

Odour: Characteristic odour

Evaporation rate: Not applicable.

Oxidising: Not applicable.

Solubility in water: 0.9 g/l

Boiling point/range°C: -48.5

Melting point/range°C: -103

Flammability limits %: lower: No data available.

upper: No data available.

Flash point°C: Not applicable.

Part.coeff. n-octanol/water: log Pow 1,48

Autoflammability°C: > 750

Vapour pressure: 28.110 hP (54.4 oC)

Relative density: 4.2(air = 1)

pH: Not applicable.

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9.2. Other information

Other information: Molecular weight: 86.20 g/mol. Liquid density: 1159 kg/m³ at 20°C

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: No data available.

10.4. Conditions to avoid

Conditions to avoid: Heat. Hot surfaces. Direct sunlight.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

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

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values:

Route	Species	Test	Value	Units
GASES	RAT	4H LC50	800000	ppmV

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of 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 irritation and pain.

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. Drowsiness or mental confusion may occur. There may be loss of consciousness.

Delayed / immediate effects: No data available.

Other information: No data available

[cont...]

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Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values: No data available.

12.2. Persistence and degradability

Persistence and degradability: No data available.

12.3. Bioaccumulative potential

Bioaccumulative potential: No data available.

12.4. Mobility in soil

Mobility: No data available.

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) R134a Global Warming Potential (GWP): 1430 (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, incinerate at a licensed installation.

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: UN3220

14.2. UN proper shipping name

Shipping name: PENTAFLUOROETHANE (R 125)

14.3. Transport hazard class(es)

Transport class: 2

14.4. Packing group

14.5. Environmental hazards

Environmentally hazardous: No

Marine pollutant: No

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14.6. Special precautions for user

Tunnel code: C/E

Transport category: 3

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.

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: 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.