



# MATERIAL SAFETY DATA SHEET

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Version : 4

Date : 29/3/2011

Supersedes : 24/11/2003

**R-125**

R125

## 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### 1.1. Product identifier

Product name : R-125  
Common chemical name : Pentafluoroethane  
CAS nr : 354-33-6  
EC Number : 206-557-8  
REACH registration number : 01-2119485636-25

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

1.2.1 Relevant identified uses Refrigerant

### 1.3. Details of the supplier of the safety data sheet

Name : DEHON SERVICE  
Address : 26, Avenue du Petit Parc  
94683 VINCENNES cedex  
FRANCE

Telephone number : +33 (0) 1 43 98 75 00

Telefax number : +33 (0) 1 43 98 21 51

e-mail : ContactFDS@dehon.com

1.4. Emergency telephone number  
EMERGENCY TELEPHONE NUMBER (24h/24) : + 33 (0) 1 72 11 00 03  
Anti-poison Center : INRS/ORFILA (France) : +33 (0) 1 45 42 59 59  
Anti-poison Centre (Belgium) : +32 70 245 245  
Anti-poison Centre (Spain) : +34 91 562 04 20  
Anti-poison Centre (Netherlands) : +31 30 274 8888  
Anti-poison Centre (United Kingdom) : +44 870 600 6266  
Poisons Information Centre (Hungary) : +36 80 201 199

## 2 HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### 2.1.1 CLP classification :

• Physical hazards Gases under pressure (Press. Gas) ; H280  
2.1.2 Directive EEC/67/548 : Not classified as dangerous product.

### 2.2. Label elements

#### • Hazard pictograms



#### • Signal words

Warning

#### • Hazard statements

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

#### • Precautionary statements :

- Storage Protect from sunlight. Store in a well-ventilated place.  
- Further data : Greenhouse fluorinated gas falling within Kyoto Protocol

### 2.3. Other hazards

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## 2 HAZARDS IDENTIFICATION

**(continued)**

- Adverse human health effects : Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing  
Contact with liquid may cause frostbite and serious damage to eyes
- Physical and chemical hazards :
- Fire or explosion : Not classified as flammable by EC criteria but may present a hazard in the event of a fire

## 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substance name	Contents	CAS No	EC No	Annex No	Classification
Pentafluoroethane	100 %	354-33-6	206-557-8	----	----- Press. Gas (H280)

## 4 FIRST AID MEASURES

### 4.1. Description of first aid measures

- Inhalation : Move the affected person away from the contaminated area and into the fresh air  
If the person feels unwell :  
Call a doctor
- Skin contact : In the event of contact with the liquid: treat resulting frostbite as a burn  
Rinse with plenty of water. DO NOT remove clothing (since it may stick to the skin).  
If skin burns appear, call a doctor immediately
- Eye contact : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum)  
Consult an eye specialist immediately
- Ingestion : Not specifically applicable (gas)

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

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

Do not administer catecholamines

## 5 FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO2)  
Powders  
Foam  
Water spray

Unsuitable extinguishing media : None to our knowledge. If there is a fire close by, use suitable extinguishing agents

### 5.2. Special hazards arising from the substance or mixture

- Specific hazards : Pressurized container. On heating there is a risk of bursting due to internal pressure build-up.  
On heating :  
Toxic and corrosive vapours are released

### 5.3. Advice for fire-fighters

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## 5 FIRE-FIGHTING MEASURES

**(continued)**

Specific fire fighting methods : Cool down the containers exposed to heat with a water spray  
Protection of fire-fighters : Self-contained breathing apparatus  
Complete protective clothing

## 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures Do not attempt to take action without suitable protective equipment  
Do not breathe vapours  
Evacuate the danger area.

6.2. Environmental precautions -

6.3. Methods and material for containment and cleaning up  
- Recovery : Let evaporate  
- Cleaning/decontamination : Ventilate the area thoroughly, especially low lying areas (basements, workpits etc).

6.4 Reference to other sections For further information refer to section 8 "Exposure controls/personal protection"

## 7 HANDLING AND STORAGE

7.1. Precautions for safe handling  
Technical measures : Ventilation  
Safe handling advice : Following use, do not pierce or burn the packaging, even if it is empty  
Industrial hygiene : Do not drink, eat or smoke in the workplace

7.2. Conditions for safe storage, including any incompatibilities  
Storage conditions :  
- Recommended : Store :  
- the container tightly closed  
- in a cool, well-ventilated area  
- at temperature not exceeding 50 °C  
- away from any source of ignition

Incompatible products : Alkali metals  
Alkaline earth metals  
Non ferrous metals (Al, Zn, Sn) and their alloys

7.3. Specific end use(s) -

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters  
Engineering measures : Ensure good ventilation of the work station

8.2. Exposure controls  
Personal protection :  
- Respiratory protection : In the event of insufficient ventilation:  
Self-contained breathing apparatus  
- Hand protection : Butylrubber protective gloves.  
- Eye protection : Safety goggles

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## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION (continued)

- Skin protection : Protective clothing (with elasticated cuffs and closed neck)  
Safety foot-wear

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Physical state :	Liquefied gas
Colour :	Colourless
Odour :	slightly ethereal.
Olfactory level :	No data
pH value :	Not applicable
Melting point :	-103 °C
Boiling point :	-48.5 °C
Flash point :	None
Evaporation rate :	No data
Flammability (solid, gas) :	Non flammable.
Flammability limits in air :	Not applicable
Vapour pressure :	1241.2 kPa at 20 °C
Vapour density (air = 1) :	4.2
Density :	1.21 g/cm <sup>3</sup> at 25 °C
Solubility :	
-in water :	0.9 g/l
Octanol/water partition coefficient :	1.48 (log POW)
Auto-ignition temperature :	No data
Decomposition point :	> +250 °C
Viscosity :	Not applicable
Propriétés explosives :	Not explosive material according to EC criteria.
Oxidizing properties :	Non oxidizing material according to EC criteria

### 9.2. Other information

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## 10 STABILITY AND REACTIVITY

10.1. Reactivity	-
10.2. Chemical stability	Stable at ambient temperature and under normal conditions of use
10.3. Possibility of hazardous reactions	-
10.4. Conditions to avoid	Heat sources.
10.5. Incompatible materials	- alkali metals - alkaline earth metals. - reactive metals (Al, K, Zn ...)
10.6. Hazardous decomposition products	On thermal decomposition (pyrolysis), releases : Hydrogen chloride Hydrogen fluoride

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## 10 STABILITY AND REACTIVITY (continued)

Carbonic dichloride  
Carbon oxides (CO, CO<sub>2</sub>)

## 11 TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity :

On ingredients

Pentafluoroethane

Skin corrosion/irritation :

Serious eye damage/irritation :

Respiratory or skin sensitization :

Carcinogenicity :

Germ cell mutagenicity :

Reproductive toxicity :

STOT-single exposure :

STOT-repeated exposure :

Aspiration hazard :

Other information

Rat inhalation LC50 [ppm/4h] : 800000

Slightly irritating to the eyes

Slightly irritating to the skin

No sensitizing effect is known

No carcinogenic effect

No mutagenic effect

No teratogenic effect

No specific data

No specific data

Not applicable

Contact with liquid causes frostbite.

Contact with liquefied gas may cause severe ocular lesions

## 12 ECOLOGICAL INFORMATION

12.1. Toxicity

Effects on the aquatic environment :

On ingredients

Pentafluoroethane

The product does not have any known adverse effects on the environment.

48 Hour - EC50 - Daphnia magna [mg/l] : 100 (Results obtained on a similar product).

72 Hours - EC50 - Algae [mg/l] : 114 (Results obtained on a similar product).

96 Hours - LC50 - Fish [mg/l] : 100 (Results obtained on a similar product).

12.2. Persistence and degradability

12.3. Bioaccumulative potential

Octanol/water partition coefficient :

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Ozone depletion potential:

Greenhouse effect :

-

1.48

-

-

ODP (R-11=1)=0

HGWP (R11=1) = 0.84

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## 13 DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

#### WASTE FROM PRODUCT :

Destruction/Disposal : Consult the manufacturer or supplier for information regarding recovery and recycling of the product

#### CONTAMINATED PACKAGING :

Destruction/Disposal : Reuse or recycle following decontamination.  
Destroy at an authorised site

NOTE : The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal

## 14 TRANSPORT INFORMATION

### INTERNATIONAL REGULATIONS :

14.1. UN number 3220  
14.2. UN proper shipping name PENTAFLUOROETHANE (REFRIGERANT GAS R 125)  
14.3. Transport hazard class(es)  
Rail/road (RID/ADR) : Class : 2  
Sea transport : Class : 2.2  
Air transport (OACI/IATA) : Class : 2.2  
Hazard Label(s) : 2.2



14.4. Packing group Not applicable  
14.5. Environmental hazards Not classified as dangerous to the aquatic environment  
Marine pollutant : NO

### 14.6. Special precautions for user

Rail/road (RID/ADR) : Classification code : 2A  
Hazard identification number : 20  
Tunnel restriction code : (C/E)

Sea transport : EmS Nr : F-C, S-V  
Segregation group : -

Air transport (OACI/IATA) : Cargo aircraft:  
Packing instruction: 200  
Quantity: 150 kg  
Passenger aircraft:  
Packing instruction: 200  
Quantity: 75 kg

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

NOTE : -  
The above regulatory prescriptions are those valid on the date of publication of this sheet  
However, given the possible evolution of transport regulations for hazardous materials, in case the present sheet is dating back to more than 12 months ago, it

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**14 TRANSPORT INFORMATION****(continued)**

would be advisable to check their validity with your commercial agency

**15 REGULATORY INFORMATION**

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

Ensure all national/local regulations are observed.

France :

Classified Installations : n° 1185

Germany :

WGK (Water-endangerment class) : 1

15.2. Chemical Safety Assessment

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**16 OTHER INFORMATION**

Further information:

Product for industrial use only

This safety data sheet has been written in conformity with the regulation (UE) 453/2010.

For more information regarding the use of this product, please refer to our technical information or contact the sales department in your region

Text of H-Phrases in § 3

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

\* Update :

All chapters have been modified since the previous version.

This sheet complements the technical sheets but does not replace them. The information given is based on our knowledge of the product, at the time of publication. It is given in good faith.

Besides, the attention of the user is drawn to the possible risks incurred by using the product for any other use than that for which it was intended.

In no way does this exempt the user from knowing and applying all the regulations controlling his activity. He alone will take on the responsibility for taking the precautions involved by the use of the product.

The aim of all the mandatory regulations mentioned is just to help the user to fulfil his obligations regarding the use of hazardous products.

This information must not be considered exhaustive. It does not exempt the user from ensuring that other obligations than those mentioned could apply, related to the storage and use of the product, this being his sole responsibility.

**End of document****DEHON SERVICE**

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