

	<b>SAFETY DATASHEET</b>	Page : 1/10
		Revised edition n° : 10.3
		Revision date : 03/2024
<b>R507</b>		<b>MTGxxx</b>

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

### 1.1. Product identifier

Trade name	R507
Chemical description	Refrigerant mixture HFC (Pentafluoroethane, 1,1,1-Trifluoroethane)
CAS N°	-
CE N°	-
Index N°	-
Registration n°	-
Chemical formula	C <sub>2</sub> HF <sub>5</sub> , C <sub>2</sub> H <sub>3</sub> F <sub>3</sub>

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

Relevant identified uses	Industrial and professional Test gas/Calibration gas Use for manufacture of electronic/photovoltaic components Use as refrigerant Laboratory use Contact supplier for more information on uses
Uses advised against	For use by industrial or professional users only

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

Company identification	MULTIGAS Route de l'Industrie 102 CH-1564 Domdidier
Phone number	+41 (0) 26 676 94 94
E-mail address	<a href="mailto:info@multigas.ch">info@multigas.ch</a>

### 1.4. Emergency telephone numbers

145 (Toxicology Centre Zurich) or +41 (0) 44 251 51 51  
+41 (0) 26 676 94 94 (Multigas)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Gases under pressure : Liquefied gas

H280

For the complete H-sentences texts mentioned in that chapter, refer to Section 16

	<b>SAFETY DATASHEET</b>	Page : 2/10
		Revised edition n° : 10.3
		Revision date : 03/2024
<b>R507</b>		<b>MTGxxx</b>

## 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms



GHS04

Signal word

Warning

Hazard statements

H280 Contains gas under pressure; may explode if heated

Precautionary statements

P410+403 Protect from sunlight. Store in a well-ventilated place

## 2.3. Other hazards

None

## SECTION 3: Composition/information on ingredients

### 3.1. Substances


Name	Product identifier	Concentration	Classification
Pentafluoroethane (R125)	(CAS-No.) 354-33-6 (EC-No.) 206-557-8 (EC Index-No.) --- (Registration-No.) 01-2119485636-25	42 - 46 %	Press. Gas (Liq.), H280
1,1,1-Trifluoroethane (R143A)	(CAS-No.) 420-46-2 (EC-No.) 206-996-5 (EC Index-No.) --- (Registration-No.) 01-2119492869-13	50 - 54 %	Flam. Gas 1 H220 Press. Gas (Liq.) H280

For the complete H-sentences texts mentioned in that chapter, refer to Section 16

Contains no other components or impurities which will influence the classification of the product

### 3.2. Mixtures

Not established

	<b>SAFETY DATASHEET</b>	Page : 3/10
		Revised edition n° : 10.3
		Revision date : 03/2024
<b>R507</b>		<b>MTGxxx</b>

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>General advice</b>	See a doctor. Show this safety data sheet to the attending physician
<b>In case of inhalation</b>	In case of inhalation, remove the person from the contaminated area. In case of respiratory arrest, give artificial respiration. See a doctor
<b>In case of skin contact</b>	No adverse effects expected
<b>In case of eyes contact</b>	Immediate washing, abundant and prolonged with water. If irritation persists, consult a doctor
<b>In case of ingestion</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. See a doctor

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

Refer to section 11

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

Do not give adrenaline or similar drugs

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	Dieses Produkt ist nicht entflammbar Water spray or water mist. Dry powder. Carbon dioxide. Foam
<b>Unsuitable extinguishing media</b>	Do not use water jet to extinguish

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

<b>Specific hazards</b>	In case of fire or excessive heat, hazardous combustion products may be produced Exposure to fire may cause containers to rupture/explode
<b>Hazardous combustion products</b>	In case of fire or excessive heat, hazardous combustion products may be produced such as : carbonyl fluoride, carbon monoxide, hydrogen fluoride

### 5.3. Additional information

Cool endangered receptacles with water spray jet from a protected position

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, spray mists or gases  
Provide adequate ventilation  
Evacuate personnel to a safe place

	<b>SAFETY DATASHEET</b>	Page : 4/10
		Revised edition n° : 10.3
		Revision date : 03/2024
<b>R507</b>		<b>MTGxxx</b>

Personal protective equipment, see section 8

### **6.2. Environmental precautions**

Avoid release into the environment  
 Avoid any spills or leaks  
 Contaminated wash water must be retained and disposed of

### **6.3. Methods and material for containment and cleaning up**

Ventilate the area

### **6.4. Reference to other sections**

See also sections 8 and 13

## SECTION 7: Handling and storage

### **7.1. Precautions for safe handling**

For precautions, see section 2.2

### **7.2. Conditions for safe storage, including any incompatibilities**

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place  
 Content under pressure  
 Shelf life: > 10 years  
 Recommended storage temperature: < 52 °C

### **7.3. Specific end use(s)**


None

## SECTION 8: Exposure controls/personal protection

### **8.1. Control parameters**

Components with occupational exposure limits

Component	CAS N°	Exposure value type	Control parameter	Source
Pentafluoroethane	354-33-6	TWA	-	No limit value of exposure to workstations
			-	
		OEL	-	
			-	
1,1,1-Trifluoroethane	420-46-2	TWA	-	No limit value of exposure to workstations
			-	
		OEL	-	
			-	

	<b>SAFETY DATASHEET</b>	Page : 5/10
		Revised edition n° : 10.3
		Revision date : 03/2024
<b>R507</b>		<b>MTGxxx</b>

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation  
Gas detectors should be used when flammable / toxic gases / vapours are likely to be released

### 8.2.2. Individual protection measures, e.g. personal protective equipment

<b>Eye/face protection</b>	Wear goggles and a face shield when transfilling or breaking transfer connections. Standard EN 166
<b>Skin / hand protection</b>	<p>Wear protective gloves when handling gas cylinders Standard EN 388- Protective gloves against mechanical hazards</p> <p>The selected protective gloves have to satisfy the specifications of EU Directive 89/686 / EEC and the standard EN 374 derived from it</p> <p><b>For short-term use</b>  Material: Fluoroelastomer  Glove thickness: 0.7 mm  Penetration time: 480 min</p> <p><b>For long-term use</b>  Material: Fluoroelastomer  Glove thickness: 0.7 mm  Penetration time: 480 min</p> <p>Have appropriate, chemical-resistant protective clothing ready for use in emergencies</p>
<b>Respiratory protection</b>	Self-contained breathing apparatus (SCBA) or positive pressure air mask must be used in oxygenated atmospheres. Standard EN 137 - Self-contained compressed air device with a full face mask

### 8.2.3. Environmental exposure controls

-

## SECTION 9: Physical and chemical properties

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

#### Appearance

- Physical state at 20°C / 101.3kPa      Gas
- Colour      Colourless

**Odour**      Slightly ethereal

**Odour threshold**      No data available

**pH**      No data available

**Melting point / Freezing point**      No data available

**Boiling point**      -47.1°C

	<b>SAFETY DATASHEET</b>	Page : 6/10
		Revised edition n° : 10.3
		Revision date : 03/2024
<b>R507</b>		<b>MTGxxx</b>

Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	Non-flammable
Explosive limits	No data available
Vapour pressure [20°C]	12.9 bar
Vapour pressure [50°C]	23.7 bar
Vapour density	No data available
Relative density, liquid (water=1)	1.04
Relative density, gas (air=1)	3.4
Water solubility	Very slightly soluble
Partition coefficient n-octanol/water (Log Kow)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	Non-combustible

## 9.2. Other information

Molar mass	98.9 g/mol
Critical temperature [°C]	71°C
Critical pressure	37.2 bar
Relative vapour density	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below

### 10.2. Chemical stability

Stable under recommended storage conditions

### 10.3. Possibility of hazardous reactions

Product may react with strong oxidising agents

### 10.4. Conditions to avoid

When mixed with high concentrations of air under pressure and/or at elevated temperatures, this substance may be combustible in the presence of an ignition source

Keep away from heat and sources of ignition. Avoid contact with flames and red-hot metal surfaces

	<b>SAFETY DATASHEET</b>	Page : 7/10
		Revised edition n° : 10.3
		Revision date : 03/2024
<b>R507</b>		<b>MTGxxx</b>

### **10.5. Incompatible materials**

Alkaline and alkaline earth metals, strong oxidizers, finely divided metals  
For additional information on compatibility refer to ISO 11114

### **10.6. Hazardous decomposition products**

Under normal conditions of storage and use, hazardous decomposition products should not be produced

## SECTION 11: Toxicological information

### **11.1. Chemical safety assessment**

Acute toxicity	Not harmful by inhalation
Skin corrosion/irritation	No data available
Serious eye damage/irritation	No data available
Respiratory or skin sensitisation	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
STOT-single exposure – Target organ(s)	No data available
STOT-repeated exposure	No data available
Ingestion hazard	No data available

### **11.2 Information on other hazards**

The substance/mixture has no endocrine disrupting properties

## SECTION 12: Ecological information

### **12.1. Toxicity**

Assessment	Not very harmful for fish
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### **12.2. Persistence and degradability**

Not readily biodegradable

### **12.3. Bioaccumulative potential**

No data available

### **12.4. Mobility in soil**

No data available

	<b>SAFETY DATASHEET</b>	Page : 8/10
		Revised edition n° : 10.3
		Revision date : 03/2024
<b>R507</b>		<b>MTGxxx</b>

### 12.5. Results of PBT and vPvB assessment

PBT / vPvB assessment is not available because the chemical safety assessment is not required / is not conducted

### 12.6. Endocrine-disrupting properties

The substance/mixture does not have endocrine disrupting properties

### 12.7. Other adverse effects

#### Effect on the ozone layer

May contribute to the greenhouse effect when discharged in large quantities For quantities, see bottle label

Ozone depletion potential 0

#### Effect on global warming

Global warming potential 3985

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Product

Must not be released into the atmosphere

Burn in a chemical incinerator equipped with an afterburner and scrubber

#### Contaminated container

Return to the supplier the product not consumed in its original container

Contact the supplier if instructions are needed

#### OMoD Code

14 06 01

Solvent, refrigerant and aerosol propellant or organic foam wastes: Chlorofluorocarbons, HCFCs, HFCs

## SECTION 14: Transport information


### 14.1. UN number

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
1078	1078	1078

### 14.2. UN proper shipping name

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
REFRIGERANT GAS N.O.S. (REFRIGERANT GAS R507)	REFRIGERANT GAS N.O.S. (REFRIGERANT GAS R507)	REFRIGERANT GAS N.O.S. (REFRIGERANT GAS R507)



	<b>SAFETY DATASHEET</b>	Page : 9/10
		Revised edition n° : 10.3
		Revision date : 03/2024
<b>R507</b>		<b>MTGxxx</b>

### 14.3. Transport hazard class(es)

#### Labelling



ADR/RID  
IMDG  
IATA

2.2 : Non-flammable, non-toxic gases

### 14.4. Packing group

ADR/RID  
IMDG  
IATA

Not established

### 14.5. Environmental hazards

ADR/RID

None

IMDG

None

ICAO-TI / IATA-DGR

None

### 14.6. Special precautions for user

No data available

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

This safety data sheet complies with the requirements of Regulation (CE) No. 1907/2006

### 15.2. Chemical safety assessment

A CSA has not been made yet


## SECTION 16: Other information

#### Indication of changes

Revised safety data sheet in accordance with commission regulation (EU) No 2015/830

#### Abbreviations and acronyms

ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road  
CAS : Chemical Abstract Service number (USA)  
CLP : Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

	<b>SAFETY DATASHEET</b>	Page : 10/10
		Revised edition n° : 10.3
		Revision date : 03/2024
<b>R507</b>		<b>MTGxxx</b>

CSA :	Chemical Safety Assessment
EIGA :	European Industrial Gases Association
EINECS :	European Inventory of Existing Commercial Chemical Substances
EN :	European Standard
ATE :	Acute Toxicity Estimate
IATA :	International Air Transport Association
IMDG Code :	International Maritime Dangerous Goods Code
LC50 :	Lethal Concentration to 50 % of a test population
OMoD :	Swiss Ordinance on the movement of waste
PBT :	Persistent, Bioaccumulative and Toxic
PPE:	Personal Protection Equipment
REACH :	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID :	Regulations concerning the international carriage of dangerous goods by rail
RMM :	Risk Management Measures
STOT-SE :	Specific Target Organ Toxicity - Single Exposure
UN :	United Nations
vPvB :	Very Persistent and Very Bioaccumulative
WGK:	Water Hazards Class

### Full text of H, EUH and P statements used in sections 2 and 3

#### Hazard statements

H280 Contains gas under pressure; may explode if heated

#### Precautionary statements

P410+403 Protect from sunlight. Store in a well-ventilated place

#### Disclaimer of liability

Details given in this document have been prepared based on the most available reliable documents and are believed to be correct at the time of going to press

They do not claim to be exhaustive and should be considered as a guide