

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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R407F (performax LT)

Revision 0

Revision date 2012-03-29

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

1.1. Product Identifier

Product name R407F (performax LT)

1.3. Details of the supplier of the safety data sheet

Company A-Gas UK Limited
Address Banyard Road
Portbury West
Bristol
BS20 7XH
United Kingdom
Telephone 01275 376600
Fax 01275 376601
Email address of the competent person info.uk@agas.com

1.4. Emergency telephone number

Emergency telephone number 01275 376600

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Main hazards No Significant Hazard

2.3. Other hazards

Other hazards Liquefied Gas.
Rapid evaporation of the liquid may cause frostbite.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

67/548/EEC / 1999/45/EC

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification
1,1,1,2-Tetrafluoroethane		811-97-2	212-377-0		30 - 40%	
Pentafluoroethane		354-33-6	206-557-8		20 - 30%	
Difluoromethane (R32)		75-10-5	200-839-4		20 - 30%	F+; R12

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Move the exposed person to fresh air. If breathing is difficult give oxygen. Seek medical attention if irritation or symptoms persist.

Eye contact Keep eyelids open to allow evaporation of the product. Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.

Skin contact Allow to evaporate. Wash off immediately with plenty of soap and water. Remove contaminated

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4.1. Description of first aid measures

Ingestion	clothing. Seek medical attention if irritation or symptoms persist.
	Not applicable.

SECTION 5: Firefighting measures

5.1. Extinguishing media

	Use extinguishing media appropriate to the surrounding fire conditions. Cool fire exposed containers with waterspray.
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5.2. Special hazards arising from the substance or mixture

	Heating produces hazardous fumes.
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5.3. Advice for firefighters

	Wear self contained breathing apparatus and protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

	Ensure adequate ventilation of the working area. Evacuate personnel to a safe area. Prevent further spillage if safe. Keep public away from danger area. Keep upwind. Eliminate all sources of ignition.
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6.2. Environmental precautions

	Should not be released into the environment.
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6.3. Methods and material for containment and cleaning up

	Allow to evaporate. Do not allow product to enter drains.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

	Ensure adequate ventilation of the working area. Keep away from sources of ignition - No smoking. Keep away from heat. Use only equipment and materials which are compatible with the product.
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7.2. Conditions for safe storage, including any incompatibilities

	Keep in a cool, dry, well ventilated area. Store in original container. Keep away from incompatible materials.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Exposure Limit Values

1,1,1,2-Tetrafluoroethane	WEL 8-hr limit ppm: 1000	WEL 8-hr limit mg/m ³ : 4240
	WEL 15 min limit ppm: -	WEL 15 min limit mg/m ³ : -

8.2. Exposure controls

8.2.1. Appropriate engineering controls	Ensure adequate ventilation of the working area.
8.2.2. Individual protection measures	Wear protective clothing. Apron (Plastic or rubber). Rubber boots. Wash all contaminated clothing before reuse.
Eye / face protection	Approved safety goggles. In case of splashing, wear: Face shield.
Skin protection - Handprotection	Wear suitable gloves. Ensure the permeability and break through times are compatible with the specific workplace conditions i.e. duration of contact and mechanical strain.
Respiratory protection	Use self contained breathing apparatus in all circumstances where there is medium confinement,

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8.2. Exposure controls

Occupational exposure controls	insufficient oxygen, in cases of uncontrolled emissions and in all circumstances where standard respiratory protection does not provide adequate protection. Use only respiratory protection that conforms to international / national standards. In the case of vapour formation use a respirator with an approved filter.
	Apply technical measures to comply with the occupational and workplace exposure limits. Use only in an area equipped with a safety shower. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feedingstuffs.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State	Liquified Gas.
Colour	Colourless
Odour	Slight
Boiling point	-45.5 °C
Vapour pressure	9.89 bar @ 20°C

SECTION 10: Stability and reactivity

10.2. Chemical stability

	Stable under normal conditions. Vapours are heavier than air.
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10.3. Possibility of hazardous reactions

	Alkali metals. Oxidising agents.
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10.4. Conditions to avoid

	Heat.
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10.6. Hazardous decomposition products

	Hydrogen fluoride. Carbon oxides.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	In cases of high concentration inhalation may cause: Narcosis, Asphyxia, Cardiac Arrhythmia. Rapid evaporation of the liquid may cause frostbite.
Skin corrosion/irritation	May cause irritation to eyes. May cause irritation to skin.

11.1.4. Toxicological Information

1,1,1,2-Tetrafluoroethane	Inhalation Rat LC50/4H h: 1500 gm/m3	Inhalation Mouse LC50/2H h: 1700 gm/m3
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SECTION 12: Ecological information

12.1. Toxicity

1,1,1,2-Tetrafluoroethane	Daphnia EC50/48h: 980 mg/l	Rainbow trout LC50/96h: 450 mg/l
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	Global Warming Potential: 1 653.
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SECTION 13: Disposal considerations

General information

	Dispose of in compliance with all local and national regulations.
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Disposal methods

	Refer to manufacturer / supplier for information on recovery / recycling.
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SECTION 14: Transport information

Hazard pictograms

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Hazard pictograms



14.1. UN number

UN3163

14.2. UN proper shipping name

LIQUEFIED GAS, N.O.S. (contains 1,1,1,2-tetrafluoroethane, difluoromethane, pentafluoroethane)

14.3. Transport hazard class(es)

ADR/RID	2
Subsidiary risk	-
IMDG	2.2
Subsidiary risk	-
IATA	2.2
Subsidiary risk	-

14.4. Packing group

Packing group -

14.5. Environmental hazards

Environmental hazards	No
Marine pollutant	No

ADR/RID

Hazard ID	20
Tunnel Category	(C/E)

IMDG

EmS Code F-C S-V

IATA

Packing Instruction (Cargo)	200
Maximum quantity	150 kg
Packing Instruction (Passenger)	200
Maximum quantity	75 kg

SECTION 15: Regulatory information

Labelling

Risk phrases No Significant Hazard.

SECTION 16: Other information

Other information

Text of risk phrases in Section 3 R12 - Extremely flammable.

Further information

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.