

## SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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### R404A

Revision 0  
Revision date 17-05-2010

#### 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

**Product name** R404A  
**Company** A-Gas UK Limited  
Banyard Road  
Portbury West  
Bristol  
BS20 7XH  
United Kingdom  
info.uk@agas.com  
**Telephone** 01275 376600  
**Fax** 01275 376601  
**Emergency telephone number** 0800 731 1444

#### 2. HAZARDS IDENTIFICATION

**Main hazards** No Significant Hazard.  
**Other hazards** Liquefied Gas.

#### 3. COMPOSITION / INFORMATION ON INGREDIENTS

##### Hazardous ingredients

	Conc.	CAS	EINECS	Symbols/Risk phrases
1,1,1,2-Tetrafluoroethane (1,1,1,2-Tetrafluoroethane (HFC 134a))	1 - 10%	811-97-2	212-377-0	
Pentafluoroethane	40 - 50%	354-33-6	206-557-8	
1,1,1-Trifluoroethane	50 - 60%	420-46-2	206-996-5	R10

#### 4. FIRST AID MEASURES

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

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

**Ingestion** Not applicable.

#### 5. FIRE FIGHTING MEASURES

**Extinguishing media** Use extinguishing media appropriate to the surrounding fire conditions. Cool fire exposed containers with waterspray.

**Fire hazards** Heating produces hazardous fumes.

**Protective equipment** Wear self contained breathing apparatus and protective clothing.

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## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	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.
<b>Environmental precautions</b>	Should not be released into the environment.
<b>Clean up methods</b>	Allow to evaporate. Do not allow product to enter drains.

## 7. HANDLING AND STORAGE

<b>Handling</b>	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.
<b>Storage</b>	Keep in a cool, dry, well ventilated area. Store in original container. Keep away from incompatible materials.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure limits

1,1,1,2-Tetrafluoroethane	WEL 8-hr limit ppm: 1000	WEL 8-hr limit mg/m <sup>3</sup> : 4240
(1,1,1,2-Tetrafluoroethane (HFC 134a))	WEL 15 min limit ppm: -	WEL 15 min limit mg/m <sup>3</sup> : -

<b>Engineering measures</b>	Ensure adequate ventilation of the working area.
<b>Occupational exposure controls</b>	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.
<b>Respiratory protection</b>	Use self contained breathing apparatus in all circumstances where there is medium confinement, 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.
<b>Hand protection</b>	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.
<b>Eye protection</b>	Approved safety goggles. In case of splashing, wear: Face shield.
<b>Protective equipment</b>	Wear protective clothing. Apron (Plastic or rubber) Rubber boots. Wash all contaminated clothing before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Description</b>	Liquified Gas.
<b>Colour</b>	Colourless.
<b>Odour</b>	Slight.
<b>Boiling point</b>	-47-8°C
<b>Vapour density</b>	3.43 (Air = 1)

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## 10. STABILITY AND REACTIVITY

**Stability** Stable under normal conditions. Vapours are heavier than air.  
**Conditions to avoid** Heat.

## 11. TOXICOLOGICAL INFORMATION

### Toxicological information

1,1,1,2-Tetrafluoroethane Inhalation Rat LC50/4H h = 1500 gm/m<sup>3</sup>  
 Inhalation Mouse LC50/2H h = 1700 gm/m<sup>3</sup>

1,1,1-Trifluoroethane Inhalation Rat LC50/4H h = >54 pph

**Corrosivity** May cause irritation to eyes. May cause irritation to skin.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** Global Warming Potential: 3784.

1,1,1,2-Tetrafluoroethane Daphnia EC50/48h = 980 mg/l  
 Rainbow trout LC50/96h = 450 mg/l

## 13. DISPOSAL CONSIDERATIONS

**General information** Dispose of in compliance with all local and national regulations.  
**Disposal methods** Refer to manufacturer / supplier for information on recovery / recycling.

## 14. TRANSPORT INFORMATION

### ADR/RID

UN 3337 Packing group -  
 Class 2 Hazard ID 20  
**Proper Shipping Name** REFRIGERANT GAS R 404A .

### IMDG

UN 3337 Packing group -  
 Class 2 Marine pollutant NO  
**EmS Code** F-C S-V

### IATA

UN 3337 Packing group -  
 Class 2 Subsidiary risk -  
**Packing Instruction** 200 Maximum quantity 150 kg  
 (Cargo)  
**Packing Instruction** 200 Maximum quantity 75 kg  
 (Passenger)

## 15. REGULATORY INFORMATION

**Risk phrases** No Significant Hazard.

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## 16. OTHER INFORMATION

**Text of risk phrases in Section 3** R10 - 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.