

# Material Safety Data Sheet

P110-70-010  
Issue B  
Date 06/97

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

<b>Product Name</b>	Refrigerant 502
<b>Item No(s)</b>	H128-01-001
<b>Synonyms</b>	R502, Freon 502, Arcton 502.
<b>Intended use</b>	Refrigerant used in refrigerator systems.
<b>Supplier</b>	Edwards High Vacuum International Manor Royal, Crawley, West Sussex RH10 2LW, UK <a href="http://www.edwards.boc.com">http://www.edwards.boc.com</a>
<b>Emergency Telephone Numbers</b>	UK: +44 (0) 1293 528844 France: +331 (1) 47 98 24 01 Germany: +49 (0) 6421 8030 USA transport enquiries: Chemtrec 1 800 424 9300 USA other enquiries: 1 800 848 9800

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## SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients name	% Weight	Classification	Risk phrase	CAS No.
Refrigerant 22	48.8	Non hazardous	Not applicable	75-45-6
Refrigerant 115	51.2	Non hazardous	not applicable	76-15-3

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## SECTION 3 HAZARDS IDENTIFICATION

Nature of the hazard	Asphyxiation.
Precaution to be taken	Move to ventilated area. Do not use adrenalin or similar cardiac stimulants. Do not allow naked flames or smoking in the presence of gas.

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## SECTION 4 FIRST AID MEASURES

Skin contact	Remove clothing from affected area and carefully irrigate with tepid water for at least 15 minutes. Apply a sterile dressing and treat as for a thermal burn. Obtain medical attention.
Eyes contact	Carefully irrigate with tepid water for at least 15 minutes. Apply a sterile dressing and treat as for a burn. Obtain medical attention.
Inhalation	Minimise personal risk. Remove victim to uncontaminated area or open air. Ensure airway is clear. If breathing is weak or stopped apply artificial ventilation, preferably using oxygen resuscitator. Do not use adrenalin or other cardiac stimulants. Call for ambulance <b>IMMEDIATELY.</b>
Ingestion	Not applicable.
Other information	None.

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## SECTION 5 FIRE FIGHTING MEASURES

Extinguishing media	Not applicable.
Fire fighting procedure	Wear a self-contained breathing apparatus (SCBA) in confined areas and for any significant fire.
Unusual fire fighting hazards	Storage cylinders are pressurised which may cause an explosion.
Combustion products	Fluorides and chlorides. Catalysed by brass, bronze and silver.
Fire hazards in presence of other materials	None known.

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## SECTION 6 ACCIDENTAL RELEASE MEASURES

Ensure area is well ventilated. **Do not** allow smoking or any other naked flames.  
Prevent liquid entering sewers, basements or workpits.

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## SECTION 7 HANDLING AND STORAGE

Store upright, restrict access to authorised personnel.  
Use normal precautions for pressurised gas cylinders.

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## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures	Extractor fan.
Exposure limits	Refrigerant 22: 1000 ppm (8 hour TWA), 1250 ppm (10 min TWA). Refrigerant 115: Not applicable.
Personal protective equipment	
Respiratory protection	Not required if the area is well ventilated.
Eye protection	Use goggles.
Hand protection	Protective gloves required to protect against cold liquid.
Other requirements	Wear overalls.
Hygiene measures	None.

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## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odour	Colourless like gas. Mild ethereal odour.	Auto ignition (°C)	Non-flammable
Boiling point (°C)	-45.6	pH (as supplied)	Neutral
Melting point (°C)	Not applicable	Vapour pressure (mbar)	9.12 bar
Freezing point (°C)	Refrigerant 22: -160 Refrigerant 115: -106	Solubility in water	Ref 22: 0.3% by weight Ref 115: 0.006% by weight
Flash point (°C)	Not applicable	Volatile content by volume	100
Flash point method	Not applicable	Specific gravity (H <sub>2</sub> O=1)	1.263 at 20 °C

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**SECTION 10 STABILITY AND REACTIVITY**

Stability	Stable.
Conditions to avoid	High temperatures (toxic fluorides, chlorides evolved).
Materials to avoid	Magnesium alloys, zinc.
Hazardous decomposition products	Fluorides and chlorides at high temperatures.

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**SECTION 11 TOXICOLOGICAL INFORMATION**

## Possible health effects

Skin	Cold burns from contact with liquid.
Eyes	Cold burns from contact with liquid.
Inhalation	Asphyxiation.
Ingestion	Not applicable.

## Other health hazard information

## Animal data

LD50 value	Not established.
LC50 value	Not established.

Carcinogenic No

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**SECTION 12 ECOLOGICAL INFORMATION**

No data currently available.

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**SECTION 13 DISPOSAL CONSIDERATIONS**

Into recovery cylinders provided by suppliers.

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**SECTION 14 TRANSPORT INFORMATION**

U.N. Number	1973.
Hazard Identification No.	20.
Emergency Action (HAZCHEM) Code	2RE.

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## SECTION 15 REGULATORY INFORMATION

This product has been classified in accordance with the Dangerous Substances Directive (67/548/EEC, as amended) and the Preparations Directive (88/379/EEC, as amended), implemented in the UK as the Chemical (Hazard Information and Packing) Regulations 1993 (CHIP).

Dangerous for supply	No.
Risk phrases	Not applicable.
Safety phrases	Not applicable.
Symbols	Not applicable.

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## SECTION 16 OTHER INFORMATION

The format of this data sheet complies with the requirements of ANSI Z400.1 and the EC Safety Data Sheets Directive (91/155/EEC).

Glossary: CAS - Chemical Abstract Services; LC - Lethal Concentration; LD - Lethal Dose; TLV - Threshold Limit Value.

Sources of data:

DCC No. 628

P900-32-000 Issue A

P110-70-010 Issue B Page 4 of 4

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Although the information and recommendations in this data sheet are to the best of our knowledge correct, it is important that you make your own determination of the material's suitability for your purpose before you use it. Edwards High Vacuum International accept no responsibility for damages of any nature resulting from the use of, or the reliance upon, this data sheet.