

# Material Safety Data Sheet

## (HCFC 22)

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### HCFC 22

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Material Identification

Corporate MSDS Number: HCFC 22 CAS Number: 75-45-6  
Product Name R22  
Chemical Formula CHClF<sub>2</sub>  
Chemical Name CHLORODIFLUOROMETHANE  
Product Use Refrigerant, blowing agent

### Company Identification

**MANUFACTURER/DISTRIBUTOR:** Cosutin Industrial CO., Limited  
Add: Unit B, 10/F Lee May Building 788-790 Nathan Road, Mongkok, Kowloon, H.K  
Tel.: +852 21395855 Fax: +852 81673777  
**PHONE NUMBERS Product Information:** +86 136 31481545  
**Transport Emergency:** +86 136 31481545  
**Medical Emergency:** +86 136 31481545

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Names: Chlorodifluoromethane  
Chemical Family: Chlorofluorocarbon  
UN No. 1018  
ERG No 126  
Hazchem Warning 2C non-flammable gas

Ingredient Name	CAS No.	Typical Wt. %
R22	75-45-6	100%

## 3. HAZARDS IDENTIFICATION

**Main Hazards:** All cylinders are portable gas containers, and must be regarded as pressure vessels at all times. R22 does not support life. It can act as a simple asphyxiant by

diluting the concentration of oxygen in air to below the levels necessary to support life.

**Adverse:** Contains a liquefied gas. Contact with liquid

**Health effects:** may cause frostbite and injury to the cornea.

**Chemical:** Heating will cause a rise in pressure with a risk hazards of bursting. On combustion, toxic gases are released.

**Biological:** Contact with the liquid phase could cause hazards freeze burns.

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#### 4. FIRST AID MEASURES

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Prompt medical attention is mandatory in all cases of overexposure to vaporised R22. Rescue personnel should be equipped with self-contained breathing apparatus. Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be removed to an uncontaminated area and given mouth-to-mouth resuscitation and supplemental oxygen. The use of adrenaline or similar drugs should be avoided.

**Eye contact:** (Vapour) No known effect. (Liquid) Immediately flush with large quantities of tepid water, or with sterile saline solution. Seek medical attention.

**Skin contact:** (Vapour) No known effect. (Liquid) In case of frostbite from contact with liquid R22, place the frost-bitten part in warm water, about 40-42°C. If warm water is not available, or is impractical to use, wrap the affected part gently in blankets. Encourage the patient to exercise the affected part whilst it is being warmed. Do not remove clothing whilst frosted..

**Ingestion:** Provided the patient is conscious, wash out the mouth with water, and give 200-300 ml to drink. Obtain immediate medical attention.

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#### 5. FIRE FIGHTING MEASURES

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**Extinguishing Media:** As R22 is non-flammable, it will not contribute to the fire, but could help with the extinguishing by reducing the oxygen content of the air by dilution to below the level to support combustion. If possible shut off the source of R22. Evacuate area. All cylinders should be removed from the vicinity of the fire. Cylinders that cannot be removed should be cooled with water from a safe distance. Cylinders which have been exposed to excessive heat should be clearly identified for inspection.

**Specific:** Pressurised container. On heating there is a risk hazards of bursting due to internal pressure build-up NOT flammable. However, it may present a risk in the event of fire. Toxic vapours (Halogen compounds ) are released. Vapour / air mixture may be flammable under specific conditions.

**Protective:** Self-contained breathing apparatus. Safety gloves clothing and shoes, or boots, should be worn when handling cylinders.

**Environmental precautions:** Care should be taken when entering a potentially oxygen-deficient environment. If possible, ventilate the affected area.

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#### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:**

Do not enter any areas where R22 has been spilled unless tests have shown that it is safe to do so.

**Environmental:**

Prevent the product from spreading into the precautions environment. Contain the spilled material by bunding.

**Small spills:**

Shut off source of the R22. Ventilate the area.

**Large spills:**

Evacuate the area. Shut off the source of the spill if this can be done without risk. Restrict access to the area until completion of the clean-up procedure. Ventilate the area using forced-draught if necessary.

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## 7. HANDLING AND STORAGE

**Storage** - Keep containers in cool clean and dry area. Do not heat above 52 deg C (125 deg F)

**Handling** - Avoid breathing high concentrations of vapors and avoid liquid contact with skin or eyes. Use in well ventilated area away from possible ignition sources. Use with sufficient ventilation to keep employee exposure below recommended limits.

Do not allow cylinders to slide or come into contact with sharp edges. R22 cylinders should be stacked vertically at all times, and should be firmly secured in order to prevent them from being knocked over. Use a "first in - first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Keep out of reach of children.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational exposure hazards:**

As R22 is a simple asphyxiant, avoid any areas where spillage has taken place. Only enter once testing has proved the atmosphere to be safe, and remember that the gas is heavier than air.

**Engineering Control measures:**

Engineering control measures are preferred to reduce exposure to oxygen depleted atmospheres. General methods include forced-draught ventilation, separate from other exhaust ventilation systems. Ensure that sufficient fresh air enters at, or near, floor level.

**Personal protection:**

Self-contained breathing apparatus should always be worn when entering area where oxygen depletion may have occurred. Safety goggles, gloves and shoes or boots should be worn when handling cylinders.

**Skin:** No known effect

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL DATA**

Molecular Weight: 86.47

Chemical formula: CHClF<sub>2</sub>

Boiling point: -40.80°C @ 101,325 kPa

Vapor Density 3.03 at 25 °C (Air = 1)  
Liquid Density 1.194 g/cm(3) at 25°C (77 deg F)  
Vapour pressure: 1040 kPa @ 21°C  
Ozone depletion potential: 0.55  
Colour: Colourless  
Taste: Not applicable  
Odour: Slightly ethereal  
Solubility in Water: 0.3 WT % at 25°C (77 deg F)

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## 10. STABILITY AND REACTIVITY

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**Conditions to avoid:** Material is stable. However, avoid open flames and high temperatures. Never use cylinders as rollers or supports, or for any other purpose than the storing of R22. Never expose the cylinders to excessive heat, as this may cause sufficient build-up of pressure to rupture the cylinders.

**Incompatible:** Incompatible with alkali or alkaline earth metals - powdered Al, An, Be, etc. Since the performance of plastic materials is materials affected by polymer variations, compounding agents, fillers, and moulding processes, verify compatibility using actual fabricated parts under end-use conditions. The effects on specific elastomers depend on the nature of the polymer, the compounding formulation used and the curing of vulcanizing conditions. Actual samples should be tested under end-use conditions before specifying elastomers for critical components.

**Hazardous Decomposition Products:** R22 vapours will decompose when exposed to high temperatures from flames or electric resistance heaters. Decomposition may produce toxic and irritating compounds, such as hydrogen fluoride.

Polymerization - Polymerization will not occur.

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## 11. TOXICOLOGICAL INFORMATION

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Acute Toxicity: (TWA 8+12 hr) 1000 ppm

Skin & eye contact: No known effect

Chronic Toxicity: No known effect

Carcinogenicity: No known effect

Mutagenicity: No known effect

Reproductive Hazards: No known effect

(For further information see Section 3. Adverse health effects)

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## 12. ECOLOGICAL INFORMATION

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**Environmental** Dangerous to the ozone layer.

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## 13. DISPOSAL CONSIDERATIONS

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**Disposal Methods** Do not allow the product to be released into the environment. Consult the manufacturer of supplier for information regarding recovery and recycling of the product.

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## 14. TRANSPORTATION INFORMATION

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Un no: 1018  
Class 2.2  
Responsible Party Cage: 0L2W7  
IMO Trans ID NO: 47719  
Product ID: R22  
MFN: 1  
IMO Tech Entry NOS Shipping Nm: CHLORODIFLUOROMETANE  
Unit Of Issue: CY  
Type Of Container: CYLINDER, DISP

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## 15. REGULATORY INFORMATION

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EEC Hazard class Non flammable gas  
Risk phrases R20 Harmful by inhalation  
R34 Causes burns.  
R44 Risk of explosion if heated under confinement.  
R59 Dangerous for the ozone layer  
Safety phrases SS2 Keep out of reach of children  
S9 Keep container in a well ventilated place  
S15 Keep away from heat.  
S37 Wear suitable gloves  
S38 In case of insufficient ventilation, wear suitable respiratory equipment.  
S51 Use only in well-ventilated areas  
National legislation None  
Refer to SABS 0265 for explanation of the above.

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## 16. OTHER INFORMATION

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All the constituents of this preparation are registered in the EINECS inventory. All the components of this preparation are registered in the TSCA inventory.

### Revision Information

Revision Data	20 Dec 2012	Revision Number 10
Supersedes Revision Dated	20-Dec-2012	

### Key

NE= Not Established	NA= Not Applicable	(R) = Registered Trademark
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