ZHEJIANG NOF CHEMICAL CO,.LTD.

MATERIAL SAFETY DATASHEET OF R22

1.PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name	R22 Chemical
Formula	CH Cl F2 Trade
Name	R22

Company Identification

Zhejiang Nofchem Chemical Co.,Ltd

Tel.: 86-579-82025658
Fax.:86-579-82025658

COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Names: Chlorodifluoromethane Chemical
Family Chlorofluorocarbon
Cas No. 75-45-6
UN No. 1018
ERG No 126
Hazchem Warning 2C non-flammable gas

1.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.

2.FIRST AID MEASURES

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.

3.FIRE FIGHTING MEASURES

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 hazards Pressurised container. On heating there is a risk 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 Clothing Self-contained breathing apparatus. Safety gloves 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.

4.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 Precautions Prevent the product from spreading into the 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.

5.HANDLING AND STORAGE

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.

6.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

7.PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA

Molecularr Weight 86,47

Chemical Symbol CHCIF2

Boiling point @ 101,325 kPa -40,80C

Density (saturated vapour) at boiling point

Vapour pressure @ 21° C 1040 kPa

Ozone depletion potential 0,55

Colour Colourless

Taste Not applicable

Odour Slightly ethereal

8. STABILITY AND REACTIVITY

Conditions to avoid 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 materials Since the performance of plastic materials is 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.

9. TOXICOLOGICAL INFORMATION

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)

10.ECOLOGICAL INFORMATION

Environmental Dangerous to the ozone layer.

11.DISPOSAL CONSIDERATIONS

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.

12.TRANSPORT INFORMATION

Un No. 1018

ERG No 126

Hazchem warning 2 C Non Flammable Gas

SEA TRANSPORTATION

IMDG 1018

Class 2.2

Label Non-flammable gas

AIR TRANSPORTATION

ICAO/IATA code 1018

Class 2.2

Packaging instructions

- Cargo 200

- Passenger 200

Maximum quantity allowed

- Cargo 150 kg

- Passenger 75 kg

13.REGULATORY INFORMATION

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.

14.OTHER INFORMATION

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

15.EXCLUSION OF LIABILITY

Information contained in this publication is accurate at the date of publication. The company does not accept liability arising from the use of this information, or the use, application, adaptation or process of any products described herein.