



SHANDONG SHING CHEMICAL CO., LTD

Add: No.1 Lutai AVE, High-tech Industrial Area, Zibo City, Shandong Province, 255000

Tel: 0086-533-3170168

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Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 1,1,1,2- tetrafluoroethane , CH_2FCF_3

OTHER/GENERIC NAMES: Refrigerant134a, R134a

RELATIVE MOLECULAR WEIGHT: 102.03

MANUFACTURER: Shandong Shing Chemical CO., LTD

ADDRESS: No.49 Zhongrun Road, High-tech Industrial Area, Zibo City, Shandong Province. China

P.C.: 255000

EMAIL: shingchem@163.com

FAX: 0086-533-3179168

EMERGENCY CALL: 0086-533-3170168

EFFECTIVE DATE: December 31th, 2016

NATIONAL EMERGENCY CALL: 86-533-3170168

2. COMPOSITION/INFORMATION ON INGREDIENTS

PURE [✓]

MIXED [×]

CHIEF INGREDIENTS

PURITY%

1,1,1,2- tetrafluoroethane , CH_2FCF_3

99.9%

MAIN FUNCTION: Refrigerants, plastics foaming, aerosol propellant, etc.

3. HAZARDS SUMMARIZATION

ATTACK WAY: Inhalation, skin and eyes touching

HEALTH HAZARDS: R134a belongs to non-toxic or low toxic class of compounds. With the acceptable level of the concentration range, it will not produce any toxic to humans and animals. While at high levels,,HFC-134A will make heat cause sensitive to adrenal gland.

4. FIRST AID MEASURES



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SKIN: Remove contaminated clothing, promptly flush skin with soap water or clean water for at least 15 minutes. Get medical attention if symptoms of frostbite persist.

EYES: **Lifting eyelids, immediately flush eyes with large amounts of flowing water or normal saline, then get medical attention.**

INHALATION: Immediately move to fresh air. Keep breathing unblocked. If breathing is difficult, administer oxygen. If breathing has stopped, give immediate artificial respiration and get medical attention.

INGESTION: Ingestion is unlikely to occur.

5. CHARACTERISTIC OF BLUST AND FIRE FIGHTING MEASURES

FLAMMABILITY: nonflammable.

FLASH POINT: none

LOWER EXPLOSION LIMIT (°C) : none

IGNITION TEMPERATURE (°C) : none

UPPER EXPLOSIVE LIMIT (°C) : none

MINIMUM IGNITION ENERGY (mJ) : none

MAXIMUM EXPLOSION PRESSURE (Mpa) : none

HAZARD CHARACTERISTIC: difficult-flammability

EXTINGUISHING METHOD: This product is non-flammable. Immediately cut off gas source when surrounding is on fire, use water spray to keep fire-exposed containers cool. If possible, remove containers from fire area to a clearing place.

6. ACCIDENTAL RELEASE MEASURES

Promptly evacuate unprotected personnel at contaminated areas to windward, Isolate hazard area and deny entry. Emergency personnel should wear self-contained, NIOSH-approved breathing apparatus and general work clothing. Try to shut off leak. The leaking containers should be appropriately disposed, repaired and checked before reuse.

7. HANDLING AND STORAGE

This non-flammable compressed gases should be Stored in a cool, well-ventilation area. Keep it far away from fire, heat source and out of direct sunlight. Store it apart from flammable or combustible material and oxidants. Pay attention to the commodity name as well as the cylinder-check date when checking. First storage, first use. When handling, be careful, so that to prevent the cylinder and container from damage.



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8. EXPOSE CONTROLS/PERSONAL PROTECTIO---

PLANT HEALTH STANDARDS:

CHINA MAC(mg/m^3):no standard

THE FORMER SOVIET UNION MAC(mg/m^3): no standard

USA TVL-TWA OSHA: no standard

USA TVL-STEL: no standard

CONTROL METHOD:

ENGINEERING CONTROLS: Closed and well-ventilated during manufacturing

BREATHING SYSTEM PROTECTION: Generally no need of special protection. Contact in high concentration could wear self-contained breathing apparatus.

EYES PROTECTION: Generally no need special protection.

BODY PROTECTION: Wear general work clothing.

HANDS PROTECTION: Wear general work protective gloves

OTHER PROTECTION: Avoid inhalation with high concentrated gas. The operator should be warded by someone if operating in contaminated, restricted spaces or other high concentrated areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE : 96 p @ 25 C (77 F)

MOLECULAR WEIGHT: 102.03

BOILING POINT °C: -26.5

FREEZING POINT °C : 103.0

CRITICAL TEMPERATURE °C : 101.1

CRITICAL PRSSURE, Bar: 40.6

SATURATED LIQUID DENSITY 25°C, (g/cm^3):1.207

SPECIFIC HEAT OF LIQUID 25°C, [($\text{KJ}/\text{kg} \cdot ^\circ\text{C}$)] :1.51

SOLUBILITY(in water) , % :0.15

SPECIFIC GRAVITY : 1.208 @ 77 F (25 C)

SOLUBILITY IN WATER : 0.15 WT% @ 25 C (77 F)

OZONE DEPLETING POTENTIAL VALUE (ODP) :0.000

CRITICAL DENSITY, g/cm^3 :0.510

GROWBAL WARMING POINT (GMP) :0.29

BOILING POINT POTENTIAL EVAPORATION, KJ/kg : 216.0

10. STABILITY AND REACTIVITY



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STABILITY: Stable

CONDITIONS TO AVOID: Be heated

INCOMPATIBILITIES: Strong oxidants,

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: CO、CO₂、HF

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS: 48 hour EC50 - Daphnia magna: 980 mg/L.

96 hour LC50 - Rainbow trout: 450 mg/L

12. ECOLOGICAL INFORMATION

The substance has no effect on the atmospheric ozone layer.

13. DISPOSAL CONSIDERATIONS

Disposal must comply with state and local disposal or discharge laws.

14. TRANSPORTATION INFORMATION

PACKING MARK: 4

PACKING GROUP: Class II

UN NO: 3159

UN CLASS: 2.2

15.LAWS INFORMATION

hazardous chemical materials safety control laws and the regulation concerning Safety in the Use of Chemicals at Work ,this two laws made stipulations on the safety using, producing, storage, shipping and loading; With the regular used tagged of hazardous chemical materials,(GB13690-92), R134a was classified as the Class 2.2 inflammable gas.

16.OTHER INFORMATION

APPLICATION DATE: November 27th, 2015

APPLICATION DEPARTMENT: TECHNOLOGY DEPARTMENT

DATE CONFIRMING ORGANISATION:



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REVISED COMMENT: First Prepared.