MATERIAL SAFETY DATA SHEET

Date Issued: 5/12/2020

1.IDENTIFICATION OF TH E S UBSTANCE/PREPARATION AND O F T HE COMPANY/UNDERTAKING

Name of product

Air Duster
Code ST1004

Manufacturer/distributor

SHANGHAI ZHANTU CHEMICAL CO., LTD
Rm.512,B Building,No.7001,Zhongchun Rd.,
Shanghai,China ,201101

Phone: +86(21)51762655
Fax: +86(21)51762655 Ext8014
E-Mail : sunto@chinazhantu.com
Internet : www.sunto.cn

Advice

Phone: +86(21)64619928

Recommended intended purpose(s)

Technical Aerosols

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Clear, Colorless, Volatile Liquid

IMMEDIATE CO NCERNS: Warning! H igh c oncentrations of va por c an r educe o xygen available for breathing. Harmful if inhaled. May decompose on contact with flames or extremely hot metal surfaces to produce toxic and corrosive products.

POTENTIAL HEALTH EFFECTS

EYES: Liquid contact can cause irritation, which may be severe.

SKIN: Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

INHALATION: High c oncentrations in i mmediate ar ea ca n d isplace oxygen and can ca use dizziness,unconsciousness, and possibly death with longer exposure. Keep people away from such vapors without self-contained breathing apparatus.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Can cause severe eye irritation.

SKIN: Exposure t o r apidly e xpanding ga s or vaporizing liquid may c ause f rostbite ("cold"

burn).

INHALATION: High concentrations may lead to central nervous system effects (drowsiness, dizziness,nausea, headaches, paralysis and loss of consciousness).

ACUTE TOXICITY: Overexposure may cause dizziness and loss of concentration. At higher levels, CNS depression and cardiac arrhythmia may result.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
1,1,1,2-Tetrafluoroethane	100	811-97-2	212-337-0

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

SKIN: In case of cold burns (frostbite) caused by rapidly expanding gas or vaporizing liquids, get medical attention promptly.

INGESTION: Ingestion is unlikely because of the physical properties and is not expected to be hazardous. Do not induce vomiting unless instructed to do so by a physician.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

NOTES T O P HYSICIAN: Because of the p ossible d isturbances o f cardiac r hythm, catecholamine dr ugs, s uch a s e pinephrine, s hould be us ed w ith s pecial c aution a nd only i n situations of emergency life support. Treatment of overexposure should be directed at the control of symptoms and the clinical conditions.

5. F IRE FIGHTING MEASURES

FLASHPOINT AND METHOD: Not Applicable

FLAMMABLE LIMITS: None*

AUTOIGNITION TEMPERATURE: > 750° C (1382° F)

FLAMMABLE CLASS: Not Applicable

FLAME PROPAGATION OR BURNING RATE OF SOLIDS: Not Applicable

EXTINGUISHING MEDIA: As appropriate for combustibles in area.

EXPLOSION H AZARDS: This product is not f lammable at ambient temperatures a nd atmospheric pressure. H owever, t his m aterial m ay b ecome co mbustible w hen mixed w ith a ir under pressure and exposed to strong ignition sources.

FIRE FIGHTING PROCEDURES: Use water spray to cool containers.

FIRE F IGHTING E QUIPMENT: As in a ny f ire, w ear s elf-contained b reathing apparatus

pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

COMMENTS: *Based on ASHRAE Standard 34 with match ignition.

6. ACCIDENTAL RELEASE MEASURES

GENERAL PROCEDURES: Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

RELEASE N OTES: Spills a nd r eleases may h ave to b e r eported to F ederal an d/or lo cal authorities.

7. H ANDLING AND STORAGE

HANDLING: Follow s tandard s afety pr ecautions for ha ndling and us e of c ompressed gas cylinders.

STORAGE: Store in a cool place in original container and protect from sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		SupplierOEL	
Chemical Name		**ppm**	**mg/m^3**	**ppm**	**mg/m^3**	**ppm**	**mg/m^3**
1,1,1,2-Tetrafluoroethane	**TWA**	NE		NE		1,000 ppm [1]	[1]

OSHA TABLE COMMENTS:
1. * (AEL)=Acceptable Exposure Limit as established by the manufacture
2. 2. NOT ESTABLISHED

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields (or goggles) and a face shield.

SKIN: Skin contact with liquid may cause frostbite. General work clothing and gloves (leather) should provide adequate protection. If prolonged contact with the liquid or gas is anticipated, insulated gloves constructed of PVA, neoprene or butyl rubber should be used. Any contaminated clothing should be promptly removed and washed before reuse.

RESPIRATORY: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Boiling Point (° C)	Freezing Point (° C)	Solubility in Water	Specific Gravity
1,1,1,2-Tetrafluoroethane	-26.4	-101	NEGLIGIBLE	1.21

PHYSICAL STATE: Gas
ODOR: Faint ethereal odor
pH: Neutral
PERCENT VOLATILE: 99.99+ at 20° C (68° F)
VAPOR PRESSURE: 85.8 psi at 21.1° C (70° F)
VAPOR DENSITY: 3.5 (Air=1)
BOILING POINT: -26.2° C (-15.1° F)
FREEZING POINT: -101° C (-149.8° F)
FLASHPOINT AND METHOD: Not Applicable
SOLUBILITY IN WATER: Negligible
EVAPORATION RATE: > 1 (CCL4=1)
SPECIFIC GRAVITY: 1.220 (water=1) at 20° C (68° F)
(VOC): < 1.000 % by weigh

10. STABILITY AND REACTIVITY

STABLE: Yes
HAZARDOUS POLYMERIZATION: No
STABILITY: Stable.
POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Stable. However, may decompose if heated.
HAZARDOUS DECOMPOSITION PRODUCTS: When exposed to high temperatures or flames this product may form hydrochloric and hydrofluoric acids - possibly carbonyl halides.
INCOMPATIBLE MATERIALS: Chemically active metals: potassium, calcium, powdered aluminum,magnesium and zinc.

11. TOXICOLOGICAL INFORMATION

ACUTE

Chemical Name	**INHALATION L C_{50} (rat)**
1,1,1,2-Tetrafluoroethane	> 500000 ppm

INHALATION LC_{50}: > 500000 ppm, 4-hour

CHRONIC: Chronic NOEL - 10,000 ppm

MUTAGENICITY: Collective data indicate non-mutagenic

12. EC OLOGICAL INFORMATION

ENVIRONMENTAL DATA: Degradability (BOD): This material is a gas at room temperature; therefore, it is unlikely to remain in water.

DISTRIBUTION: Octanol Water Partition Coefficient: Log P=1.06

13. DI SPOSAL CONSIDERATIONS

DISPOSAL ME THOD: Federal, State, and Local laws governing disposal of materials can differ. Ensure compliance with proper authorities before disposal.

GENERAL CO MMENTS: 1,1,1,2-tetrafluoroethane is subject to U.S. Environmental Protection Agency Clean Air Act Regulations, Section 608 in 40 CFR Part 82 regarding refrigerant recycling.

14. TRANSPORT INFORMATION

ROAD AND RAIL (ADR/RID)

KEMLER NUMBER:UN3159

HAZARD CLASS:2.2

AIR (ICAO/IATA)

SHIPPING NAME:CONSUMER COMMODITY, ORM-D-AIR,

UN/NA NUMBER:ID8000

PRIMARY HAZARD CLASS/DIVISION:9

PACKING GROUP:NA

VESSEL (IMO/IMDG)

SHIPPING NAME:CONSUMER COMMODITY, ORM-D,

UN/NA NUMBER:ID8000

PRIMARY HAZARD CLASS/DIVISION:9

PACKING GROUP:NA

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES:IMMEDIATE / PRESSURE

PRESSURE GENERATING: Yes **ACUTE:** Yes

313 REPORTABLE INGREDIENTS: Not considered a SARA 313 "Toxic Chemical".

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: Releases to air, land, or water which exceed the RQ must be reported to the National Response Center and to your Local Emergency Planning Committee.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
1,1,1,2-Tetrafluoroethane	811-97-2

TSCA REGULATORY: This product is listed on the TSCA Inventory.

CLEAN AIR ACT

Chemical Name	Wt.%	CAS
1,1,1,2-Tetrafluoroethane	100	811-97-2

CANADA

WHMIS CLASS: Class A, Class D2B.

DOMESTIC SUBSTANCE LIST (INVENTORY): All components of this product are listed on the Canadian DSL.

EUROPEAN COMMUNITY

EEC LABEL SYMBOL AND CLASSIFICATION

Currently not classified according to EEC Directives.

GENERAL COMMENTS:1,1,1,2-tetrafluoroethane is subject to U.S. Environmental Agency Clean Air Act Regulations, (40CFR Part 82).

COMMENTS WARNING: Contains 1, 1,1,2-tetrafluoroethane (HFC-134a), a greenhouse gas which may contribute to global warming.

16. OTHER INFORMATION

Recommendend uses and restrictions

National and local regulations concerning chemicals shall be observed.

Further information

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the

properties of the product.