

**DuPont™ SUVA® 124 refrigerant**

Version 2.0

Revision Date 02/03/2011

Ref. 130000000344

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DuPont™ SUVA® 124 refrigerant
Product Grade/Type	:	ASHRAE Refrigerant number designation: R-124
Tradename/Synonym	:	1-Chloro-1,2,2,2-Tetrafluoroethane HCFC-124
MSDS Number	:	130000000344
Product Use	:	Refrigerant
Manufacturer	:	DuPont 1007 Market Street Wilmington, DE 19898
Product Information	:	1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency	:	1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency	:	CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Misuse or intentional inhalation abuse may lead to death without warning.
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.
Rapid evaporation of the liquid may cause frostbite.

Potential Health Effects

- | | | |
|------|---|-----------------------------------------------------------------------------|
| Skin | : | Contact with liquid or refrigerated gas can cause cold burns and frostbite. |
| Eyes | : | Contact with liquid or refrigerated gas can cause cold burns and frostbite. |

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Inhalation : Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects.
Other symptoms potentially related to misuse or inhalation abuse are: Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness.
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
1-Chloro-1,2,2,2-tetrafluoroethane	2837-89-0	99.7 %

SECTION 4. FIRST AID MEASURES

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Take off all contaminated clothing immediately. Consult a physician. Wash contaminated clothing before re-use. Treat for frostbite if necessary by gently warming affected area.

Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician if necessary.

Inhalation : Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Consult a physician.

Ingestion : Is not considered a potential route of exposure.

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Notes to physician : Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

SECTION 5. FIRE-FIGHTING MEASURES

- Flammable Properties
Flash point : does not flash
- Lower explosion limit : Method : None per ASTM E681
- Upper explosion limit : Method : None per ASTM E681
- Fire and Explosion Hazard : The product is not flammable. Cylinders are equipped with pressure and temperature relief devices, but may still rupture under fire conditions. Decomposition may occur.
- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Firefighting Instructions : Cool containers / tanks with water spray. Self-contained breathing apparatus (SCBA) is required if containers rupture and contents are released under fire conditions.
Water runoff should be contained and neutralized prior to release.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

- Safeguards (Personnel) : Ventilate area, especially low or enclosed places where heavy vapours might collect.
- Accidental Release Measures : Avoid open flames and high temperatures. Self-contained breathing apparatus (SCBA) is required if a large release occurs. Follow applicable Federal, State/Provincial and Local laws/regulations.



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SECTION 7. HANDLING AND STORAGE

- Handling (Personnel) : Avoid breathing vapours or mist. Avoid contact with skin and eyes. Use sufficient ventilation to keep employee exposure below recommended limits.
- Storage : Store in a clean, dry place. Do not heat above 52° C (125° F).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering controls : Use sufficient ventilation to keep employee exposure below recommended limits. Local exhaust should be used when large amounts are released. Mechanical ventilation should be used in low or enclosed places.
- Personal protective equipment
 - Respiratory protection : Under normal manufacturing conditions, no respiratory protection is required when using this product.
 - Hand protection : Additional protection: Impervious butyl rubber gloves
 - Eye protection : Wear safety glasses or coverall chemical splash goggles. Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.
- Protective measures : Self-contained breathing apparatus (SCBA) is required if a large release occurs.

Exposure Guidelines

Exposure Limit Values

1-Chloro-1,2,2,2-tetrafluoroethane

AEL * (DUPONT) 1,000 ppm 8 & 12 hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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Form	: Liquefied gas
Color	: colourless
Odor	: slight, ether-like
Freezing point	: -199 °C (-326 °F)
Boiling point	: -12.0 °C (10.4 °F) at 1,013 hPa
% Volatile	: 100 %
Vapour Pressure	: 3,827 hPa at 25 °C (77 °F)
Density	: 1.355 g/cm ³ at 25 °C (77 °F) (as liquid)
Specific Gravity	: 1.36 at 25 °C (77 °F)
Water solubility	: 1.45 g/l at 25 °C (77 °F) at 1,013 hPa

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	: Stable at normal temperatures and storage conditions. Avoid open flames and high temperatures.
Incompatibility	: Alkali metals Alkaline earth metals, such as, powdered aluminum, Zinc, Beryllium
Hazardous decomposition products	: Decomposition products are hazardous., The exact nature of the decomposition products will depend upon exposure conditions - temperature, access to oxygen, high temperatures (open flames, glowing metal surfaces, etc.) forming hydrochloric and hydrofluoric acids, and possibly carbonyl halides., These materials are toxic and irritating., Avoid contact with decomposition products
Hazardous reactions	: Polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

1-Chloro-1,2,2,2-tetrafluoroethane	
Dermal	: not applicable
Oral	: not applicable
Inhalation 4 h LC50	: > 230000 ppm , rat Anaesthetic effects

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	Central nervous system effects
Inhalation	: dog Cardiac sensitization
Skin irritation	: No skin irritation, Not tested on animals Not expected to cause skin irritation based on expert review of the properties of the substance.
Eye irritation	: No eye irritation, Not tested on animals Not expected to cause eye irritation based on expert review of the properties of the substance.
Skin sensitization	: Does not cause skin sensitization., Not tested on animals Not expected to cause sensitization based on expert review of the properties of the substance. There are no reports of human respiratory sensitization.
Repeated dose toxicity	: Inhalation multiple species No toxicologically significant effects were found.
Carcinogenicity	: Animal testing did not show any carcinogenic effects.
Mutagenicity	: Did not cause genetic damage in animals. Did not cause genetic damage in cultured mammalian cells. Did not cause genetic damage in cultured bacterial cells.
Teratogenicity	: Animal testing showed no developmental toxicity.
Further information	: Cardiac sensitisation threshold limit : 140000 mg/m3

SECTION 12. ECOLOGICAL INFORMATION

Additional ecological information : no data available

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SECTION 13. DISPOSAL CONSIDERATIONS

- Waste Disposal : Can be used after re-conditioning. Recover by distillation or remove to a permitted waste disposal facility. Comply with applicable Federal, State/Provincial and Local Regulations.
- Environmental Hazards : Empty pressure vessels should be returned to the supplier.

SECTION 14. TRANSPORT INFORMATION

- DOT UN number : 1021
- Proper shipping name : 1-Chloro-1,2,2,2-tetrafluoroethane
Class : 2.2
Labelling No. : 2.2
- IATA_C UN number : 1021
- Proper shipping name : 1-Chloro-1,2,2,2-tetrafluoroethane
- Class : 2.2
Labelling No. : 2.2
- IMDG UN number : 1021
- Proper shipping name : 1-Chloro-1,2,2,2-tetrafluoroethane
Class : 2.2
Labelling No. : 2.2

SECTION 15. REGULATORY INFORMATION

- SARA 313 Regulated Chemical(s) : 1-Chloro-1,2,2,2-tetrafluoroethane
- California Prop. 65 : Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known

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NJ Right to Know : Substances on the New Jersey Workplace Hazardous Substance List
Regulated Chemical(s) present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): 1-Chloro-1,2,2,2-tetrafluoroethane

SECTION 16. OTHER INFORMATION

HMIS

Health	:	1
Flammability	:	0
Reactivity/Physical hazard	:	1
PPE	:	Personal Protection rating to be supplied by user depending on use conditions.

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Before use read DuPont's safety information.

For further information contact the local DuPont office or DuPont's nominated distributors.

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