

SAFETY DATA SHEET



DuPont™ SUVA® 134a Refrigerant

Version 2.5

Revision Date 19.06.2008

Ref. 13000000349

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

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product information

Trade name : DuPont™ SUVA® 134a Refrigerant
Types : ASHRAE Refrigerant number designation: R-134a
Use of the Substance/Preparation : Refrigerant
Company : Du Pont (Australia) Ltd
7 Eden Park Drive
Macquarie Park NSW 2113
Australia
Telephone : (02) 9923 6111
Telefax : (02) 9923 6011
Emergency telephone : (02) 9923 6275 (Transport Emergency)
(24 hr Emergency Medical Information: 1800 674 415)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical Name	CAS-No.	Concentration
1,1,1,2-Tetrafluoroethane	811-97-2	100 %

3. HAZARDS IDENTIFICATION

Hazardous classification

Classified as dangerous goods according to the ADG Code
Not classified as hazardous according to criteria of NOHSC.

Specific hazards

Rapid evaporation of the liquid may cause frostbite.
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

4. FIRST AID MEASURES

General advice : If unconscious, place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician.

Inhalation : Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary.

Skin contact : Wash off with warm water. Take off all contaminated clothing immediately.

Eye contact : Rinse thoroughly with plenty of water, also under the eyelids. Consult a physician.

Notes to physician

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Treatment : Do not give adrenaline or similar drugs.

5. FIRE-FIGHTING MEASURES

Specific hazards during fire fighting : pressure build-up

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers / tanks with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Evacuate personnel to safe areas. Ventilate the area. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Should not be released into the environment.

Methods for cleaning up : Evaporates.

7. HANDLING AND STORAGE

Handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8.

Advice on protection against fire and explosion : No special protective measures against fire required.

Storage

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Store in original container.

Further information on storage conditions : Keep at temperature not exceeding 52°C.

Advice on common storage : No materials to be especially mentioned.

Storage temperature : < 52 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	Values	Control parameters	Basis
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1,1,1,2-Tetrafluoroethane TWA 4,240 mg/m³ (1,000 ppm) AU OEL (2004)

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Respiratory protection : Half mask with a particle filter conforming to AS1715 & AS1716.

Hand protection : Heat insulating gloves

Eye protection : Safety glasses

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form : Liquefied gas

Colour : none

Odour : ether-like

pH : neutral

Melting point/range : -103 - -101 °C at 1,013 hPa

Boiling point/boiling range : -26.5 °C at 1,013 hPa

Flash point : does not flash

Ignition temperature : > 750 °C

Upper explosion limit : not applicable

Vapour pressure : 6,661 hPa at 25 °C

13,190 hPa at 50 °C

Density : 1.21 g/cm³ at 25 °C (as liquid)

0.0042 g/cm³ at 25 °C (1,013 hPa)

0.0053 g/cm³ at -26.1 °C (1,013 hPa)

Water solubility : 1.5 g/l at 25 °C at 1,013 hPa


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10. STABILITY AND REACTIVITY

- Conditions to avoid : The product is not flammable in air under ambient conditions of temperature and pressure. When pressurised with air or oxygen the mixture may become flammable. Certain mixtures of HCFCs or HFCs with chlorine may become flammable or reactive under certain conditions.
- Materials to avoid : Alkali metals, Alkaline earth metals, Powdered metals, Powdered metal salts
- Hazardous decomposition products : Hydrogen halides, Carbon dioxide (CO₂), Carbon monoxide, Fluorocarbons, Carbonyl halides
- Hazardous reactions : Stable under recommended storage conditions.

11. TOXICOLOGICAL INFORMATION

- Acute inhalation toxicity
 • 1,1,1,2-Tetrafluoroethane : ALC/4 h/rat : 567000 ppm
 LC50/4 h/rat : 358500 ppm
 //dog :
 Cardiac sensitization
- Skin irritation
 • 1,1,1,2-Tetrafluoroethane : non-irritant
- Eye irritation
 • 1,1,1,2-Tetrafluoroethane : non-irritant
- Sensitisation
 • 1,1,1,2-Tetrafluoroethane : Not a skin sensitizer.
- Repeated dose toxicity
 • 1,1,1,2-Tetrafluoroethane : Inhalation rat
 No toxicologically significant effects were found.
- Human experience : Excessive exposures may affect human health, as follows:
 Inhalation: Severe shortness of breath, narcosis, Irregular cardiac activity
- Further information : Cardiac sensitisation threshold limit : 312975 mg/m³
 Anaesthetic effects threshold limit : 834600 mg/m³
 Did not show carcinogenic or teratogenic effects in animal experiments.
 Concentrations substantially above the TLV value may cause narcotic effects.
 Inhalation of decomposition products in high concentration may cause shortness of breath (lung oedema). Rapid evaporation of the liquid may cause frostbite.

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12. ECOLOGICAL INFORMATION

Toxicity to fish
• 1,1,1,2-Tetrafluoroethane : LC50/96 h/Oncorhynchus mykiss (rainbow trout): 450 mg/l

Aquatic toxicity
• 1,1,1,2-Tetrafluoroethane : EC50/48 h/Daphnia magna (Water flea): 980 mg/l

Ozone depletion potential : 0

13. DISPOSAL CONSIDERATIONS

Product : Can be used after re-conditioning.

Contaminated packaging : Empty pressure vessels should be returned to the supplier.
Disposable containers: Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION**ADG**

UN-Number : 3159
Proper shipping name : 1,1,1,2-Tetrafluoroethane
Class : 2.2
Hazchem Code : 2RE

IMDG

UN-Number : 3159
Proper shipping name : 1,1,1,2-Tetrafluoroethane
Class : 2.2
Labelling No. : 2.2
Marine pollutant : no

Further information : Classified as dangerous goods according to the ADG Code

15. REGULATORY INFORMATION

Further information : Not classified as hazardous according to criteria of NOHSC.

National regulatory information

SUSDP : No poison schedule number allocated
Contains fluorinated greenhouse gas covered by the Kyoto Protocol.

16. OTHER INFORMATION

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Sources of key data used to compile the Safety Data Sheet:

1. National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)]
2. Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(1999)]
3. List of Designated Hazardous Substances [NOHSC:10005(1999)]
4. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]
5. Australian Dangerous Goods Code, No. 6 [National Road Transport Commission]
6. Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP), No. 19 [NDPSC: 2004]
7. National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)]

Department:

Du Pont (Australia) Ltd
7 Eden Park Drive
Macquarie Park NSW 2113
Australia

Further information:

Before use read DuPont's safety information., For further information contact the local DuPont office or DuPont's nominated distributors., ® DuPont's registered trademark

Significant change from previous version is denoted with a double bar.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.