

**DuPont™ SUVA® 410A Refrigerant**

Version 3.0

Revision Date 2024/1/31

Ref. 130000000570

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

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

Chinese name : DuPont™ SUVA® 410A Refrigerant
Product name in English : DuPont™ SUVA® 410A Refrigerant
Specifications : ASHRAE Refrigerant number designation: R-410A

Supplier : DuPont 3F Fluorochemicals(Changshu)Co.,Ltd.
Street address : Jiangsu High-Tech Fluorochemical Industry Park,Haiyu Town,
Changshu City,Jiangsu Province, China.
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Document no. : 130000000570
Issuing date : 2019/11/08
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Preparation

Components

Chemical Name	CAS-No.	Concentration
Pentafluoroethane (HFC-125)	354-33-6	50 %
Difluoromethane (HFC-32)	75-10-5	50 %

3. HAZARDS IDENTIFICATION

Hazardous classification : Class 2.2: Compressed Gas and Liquified Gas: Non-combustible Gas

Primary Routes of Entry : Inhalation Skin contact

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

Environmental Effects : No known effect.

Combustion/explosion hazards : No known effect.

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.

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Eye contact	: Rinse thoroughly with plenty of water, also under the eyelids. Consult a physician.
Skin contact	: Wash off with warm water. Take off all contaminated clothing immediately.
Inhalation	: Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary.
Ingestion	: No information available.

5. FIRE-FIGHTING MEASURES

Nature of Hazard	: Non-Flammable Gas
Hazardous combustion products	: No information available.
Suitable extinguishing media	: No information available.
Precautions for fire-fighting	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers / tanks with water spray. In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Emergency measures on accidental release	: Evacuate personnel to safe areas. Ventilate the area. Refer to protective measures listed in sections 7 and 8. Should not be released into the environment.
Methods for cleaning up	: Evaporates.

7. HANDLING AND STORAGE**Safe handling advice**

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

Requirements for storage areas and containers	: Keep container tightly closed in a dry and well-ventilated place. Store in original container.
Storage limit	: No information available.
Further information on storage conditions	: Keep at temperature not exceeding 52°C.

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Materials to avoid	: Alkali metals, Alkaline earth metals, Powdered metals, Powdered metal salts
Advice on protection against fire and explosion	: No special protective measures against fire required.
Mixed storage advice	: No materials to be especially mentioned.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures : Ensure adequate ventilation, especially in confined areas.

Occupational Exposure Limits

No information available.

Recommended monitoring procedures

Respiratory protection	: For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.
Hand protection	: Heat insulating gloves
Eye protection	: Safety glasses
Skin and body protection	: No information available.
Other protection	: No information available.
Other	: Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	: Liquefied gas
Colour	: colourless
Odour	: ether-like
pH	: neutral
Boiling point	: -51.6 °C (1,013 hPa)
Melting point	: no data available
Flash point	: does not flash
Autoignition temperature	: Note: no data available
Upper explosion limit	: no data available

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Lower explosion limit	: no data available
Vapour pressure	: 16,530 hPa (25 °C)30,520 hPa (50 °C)
Vapour density	: no data available
Density/Relative density	: 1.062 g/cm3 (25 °C)(as liquid) 0.0066 g/cm3 (ca. 26 °C) (1,013 hPa)
Solubility	: no data available
Partition coefficient: n-octanol/water	: no data available
Critical temperature	: no data available
Heat of combustion	: no data available
Critical pressure	: no data available
Specific use(s)	: Refrigerant

10. STABILITY AND REACTIVITY

Stability	: No information available.
Materials to avoid	: Alkali metals, Alkaline earth metals, Powdered metals, Powdered metal salts
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.
Hazardous polymerisation	: No information available.
Hazardous decomposition products	: Hydrogen halides, Carbon dioxide (CO ₂), Carbon monoxide, Fluorocarbons, Carbonyl halides

11. TOXICOLOGICAL INFORMATION

Acute toxicity	: No data is available on the product itself.
• Pentafluoroethane	: Inhalation: LC50/4 h/rat : > 769000 ppm
• Difluoromethane	: Inhalation: ALC/4 h/rat : 1,106 mg/l Anaesthetic effects Spasms Limb paralysis //dog : Cardiac sensitization

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Subacute toxicity	: No data is available on the product itself.
• Pentafluoroethane	: Inhalation: rat No toxicologically significant effects were found.
• Difluoromethane	: Inhalation: Organ weight changes Lungs Kidney Liver Spleen
irritant effects	: no data available
Sensitisation	: no data available
Mutagenicity	: no data available
Teratogenicity	: no data available
Carcinogenicity	: Did not show carcinogenic effects in animal experiments.
Other	: Reproductive toxicity: Did not show mutagenic or teratogenic effects in animal experiments. Rapid evaporation of the liquid may cause frostbite. Excessive exposures may affect human health, as follows: Inhalation: Severe shortness of breath, narcosis, Irregular cardiac activity

12. ECOLOGICAL INFORMATION

Ecotoxicity effects	: No data is available on the product itself.
Biodegradation	: no data available
Abiotic degradation	: no data available
Bioaccumulation	: no data available
Further information on ecology	: Ozone depletion potential: 0

13. DISPOSAL CONSIDERATIONS

Nature of the waste	: Hazardous waste
Waste disposal methods	: Can be used after re-conditioning.
Disposal considerations	: Empty pressure vessels should be returned to the supplier. Disposable containers: Dispose of in accordance with local regulations.

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14. TRANSPORT INFORMATION

Domestic transport regulations

Classification Code : 22053
UN-Number : 1078
Marking : Primary label: Non-combustible Gas.

Packing group : III
Packing Instructions :
Matters needing attention for transportation : No information available.

International transport regulations

IMDG

UN-Number : 1078
Proper shipping name : Refrigerant gases, n.o.s.
Class : 2.2
Marine pollutant : no

IATA_C

UN-Number : 1078
Proper shipping name : Refrigerant gases, n.o.s.
Class : 2.2

15. REGULATORY INFORMATION**National regulatory information**

Regulations on the Control over Safety of Dangerous Chemicals (State Council Decree 344 [2002]), Regulations on the Safety Use of Chemicals in Workplaces (Department of Labor, Reg 423 [1996]), Regulations on Labor Protection in Workplaces with Toxic Substances (State Council Decree 352 [2002]), Regulations on the Prevention and Control of Environmental Pollution by Solid Waste (Presidential Decree 31 [2004]), etc are enacted to control the safe use, production, storage, transport, operation, trade and disposal of dangerous chemicals. The corresponding rules and standards include:

Common dangerous chemical classification and labelling (GB13690-92)

DG goods list and classification (GB12268-90)

Dangerous goods classification (GB6944-86)

Principle of classification of transport packaging groups of dangerous goods (GB/T 15098-94)

Common dangerous chemical storage rules (GB15603-1995)

Dangerous goods transportation and packaging conditions (GB12463-90)

Packaging Symbols of Dangerous Goods (GB 190-90)

Occupational exposure limit of hazardous agents in workplace (GBZ 2-2002)

Hazardous waste criteria (GB5085.1-1996, GB5085.2-1996, GB5085.3-1996)

National waste list

Regulations in other countries

The product does not need to be labelled in accordance with EC directives or respective national laws.
Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC.

16. OTHER INFORMATION

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Sources of key data used to compile the Safety Data Sheet : US MSDS No.: 6110FR

Revision Date : 2019/11/08

Department : DuPont 3F Fluorochemicals(Changshu)Co.,Ltd.
Jiangsu High-Tech Fluorochemical Industry Park,Haiyu Town,
Changshu City,Jiangsu Province, China.

Revision Note : not applicable

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

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.