

SAFETY DATA SHEET



DuPont™ Suva® 507 Refrigerant

Version 4.0

Revision Date 30.03.2015

Document no. 130000050989

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

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

Product name : DuPont™ Suva® 507 Refrigerant
: ASHRAE Refrigerant number designation: R-507 or R-507A

Other names : R-507
R-507A
507
507A

Recommended use of the chemical and restriction on use

Recommended use : Refrigerant, For professional users only.

Manufacturer, importer, supplier

Company : Du Pont Malaysia Sdn Bhd
Street address : Level 7, Menara CIMB, No 1, Jalan Stesen Sentral 2, Kuala Lumpur Sentral,
50470 Kuala Lumpur
Malaysia
Telephone : +60 3 2859 0700
Telefax : +60 3 2859-0840

Emergency telephone number : 1800-82-0055

2. HAZARDS IDENTIFICATION

Product hazard classification

Gases under pressure : Liquefied gas

Endpoints which are not classified, cannot be classified or are not applicable are not shown.

Label content

Pictogram :



Signal word : Warning

Hazardous warnings : Contains gas under pressure; may explode if heated.

Precautionary statements : Protect from sunlight. Store in a well-ventilated place.

Other hazards

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

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Components

Chemical Name	CAS-No.	Concentration
1,1,1-Trifluoroethane (HFC-143a)	420-46-2	50 %
Pentafluoroethane (HFC-125)	354-33-6	50 %

4. FIRST AID MEASURES

Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.

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 immediately with plenty of water and seek medical advice.

Ingestion : Is not considered a potential route of exposure.

Most important symptoms/effects, acute and delayed : Anaesthetic effects, Light-headedness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness

Protection of first-aiders : If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to physician : Do not give adrenaline or similar drugs.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards : Pressure build-up.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Wear neoprene gloves during cleaning up work after a fire.

Specific extinguishing methods : No information available.

Further information : Cool containers/tanks with water spray.

6. ACCIDENTAL RELEASE MEASURES

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- | | | |
|--|---|---|
| Personal precautions, protective equipment and emergency procedures | : | 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.
In accordance with local and national regulations. |
| Methods and materials for containment and cleaning up | : | Evaporates.
Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect. |

7. HANDLING AND STORAGE

Handling

- | | | |
|--------------------------------|---|--|
| Technical measures/Precautions | : | Provide sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8. |
| Precautions for safe handling | : | No special protective measures against fire required. |

Storage

- | | | |
|-----------------------------|---|---|
| Suitable storage conditions | : | Keep container tightly closed in a dry and well-ventilated place. Store in original container.

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

Storage period: > 10 yr
Storage temperature: < 52 °C
The product has an indefinite shelf life when stored properly. |
|-----------------------------|---|---|

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

No information available.

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

- | | | |
|--|---|---------------------------|
| Biological occupational exposure limits | : | No information available. |
|--|---|---------------------------|

Personal protective equipment

- | | | |
|------------------------|---|---|
| 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 | : | No information available. |
| Skin protection | : | No information available. |

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

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance (Physical state, form, colour, etc.)**

Physical state : gaseous
Form : Liquefied gas
Colour : colourless

Odour : slight ether-like

Odour Threshold : No information available.

pH : neutral

Melting point/freezing point

No information available.

Initial boiling point and boiling range

Boiling point : -46.7 °C (1,013.25 hPa)

Flash point : does not flash

Evaporation rate : >1
(CCL4=1.0)

Flammability (solid, gas) : No information available.

Upper/lower flammability or explosive limits

Upper explosion limit : No information available.
Lower explosion limit : No information available.

Vapour pressure : 12,826 hPa (25 °C)

Vapour density : 3.5 (25 °C)
1013 hPa
(Air = 1.0)

Density

Density : 1.05 g/cm³ (25 °C)
(as liquid)
Specific gravity : 1.05 (25 °C)
(Relative density)

Solubility(ies)

Water solubility : not determined

Partition coefficient: n-octanol/water : No information available.

Auto-ignition temperature

Ignition temperature : no data available

Decomposition temperature : No information available.

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Viscosity

Viscosity, kinematic : No information available.

Molecular weight

: No information available.

10. STABILITY AND REACTIVITY

Reactivity

: Decomposes on heating.

Chemical stability

: Stable at normal temperatures and storage conditions.

Possibility of hazardous reactions

: No information available.

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

: Hazardous thermal decomposition products may include: Hydrogen fluoride, Carbon oxides, Fluorocarbons, Carbonyl fluoride

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Inhalation

1,1,1-Trifluoroethane (HFC-143a) : LC50/4 h/Rat(gas): > 591000 ppm
Method: OECD Test Guideline 403
No Observed Adverse Effect Concentration/Dog(gas): 250000 ppm
Cardiac sensitization

Pentafluoroethane (HFC-125) : LC50/4 h/Rat(gas): > 800000 ppm
Method: OECD Test Guideline 403
No Observed Adverse Effect Concentration/Dog(gas): 100000 ppm
Cardiac sensitization
Low Observed Adverse Effect Concentration (LOAEC)/Dog(gas): 75000 ppm
Cardiac sensitization

Skin corrosion/irritation

No information available.

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitisation

1,1,1-Trifluoroethane (HFC-143a) : Species: human
Result: Does not cause respiratory sensitisation.
Classification: Does not cause respiratory sensitisation.

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Pentafluoroethane (HFC-125) : Species: human
 Result: Does not cause respiratory sensitisation.
 Classification: Does not cause respiratory sensitisation.

Germ cell mutagenicity

1,1,1-Trifluoroethane (HFC-143a) : Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
 Pentafluoroethane (HFC-125) : Animal testing did not show any mutagenic effects. Evidence suggests this substance does not cause genetic damage in cultured mammalian cells. Did not cause genetic damage in cultured bacterial cells.

Carcinogenicity

1,1,1-Trifluoroethane (HFC-143a) : Not classifiable as a human carcinogen.
 Animal testing did not show any carcinogenic effects.
 Pentafluoroethane (HFC-125) : Not classifiable as a human carcinogen.
 Overall weight of evidence indicates that the substance is not carcinogenic.

Reproductive toxicity

1,1,1-Trifluoroethane (HFC-143a) : Reproductive toxicity: No toxicity to reproduction
 No effects on or via lactation
 Animal testing showed no reproductive toxicity.
 Teratogenicity: Animal testing showed no developmental toxicity.
 Pentafluoroethane (HFC-125) : Reproductive toxicity: No toxicity to reproduction
 Animal testing showed no reproductive toxicity.
 Teratogenicity: Animal testing showed no developmental toxicity.

Specific Target Organ Toxicity**Specific target organ toxicity - single exposure**

1,1,1-Trifluoroethane (HFC-143a) : The substance or mixture is not classified as specific target organ toxicant, single exposure.
 Pentafluoroethane (HFC-125) : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

1,1,1-Trifluoroethane (HFC-143a) : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
 Pentafluoroethane (HFC-125) : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

1,1,1-Trifluoroethane (HFC-143a) : No aspiration toxicity classification
 Pentafluoroethane (HFC-125) : No aspiration toxicity classification

Other

1,1,1-Trifluoroethane (HFC-143a) : Repeated dose toxicity:
 Inhalation/Rat gas
 NOAEL: > 40000,
 Method: OECD Test Guideline 413
 No toxicologically significant effects were found.
 Pentafluoroethane (HFC-125) : Repeated dose toxicity:

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Inhalation/Rat gas
NOAEL: > 50000,
No toxicologically significant effects were found.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects

Acute and prolonged toxicity to fish

1,1,1-Trifluoroethane (HFC-143a) : LC50/96 h/Oncorhynchus mykiss (rainbow trout): > 40 mg/l
Method: OECD Test Guideline 203

Pentafluoroethane (HFC-125) : LC50/96 h/Oncorhynchus mykiss (rainbow trout): 450 mg/l
Information given is based on data obtained from similar substances.

Toxicity to aquatic plants

1,1,1-Trifluoroethane (HFC-143a) : ErC50/96 h/Pseudokirchneriella subcapitata (green algae): > 44 mg/l
Method: OECD Test Guideline 201

Pentafluoroethane (HFC-125) : ErC50/96 h/Algae: 142 mg/l
Information given is based on data obtained from similar substances.
NOEC/72 h/Pseudokirchneriella subcapitata (green algae): 13.2 mg/l
Information given is based on data obtained from similar substances.

Acute toxicity to aquatic invertebrates

1,1,1-Trifluoroethane (HFC-143a) : EC50/48 h/Daphnia magna (Water flea): 300 mg/l
Method: OECD Test Guideline 202

Pentafluoroethane (HFC-125) : EC50/48 h/Daphnia magna (Water flea): 980 mg/l
Information given is based on data obtained from similar substances.

Persistence and degradability

1,1,1-Trifluoroethane (HFC-143a) : Result: Not rapidly biodegradable

Pentafluoroethane (HFC-125) : Result: Not rapidly biodegradable

Bioaccumulation

1,1,1-Trifluoroethane (HFC-143a) : Information given is based on data obtained from similar substances.

Mobility in soil

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods : Can be used after re-conditioning. In accordance with local and national regulations.

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

SECTION 14: TRANSPORT INFORMATION

IMDG

UN number : 3163

Proper shipping name : LIQUEFIED GAS, N.O.S.

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Class : (Pentafluoroethane, 1,1,1-Trifluoroethane)
2.2
Marine pollutant : no

IATA

UN number : 3163
Proper shipping name : LIQUEFIED GAS, N.O.S.
(Pentafluoroethane, 1,1,1-Trifluoroethane)
Class : 2.2

Matters needing attention : Not applicable
for transportation

SECTION 15: REGULATORY INFORMATION

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

16. OTHER INFORMATION

References

SDS Number: 130000050989

Revision Date/Version

Date of first preparation : 13.10.2009
Revision Date : 07.04.2015
Version : 4.0

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

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