

**DuPont™ SUVA® 95 refrigerant**

Version 2.3

Revision Date 08/30/2011

Ref. 130000000550

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® 95 refrigerant
Product Grade/Type	:	ASHRAE Refrigerant number designation: R-508B
Tradename/Synonym	:	Suva® 508B R-508B
MSDS Number	:	130000000550
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.

Repeated exposure  
Perfluoroethane (FC-116) : Adverse effects from repeated inhalation may include: altered blood chemistry lung effects Liver effects

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
Perfluoroethane (FC-116)	76-16-4	54 %
Trifluoromethane (HFC-23)	75-46-7	46 %

**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.

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

Flammable Properties	
Flash point	: does not flash
Lower explosion limit	: not applicable
Upper explosion limit	: not applicable
Fire and Explosion Hazard	: 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	: In the event of fire, wear self-contained breathing apparatus. Wear neoprene gloves during cleaning up work after a fire. Cool containers / tanks with water spray.

**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.

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- Safeguards (Personnel) : Evacuate personnel to safe areas. Ventilate the area. Refer to protective measures listed in sections 7 and 8.
- Spill Cleanup : Evaporates.
- Accidental Release Measures : Avoid open flames and high temperatures.

**SECTION 7. HANDLING AND STORAGE**

- Handling (Personnel) : Avoid breathing vapours or mist. Avoid contact with skin, eyes and clothing. Provide sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8.  
Handle in accordance with good industrial hygiene and safety practice.
- Storage : Valve protection caps and valve outlet threaded plugs must remain in place unless container is secured with valve outlet piped to use point.  
Do not drag, slide or roll cylinders. Never attempt to lift cylinder by its cap. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over.  
Separate full containers from empty containers. Keep at temperature not exceeding 52 °C. Do not store near combustible materials. Keep container tightly closed in a dry and well-ventilated place. Store in original container. Protect from contamination.
- Storage temperature : < 52 °C (< 126 °F)

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

- Engineering controls : Ensure adequate ventilation, especially in confined areas. Local exhaust should be used when large amounts are released.
- 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.


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- Hand protection : Additional protection: Impervious 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

## Perfluoroethane

AEL \*

(DUPONT) 1,000 ppm 8 &amp; 12 hr. TWA

## Trifluoromethane

AEL \*

(DUPONT) 1,000 ppm 8 &amp; 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**

- Form : Liquefied gas
- Color : colourless
- Odor : slight, ether-like
- Boiling point : -87.6 °C (-125.7 °F)
- % Volatile : 100 %
- Vapour Pressure : 36,568 hPa at 10 °C (50 °F)
- Specific gravity : 1.15 at 25 °C (77 °F)
- Vapour density : 3.2 at 25°C (77°F) and 1013 hPa (Air = 1.0)

**SECTION 10. STABILITY AND REACTIVITY**

- Stability : Stable under recommended storage conditions.


**DuPont™ SUVA® 95 refrigerant**

Version 2.3

Revision Date 08/30/2011

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Conditions to avoid	: Avoid open flames and high temperatures. 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.
Incompatibility	: Alkali metals Alkaline earth metals, Powdered metals, Powdered metal salts
Hazardous decomposition products	: Carbon oxides, Hydrogen fluoride, Carbonyl fluoride

**SECTION 11. TOXICOLOGICAL INFORMATION**

## Perfluoroethane (FC-116)

Dermal	: not applicable
Oral	: not applicable
Inhalation 4 h LC50	: > 800000 ppm , rat
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.
Repeated dose toxicity	: Inhalation multiple species altered blood chemistry, lung effects, Liver effects, Reduced body weight gain
Mutagenicity	: Did not cause genetic damage in cultured bacterial cells.
Further information	: Cardiac sensitisation threshold limit : > 1128916 mg/m3

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## Trifluoromethane (HFC-23)

Dermal	:	not applicable
Oral	:	not applicable
Inhalation 4 h LC50	:	> 663000 ppm , rat
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	:	Not tested on animals Not expected to cause sensitization based on expert review of the properties of the substance.
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.
Reproductive toxicity	:	Evidence suggests the substance is not a reproductive toxin in animals.
Teratogenicity	:	Animal testing showed no developmental toxicity.
Further information	:	Cardiac sensitisation threshold limit : > 172414 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	: 1078
	Proper shipping name	: Refrigerant gas, n.o.s. (Hexafluoroethane, Trifluoromethane)
	Class	: 2.2
	Labelling No.	: 2.2
IATA_C	UN number	: 1078
	Proper shipping name	: Refrigerant gas, n.o.s. (Hexafluoroethane, Trifluoromethane)
	Class	: 2.2
	Labelling No.	: 2.2
IMDG	UN number	: 1078
	Proper shipping name	: Refrigerant gas, n.o.s. (Hexafluoroethane, Trifluoromethane)
	Class	: 2.2
	Labelling No.	: 2.2

**SECTION 15. REGULATORY INFORMATION**

SARA 313 Regulated Chemical(s) : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.





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- California Prop. 65 : WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Carbon monoxide
- PA Right to Know : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Regulated Chemical(s) Substances): Trifluoromethane
- 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): Trifluoromethane , Perfluoroethane

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