

**DuPont™ Suva® 236fa Refrigerant**

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

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® 236fa Refrigerant  
Tradename/Synonym : 1,1,1,3,3,3-Hexafluoropropane  
HFC-236fa  
HEXAFLUOROPROPANE

Product Grade/Type : ASHRAE Refrigerant Number Designation: R-236fa

---

Product Use : Refrigerant, For professional users only.

Restrictions on use : Do not use product for anything outside of the above specified uses  
Manufacturer/Supplier : DuPont  
1007 Market Street  
Wilmington, DE 19898  
United States of America

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****Product hazard category**

Gases under pressure	Liquefied gas
Specific target organ toxicity - single exposure	Category 3

**DuPont™ Suva® 236fa Refrigerant**

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

**Label content**

Pictogram

:



Signal word

: Warning

Hazardous warnings

: Contains gas under pressure; may explode if heated.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.Hazardous prevention  
measures: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
Use only outdoors or in a well-ventilated area.  
IF INHALED: Remove victim to fresh air and keep at rest in a position  
comfortable for breathing.  
Call a POISON CENTER or doctor/ physician if you feel unwell.  
Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.  
Protect from sunlight. Store in a well-ventilated place.  
Dispose of contents/ container to an approved waste disposal plant.**Other hazards**

Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects., May cause cardiac arrhythmia.

Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Rapid evaporation of the liquid may cause frostbite.

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 1 %

**DuPont™ Suva® 236fa Refrigerant**

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Concentration
1,1,1,3,3,3-Hexafluoropropane	690-39-1	>=99%

**SECTION 4. FIRST AID MEASURES**

- General advice : Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.
- Inhalation : If inhaled, remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
- Skin contact : Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.
- Eye contact : In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- 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 : 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.

**DuPont™ Suva® 236fa Refrigerant**

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : No applicable data available.
- Specific hazards : Not a fire or explosion hazard. Hazardous gases/vapors produced are: Hydrogen fluoride
- 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.
- Further information : Cool containers/tanks with water spray. 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) : Evacuate personnel to safe areas. Ventilate area, especially low or enclosed places where heavy vapours might collect. 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.
- Spill Cleanup : Evaporates.  
Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect.
- Accidental Release Measures : Self-contained breathing apparatus (SCBA) is required if a large release occurs. Avoid open flames and high temperatures.

**DuPont™ Suva® 236fa Refrigerant**

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

**SECTION 7. HANDLING AND STORAGE**

- Handling (Personnel) : Use sufficient ventilation to keep employee exposure below recommended limits. For personal protection see section 8.  
Handle in accordance with good industrial hygiene and safety practice.
- Handling (Physical Aspects) : The product should not be mixed with air for leak testing or used with air for any other purpose above atmospheric pressure. Contact with chlorine or other strong oxidizing agents should also be avoided.
- Dust explosion class : Not applicable
- 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. Use a suitable hand truck for cylinder movement. Never attempt to lift cylinder by its cap. Use a pressure reducing regulator when connecting cylinder to lower pressure (<3000 psig) piping or systems. 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. Avoid area where salt or other corrosive materials are present.  
The product has an indefinite shelf life when stored properly.
- Storage period : > 10 yr
- Storage temperature : < 52 °C (< 126 °F)

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

- Engineering controls : Normal ventilation for standard manufacturing procedures is generally adequate. Local exhaust should be used when large amounts are released.  
Mechanical ventilation should be used in low or enclosed places.  
Concentration monitors may be necessary to determine vapour concentrations in work areas prior to use of torches or other open flames, or if employees are entering enclosed areas.
- Personal protective equipment
- Respiratory protection : Wear NIOSH approved respiratory protection as appropriate.
- Eye protection : Wear safety glasses or coverall chemical splash goggles.

**DuPont™ Suva® 236fa Refrigerant**

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

Skin and body protection : Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots.

Protective measures : When using do not smoke. Self-contained breathing apparatus (SCBA) is required if a large release occurs.

Exposure Guidelines  
Exposure Limit Values

1,1,1,3,3,3-Hexafluoropropane  
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**

## Appearance

Physical state : gaseous  
Form : Liquefied gas  
Color : colourless

Odor : slight, ether-like

Odor threshold : No applicable data available.

pH : No applicable data available.

Melting point/freezing point : Freezing point  
-103 °C (-153 °F) at 1,013 hPa  
Melting point  
-98 °C (-144 °F)

Boiling point/boiling range : Boiling point  
-1.4 °C (29.5 °F)

Flash point : Not applicable

Evaporation rate : No applicable data available.

**DuPont™ Suva® 236fa Refrigerant**

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

Flammability (solid, gas)	: Not applicable
Upper explosion limit	: Method: None per ASTM E681
Lower explosion limit	: Method: None per ASTM E681
Vapor pressure	: 2,724 hPa at 25 °C (77 °F)
Vapor density	: 5.4 at 25°C (77°F) and 1013 hPa (Air=1.0)
Specific gravity (Relative density)	: 1.36 at 25 °C (77 °F)
Water solubility	: No applicable data available.
Solubility(ies)	: No applicable data available.
Partition coefficient: n-octanol/water	: No applicable data available.
Auto-ignition temperature	: No applicable data available.
Decomposition temperature	: No applicable data available.
Viscosity, kinematic	: No applicable data available.
Viscosity, dynamic	: No applicable data available.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: Decomposes on heating.
Chemical stability	: The product is chemically stable.
Possibility of hazardous reactions	: Polymerization will not occur.
Conditions to avoid	: No applicable data available.
Incompatible materials	: Strong bases metallic sodium, Potassium, lithium
Hazardous decomposition products	: This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and possibly carbonyl fluoride.


**DuPont™ Suva® 236fa Refrigerant**

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

**SECTION 11. TOXICOLOGICAL INFORMATION**

1,1,1,3,3,3-Hexafluoropropane	
Inhalation 4 h LC50	: > 457000 ppm , Rat
Inhalation 4 h LC50	: > 189000 ppm , Rat Target Organs: Central nervous system Narcotic effects Central nervous system effects
Inhalation Low Observed Adverse Effect Concentration (LOAEC)	: 150000 ppm , Dog Cardiac sensitization
Inhalation No Observed Adverse Effect Concentration	: 100000 ppm , 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 sensitisation., 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 Rat - gas No toxicologically significant effects were found.
Mutagenicity	: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.
Reproductive toxicity	: No toxicity to reproduction Evidence suggests the substance is not a reproductive toxin in animals.



**DuPont™ Suva® 236fa Refrigerant**

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

Teratogenicity : Animal testing showed no developmental toxicity.

Further information : Cardiac sensitisation threshold limit : 932751 mg/m3

**Carcinogenicity**

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

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 12. ECOLOGICAL INFORMATION****Aquatic Toxicity****1,1,1,3,3,3-Hexafluoropropane**

96 h LC50 : Zebra fish 292 mg/l

96 h ErC50 : Pseudokirchneriella subcapitata (microalgae) > 186 mg/l

48 h EC50 : Daphnia magna (Water flea) 299 mg/l

**Environmental Fate****DuPont™ Suva® 236fa Refrigerant**

Biodegradability : Not readily biodegradable. 16 %

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste disposal methods - Product : Can be used after re-conditioning. Reclaim by distillation, incinerate, or remove to permitted waste facility. Comply with applicable Federal, State/Provincial and Local Regulations.

Contaminated packaging : Empty pressure vessels should be returned to the supplier.



## DuPont™ Suva® 236fa Refrigerant

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

### SECTION 14. TRANSPORT INFORMATION

DOT	UN number	: 1078
	Proper shipping name	: Refrigerant gases, n.o.s. (1,1,1,3,3,3-Hexafluoropropane)
	Class	: 2.2
	Labelling No.	: 2.2
IATA_C	UN number	: 1078
	Proper shipping name	: Refrigerant gas, n.o.s. (1,1,1,3,3,3-Hexafluoropropane)
	Class	: 2.2
	Labelling No.	: 2.2
IMDG	UN number	: 1078
	Proper shipping name	: REFRIGERANT GAS, N.O.S. (1,1,1,3,3,3-Hexafluoropropane)
	Class	: 2.2
	Labelling No.	: 2.2

### SECTION 15. REGULATORY INFORMATION

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

### SECTION 16. OTHER INFORMATION

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



**DuPont™ Suva® 236fa Refrigerant**

Version 2.0

Revision Date 05/04/2015

Ref. 130000000816

Revision Date : 05/04/2015

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 information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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

