Safety Data Sheet

HP 152a aerosol propellant

Version 3.0

Revision Date 02/12/2016 Ref. 130000000071

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	:	HP 152a aerosol propellant
Tradename/Synonym	:	Fluorocarbon 152a 1,1-Difluoroethane HFC-152a
Product Use	:	Propellant, For industrial use only.
Restrictions on use	:	Do not use product for anything outside of the above specified uses
Manufacturer/Supplier	:	The Chemours Company FC, LLC 1007 Market Street Wilmington, DE 19899 United States of America
Product Information	:	1-844-773-CHEM (outside the U.S. 1-302-773-1000)
Medical Emergency	:	1-866-595-1473 (outside the U.S. 1-302-773-2000)
Transport Emergency	:	CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Product hazard category

Flammable gases	Category 1
Gases under pressure	Compressed gas

HP 152a aerosol propellant

Version 3.0

Revision Date 02/12/2016 Ref. 130000000071

Label content

Pictogram :

Signal word : Danger

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

Hazardous prevention measures : Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
Eliminate all ignition sources if safe to do so.
Protect from sunlight. Store in a well-ventilated place.

Other hazards

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
1,1-Difluoroethane	75-37-6	100 %

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	:	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.
Skin contact	:	Take off all contaminated clothing immediately. Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.
Eye contact	:	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
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.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray, water fog, Dry chemical, Alcohol-resistant foam, Carbon dioxide (CO2)

Unsuitable extinguishing media	:	No applicable data available.
Specific hazards	:	Flammable. Cylinders are equipped with pressure and temperature relief devices, but may still rupture under fire conditions. This substance's fire decomposition by-products will include hydrofluoric acid, and possibly carbonyl fluoride. Avoid contact with these materials, which are toxic and irritating. Evacuate personnel immediately in the event of a fire involving this substance. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapours or gases may travel considerable distances to ignition source and flash back.
Special protective equipment for firefighters	:	Use personal protective equipment. Wear neoprene gloves during cleaning up work after a fire. Exposure to decomposition products may be a hazard to health.
Further information	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. 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.

Safeguards (Personnel)	:	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.
Spill Cleanup	:	If this product is spilled and not recovered, or is recovered as a waste for treatment or disposal, the CERCLA Reportable Quantity is 100 lbs. (release of an Unlisted Hazardous Waste with the Characteristic of Ignitability). Evaporates. Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect.

Accidental Release Measures	:	Wear self-contained breathing apparatus (SCBA).

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. Lines and equipment should be pre-tested with nitrogen using soapy water to detect leaks. Handle in accordance with good industrial hygiene and safety practice.
Handling (Physical Aspects)	:	Vapours are heavier than air and may spread along floors. Vapours may form flammable mixture with air. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. No sparking tools should be used. Take measures to prevent the build up of electrostatic charge. Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke.
Dust explosion class	:	Not applicable
Storage	:	Keep container tightly closed in a dry and well-ventilated place. Store in original container. No materials to be especially mentioned. 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	:	Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical equipment rated Class I, Group D in Division 1 locations. In Division 2 locations, all spark-producing electrical equipment must be explosion-proof and rated Class I, Group D. Non-sparking motors need not be explosion-proof. Ground all equipment and

cylinders before use.

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	:	Additional protection: Heat insulating gloves, and, Impervious gloves
Eye protection	:	Wear 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.
Skin and body protection	:	Fire protective clothing (NOMEX) with antistatic control should be worn when handling this product. Wear protective clothing which covers any other exposed areas of the arms, legs, and torso.
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-Difluoroethane

No applicable data available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	:	gaseous
Form	:	Compressed gas
Color	:	clear, colourless
Odor	:	slight, ether-like

HP 152a aerosol propellant

Version 3.0

Revision Date 02/12/2016 Ref. 130000000071

Odor threshold	:	No applicable data available.
pH	:	neutral
Melting point/range	:	No applicable data available.
Boiling point/boiling range	:	Boiling point -25 °C (-13 °F) at 1,013 hPa
Flash point	:	< -50 °C
Evaporation rate	:	No applicable data available.
Flammability (solid, gas)	:	No applicable data available.
Upper explosion limit	:	16.9 vol%
Lower explosion limit	:	3.9 vol%
Vapor pressure	:	5,960 hPa at 25 °C (77 °F)
Vapor density	:	2.4 at 25 °C (77 °F) (Air = 1.0)
Density	:	0.90 g/cm3 at 25 °C (77 °F) (as liquid)
Specific gravity (Relative density)	:	No applicable data available.
Water solubility	:	0.2 g/l at 25 °C (77 °F) at 1,013 hPa
Solubility(ies)	:	No applicable data available.
Partition coefficient: n-octanol/water	:	No applicable data available.
Auto-ignition temperature	:	No applicable data available.

Ignition temperature	:	454 °C
Decomposition temperature	:	No applicable data available.
Viscosity, kinematic	:	No applicable data available.
Viscosity, dynamic	:	No applicable data available.
% Volatile	:	100 %

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Polymerization will not occur.
Conditions to avoid	:	Material is stable. Avoid open flames and high temperatures.
Incompatible materials	:	Incompatible products Alkali metals, Alkaline earth metals, Powdered metals, Powdered metal salts
Hazardous decomposition products	:	Decomposition products are hazardous., This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and possibly carbonyl fluoride.

SECTION 11. TOXICOLOGICAL INFORMATION

1,1-Difluoroethane

Inhalation 4 h LC50	:	> 437500 ppm , Rat
Inhalation No Observed Adverse Effect Concentration	:	50000 ppm , Dog Cardiac sensitization
Inhalation Low Observed Adverse Effect Concentration (LOAEC)	:	150000 ppm , Dog Cardiac sensitization

Skin sensitization	:	Does not cause respiratory sensitisation., Rat
Repeated dose toxicity	:	Inhalation Rat - NOAEL: 67.485 mg/l No toxicologically significant effects were found.
Carcinogenicity	:	Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.
Mutagenicity	:	Animal testing did not show any mutagenic effects. Did not cause genetic damage in cultured bacterial cells. Tests on mammalian cell cultures showed mutagenic effects.
Reproductive toxicity	:	No toxicity to reproduction Animal testing showed no reproductive toxicity.
Teratogenicity	:	Animal testing showed no developmental toxicity.
Further information	:	Cardiac sensitisation threshold limit : 405000 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-Difluoroethane

96 h LC50	:	Fish 295.78 mg/l

96 h EC50	:	Algae 47.76 mg/l
48 h EC50	:	Daphnia (water flea) 146.7 mg/l

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. May be a RCRA Hazardous waste due to the ignitability characteristic.
Contaminated packaging	:	Empty pressure vessels should be returned to the supplier.

SECTION 14. TRANSPORT INFORMATION

DOT	UN number	:	1030
	Proper shipping name	:	1,1-Difluoroethane
	Class	:	2.1
	Labelling No.	:	2.1
IATA_C	UN number	:	1030
	Proper shipping name	:	1,1-Difluoroethane
	Class	:	2.1
	Labelling No.	:	2.1
IMDG	UN number	:	1030
	Proper shipping name	:	1,1-DIFLUOROETHANE
	Class	:	2.1
	Labelling No.	:	2.1

HP 152a aerosol propellant

Version 3.0

Revision Date 02/12/2016 Ref. 130000000071

SECTION 15. REGULATORY INFORMATION

TSCA	:	On the inventory, or in compliance with the inventory
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.
NJ Right to Know Regulated Chemical(s)	:	Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): 1,1-Difluoroethane
California Prop. 65	:	Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known

SECTION 16. OTHER INFORMATION

Before use read Chemours safety information. For further information contact the local Chemours office or nominated distributors.

Revision Date : 02/12/2016

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.