

9. Physical and chemical properties

Appearance:	Compressed liquefied gas.
Color:	Clear, colorless.
Odor:	Slight ethereal.
pH:	Not available.
Melting point:	-136°C
Boiling point:	-51.7°C
Relative Vapor Density:	1.86 at normal boiling pointy (Air= 1)
Liquid Density:	1.1 g/cm ³
Vapor pressure:	17 bar at 25°C
Partition coefficient (n-octanol/water):	Log pow = 0.2
Solubility in water:	Insoluble in water
Flash point:	No data available.
Critical temperature:	78.25°C
Critical Pressure:	58.1 bar
Flammability:	Lower: 14.0 %(v/v) Upper:31.0 %(v/v) (determined by ICI using ASTM 681-85)
Decomposition temperature:	No data available.
Explosive properties:	No data available.
Oxidising properties:	Non oxidizer.
Evaporation Rate:	No data available.
Viscosity:	No data available
Volatile:	100 WT%

10. Stability and reactivity

- **Reactivity:**
The gas mixes well with air, explosive mixtures are formed easily.
- **Chemical stability:**
Stable under normal temperature conditions and recommended use.
- **Possibility of hazardous reactions:**
Can react violently if in contact with alkali metals and alkaline earth metals - sodium, potassium, barium. May react violently with: oxidizing agents.
- **Conditions to avoid:**

Avoid open flames and high temperatures.

- **Incompatible materials:**
 Incompatible materials: finely divided metals, magnesium and alloys containing more than 2% magnesium.
- **Hazardous decomposition products:**
 Hazardous decomposition products formed under fire conditions: Carbon oxides, hydrogen fluoride

11. Toxicological information

Toxicological information	
Toxicokinetics, metabolism and distribution	
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.	
Information on toxicological effects	
Acute toxicity due Inhalation:	
R32	LC50 = 1890 g/m3/4h (rat) (NLM Dataset); LC50 = 1810 g/m3 (mouse) (NLM Dataset);
Skin corrosion/irritation:	
R32	No data available.
Serious eye damage/irritation:	
R32	No data available.
STOT-single exposure and repeated exposure:	
The substance or mixture is not classified as specific target organ toxicant, single exposure, repeated exposure.	

12. Ecological information

Toxicity	Quantitative data on the acute fish/daphnia/bacteria toxicity of this product are not available.
Persistence and degradability	
R32	Decomposed comparatively rapidly in the lower atmosphere (troposphere). Atmospheric lifetime is 5.6 year(s). Products of decomposition will be highly dispersed and hence will have a very low concentration. Does not influence photochemical smog (i.e. is not a VOC under the terms of the UNECE agreement).
Bio accumulative potential	
R32	Log pow = 0.2. The low octanol-water partition coefficient indicated that the product is not likely to bioaccumulate
Mobility in soil	

R32	To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
Other adverse effects	
R32	Global warming potential (GWP) = 550.

13. Disposal considerations

Best to recover and recycle. If this is not possible, destruction is to be in an approved facility which is equipped to absorb and neutralize acid gases and other toxic processing products.
 Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to the suppliers. Do not dispose of locally.

14. Transport information

Land transport (ADR/RID/GGVSE)	
UN-No.:	3252
Official transport designation:	DIFLUOROMETHANE (REFRIGERANT GAS R 32))
Class:	2.1
Classification Code:	2F
Packing group:	-
Hazard label:	2.1

Sea transport (IMDG-Code/GGVSee)	
Proper Shipping Name:	DIFLUOROMETHANE (REFRIGERANT GAS R 32))
Class:	2.1
UN-No.:	3252
Packing group:	-
EmS No.:	F-D, S-U
Marine pollutant:	No

Air transport (ICAO-TI/IATA-DGR)	
Proper Shipping Name:	DIFLUOROMETHANE (REFRIGERANT GAS R 32))
Class:	2.1
UN-No.:	3252
Packing group:	-

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulation:

- **Authorizations:** No information available.
- **Restrictions on use:** No information available.
- **EINECS:** The substance is listed in the inventory.
- **DSD (67/548/EEC):** The substance is not listed in the Annex I.
- **Regulation (EC) No 842/2006:** The substance is listed in the Annex I of Regulation (EC) No 842/2006 on certain fluorinated greenhouse gases.

Other chemical regulation:

- USA - TSCA: The substance is listed in the inventory.
- Canada - DSL: The substance is listed in the inventory.
- Australia - AICS: The substance is listed in the inventory.
- Korea - ECL: The substance is listed in the inventory.
- Japan - ENCS: The substance is listed in the inventory.
- China - IECSC: The substance is listed in the inventory.

Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance

16. Other information

Abbreviations and acronyms

CLP	EU regulation (EC) No 1272/2008 on classification, labelling and packaging of chemical substances and mixtures.
CAS	Chemical Abstracts Service (division of the American Chemical Society).
EINECS	European Inventory of Existing Commercial Chemical Substances.
IARC	International agency for research on cancer.
RID	European Rail Transport.
IMDG	International Maritime Code for Dangerous Goods.
IATA	International Air Transport Association.
DSD	Dangerous Substance Directive (67/548/EEC).

TSCA	Toxic Substances Control Act, The American chemical inventory.
DSL	Domestic Substances List, The Canadian chemical inventory.
AICS	The Australian Inventory of Chemical Substances.
ECL	Existing Chemicals List, the Korean chemical inventory.
ENCS	Japanese Existing and New Chemical Substances.
IECSC	Inventory of existing chemical substances in China.

Key literature references and sources for data

ESIS IUCLID Dataset:	European chemical Substances Information System.
NLM Dataset:	United States National library of medicine.

Relevant R-phrases and H-statements

R12	Extremely flammable
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.

Training advice

Provide adequate information, instruction and training for operators.

Declare to reader

The information in this Safety Data Sheet (SDS) was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. According to REACH Article 31(5), the SDS shall be supplied in an official language of the Member State(s) where the substance or mixture is placed on the market, unless the recipient Member State(s) concerned provide otherwise. It should also be noted that this SDS is applicable to the countries with English as an official language.