

Safety (MSDS) data for 1,1,2-trichloro-1,2,2-trifluoroethane

General

Synonyms: Freon 113, fluorocarbon 113, 1,1,2-trichlorotrifluoroethane, refrigerant 113, genetron 113, trichloro-1,2,2-trifluoroethane, Diflon S-3, CFC-113, frigen 113 TR-T, Ucon 113

Use: refrigerant in low capacity centrifugal chiller packaged units (low pressure, high volume systems)

Molecular formula: $C_2Cl_3F_3$

CAS No: 76-13-1

EC No: 200-936-1

Physical data

Appearance: colourless liquid or gas

Melting point: -35 C

Boiling point: 48 C

Vapour density: 6.5 (air = 1)

Vapour pressure: 285 mm Hg at 20 C

Density ($g\ cm^{-3}$): 1.5635 at 25 C

Flash point: none

Explosion limits:

Autoignition temperature:

Water solubility: negligible

Stability

Stable. Non-flammable. Incompatible with alkali metals, chemically active metals, magnesium, zinc, aluminium.

Toxicology

At high levels may act as an asphyxiant. Typical TLV/TWA 1000 ppm. Typical STEL 1250 ppm.

Toxicity data

(The meaning of any abbreviations which appear in this section is given [here.](#))

ORL-RAT LD50 43000 mg kg⁻¹

IHL-RAT LC50 260 g/m³/2h

IHL-HMN TCLO 4500 ppm

IHL-GPG LCLO 50,000 ppm/1h

Risk phrases

(The meaning of any risk phrases which appear in this section is given [here.](#))

Transport information

(The meaning of any UN hazard codes which appear in this section is given [here.](#))

UN No 8027. Hazard class 9.

Personal protection

Adequate ventilation. Breakdown products of this chemical may cause damage to the upper atmosphere.

Safety phrases

(The meaning of any safety phrases which appear in this section is given [here.](#))

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