

## GHS Classification

**ID404**

**CAS 1717-00-6**

### Physical Hazards

**1,1-Dichloro-1-fluoroethane; HCFC-141b**

Date Classified: Aug. 18, 2006 (Environmental Hazards: Mar. 31, 2006)

Reference Manual: GHS Classification Manual (Feb. 10, 2006)

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Explosives	Not applicable	—	—	—	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
6 Flammable liquids	Not classified	—	—	—	Non-flammable (HSDB, 2006)
7 Flammable solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Classification not possible	—	—	—	No data available
10 Pyrophoric solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
11 Self-heating substances and mixtures	Classification not possible	—	—	—	Test methods applicable to liquid substances are not available
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	—	—	—	Containing no metals or metalloids (B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At)
13 Oxidizing liquids	Not applicable	—	—	—	Organic compounds containing fluorine and chlorine (but not oxygen), with the fluorine and chlorine bound to carbon and hydrogen respectively (but not to other elements)
14 Oxidizing solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
15 Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "-O-O-" structure
16 Corrosive to metals	Classification not possible	—	—	—	Test methods applicable to gaseous substances are not available (boiling point: 32degC (Lide, 84th, 2003), test temperature: 55degC)

### Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Not classified	—	—	—	Based on the rat LD50 (oral route) value of >5,000mg/kg (SIDS (2003)).
1 Acute toxicity (dermal)	Not classified	—	—	—	Based on the LD50 (dermal route) values of >2,000mg/kg (rats) and >2,000mg/kg (rabbits) (SIDS (2003)), obtained in accordance with TG402, and no marked toxic symptoms observed.
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "liquid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: vapour)	Not classified	—	—	—	Based on the rat LC50 value of 62,100ppm (4 hours), calculated from the testing data of rat LC50 (inhalation of vapour) of 297.6mg/L (4 hours) (SIDS (2003)), 295mg/L (4 hours) (EHC 139 (1992)) and 300.7mg/L (4 hours) (ECETOC JACC 15 (1990)), was lower than 90% of the saturated vapour concentration (763,000ppm) under a saturated vapour pressure of 76.3kPa (25degC) (SIDS (2003)), the substance was considered as "vapour containing substantially no mist" and was classified based on standard values expressed in ppm.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
2 Skin corrosion / irritation	Not classified	—	—	—	Based on the results of rabbit skin irritation tests, SIDS (2003) concludes "it is not irritating to the skin." The substance is thus considered non skin irritant.
3 Serious eye damage / eye irritation	Category 2B	—	Warning	Causes eye irritation	SIDS (2003) evaluating eye irritation potential of 1,1-dichloro-1-fluoroethane in rats provides two sets of data: one positive ("mild irritation (conjunctivitis, chemosis, and moderate blood-tinged discharge) with no corneal involvement. All treated eyes of all rabbits were normal by 72 hours after treatment") and one negative. SIDS (2003) concludes "it is only mildly irritating to the eye." The substance is thus considered a mild irritant and placed in Category 2B.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Classification not possible	(Respiratory sensitization) - (Skin sensitization) -	(Respiratory sensitization) - (Skin sensitization)	(Respiratory sensitization) - (Skin sensitization) -	Respiratory sensitization: No data available Skin sensitization: SIDS (2003) evaluating skin sensitizing potential of 1,1-dichloro-1-fluoro in guinea pigs concludes "it is not a skin sensitization in the Guinea pig." However, classification is not possible because of the insufficiency of data to determine the presence of sensitization.
5 Germ cell mutagenicity	Not classified	—	—	—	Based on the absence of data on multi-generation mutagenicity tests and germ cell mutagenicity tests in vivo, and negative data on somatic cell mutagenicity tests in vivo (micronucleus tests), described in SIDS (2003) and EHC 139 (1992).
6 Carcinogenicity	Classification not possible	—	—	—	Insufficient data available
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of adverse effects on reproduction and development (including declined fertility and decreased postimplantation loss) at dosing levels toxic to parental animals.
8 Specific target organs/systemic toxicity following single exposure	Category 3 (narcotic effects)	Exclamation mark	Warning	(Narcotic effects) May cause drowsiness or dizziness	Based on the evidence from animal studies including: "dose level (concentration) producing narcotic effects on 50% of test animals: 62g/m <sup>3</sup> " (EHC 139 (1992)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 3.

9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Insufficient data available
10	Aspiration hazard	Classification not possible	-	-	-	No data available

### Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Category 3	-	-	Harmful to aquatic life	It was classified into Category 3 from 48 hours LC50=31mg/L of the crustacea ( <i>Daphnia magna</i> ) (ECETOC TR91, 2003).
11 Hazardous to the aquatic environment (chronic)	Category 3	-	-	Harmful to aquatic life with long lasting effects	Although acute toxicity was Category 3 and the bio-accumulation potential was low (log Kow=2.37(PHYSROP Database, 2005)), since there was no rapidly degrading (the decomposition by BOD: 2-10%(EHC139, 1992)), it was classified into Category 3.