

GHS Classification

ID772

Ethane, 1,1-dichloro-

CAS 75-34-3

Date Classified: Jul. 24, 2006 (Environmental Hazards: Mar. 31, 2006)

Physical Hazards

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

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Explosives	Not applicable	-	-	-	There are no chemical groups associated with explosive properties present in the molecules.
2 Flammable gases	Not applicable	-	-	-	Liquid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Liquid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Liquid (GHS definition)
6 Flammable liquids	Category 2	Flame	Danger	Highly flammable liquid and vapour	It was classified as Category 2 (GHS standards: flash point being less than 23 degC, and initial boiling point being more than 35 degC) based on flash point -17 to -5.6 degC and initial boiling point 57 to 59 degC .
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Not applicable	-	-	-	There are no chemical groups associated with explosive or self-reactive properties present in the molecule.
9 Pyrophoric liquids	Not classified	-	-	-	Flash point: 458degC (ICSC, 1993; NFPA (13th, 2002); Hommel, 1991)
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (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	-	-	-	The chemical structure of the substance does not contain metals or metalloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
13 Oxidizing liquids	Not applicable	-	-	-	Organic compounds containing chlorine (but not oxygen and fluorine) chemically bonded only to carbon (but not to other elements).
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Organic compounds containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Although the statement of corroding aluminum and iron (ICSC (1993)), since there is no detailed test data, it cannot be classified.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Not classified	-	-	-	Not classified because of SPECIES: Rat; ENDPOINT: LD50; VALUE: 14.1 g/kg; REFERENCE SOURCE: PATTY(5th, 2001)
1 Acute toxicity (dermal)	Classification not possible	-	-	-	Insufficient data available
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 5	-	Warning	May be harmful if inhaled	Based on LC50 = 52.5mg/L calculated from rat LC50 = 13000 ppm (equivalent value: 52.5 mg/L) (ACGIH (7th, 2001), PATTY (5th, 2001)), and rat LC50 = 16000ppm (equivalent value: 91.4 mg/L) (HSDB (2005)), it was classified as Category 5. In addition, the saturated concentration of this product is 3.0*10 ⁵ ppm, and it is presumed that the inhalation test is done in the state of steam.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Classification not possible	-	-	-	Although there are descriptions that dryness and roughness due to degreasing of the skin take place with the long-term and repetitive exposure of this product (ICSC (J) (1993)), it does not indicate direct skin irritation. There is no concrete data on skin irritation, it cannot be classified because of data insufficiency.
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	There was description that R36/37 which indicate eye stimulation are applied in European risk phrases. If eye of rabbit is medicated, the moderate irritation of the conjunctival, and a partial swelling will take place immediately (it returns to normal within one week) (IUCILID (2000), "a human eye is stimulated" (ACGIH (7th, 2001), PATTY (5th, 2001), and "redness and pains (ICSC (J), (1993)". So it was set as Category 2A-2B. [Indications] in the case that subdividing are necessary, it is more desirable to be set as Category 2A from the viewpoint of safety.
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)-	No data available

5	Germ cell mutagenicity	Classification not possible	-	-	-	It gave positive finding by the in vivo DNA junction examination using rats and mice (ACGIH (7th, 2001); ATSDR (1990)), however, it gave negative in the chromosomal aberration test of the in vitro mutagenicity test. And although in some cases it gave negative in the Ames test, it gave generally negative. Therefore we presupposed that we could not categorize it according to the guideline of the classification.
6	Carcinogenicity	Not classified	-	-	-	It was categorized into A4 according to ACGIH (7th, 2001), and into C according to EPA (1996). So it carried out the outside of category according to classification guidelines.
7	Toxic to reproduction	Not classified	-	-	-	It was considered as out of category based on that in rat inhalation tests, in both mother and child, although it was small, except for the significant decrease feed intake consumption and effects to delayed ossification were not observed and teratogenicity also was not observed (ACGIH (7th, 2001), ATSDR (1990), PATTY (5th, 2001)).
8	Specific target organs/systemic toxicity following single exposure	Category 1 (liver, kidneys); Category 3 (narcotic effects, respiratory tract irritation)	Health hazard; Exclamation mark	Danger; Warning	Cause damage to organs (liver, kidneys); May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects, respiratory tract irritation)	In Priority 1, there is description that there is an anesthetic actions to humans, the influence on the liver and the kidney and respiratory irritation are seen (ACGIH (7th, 2001), PATTY (5th, 2001), ATSDR (1990)), so it is classified into Category 1 (liver, kidney) and Category 3 (an anesthetic actions, respiratory irritation).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (kidneys, liver)	Health hazard	Warning	May cause damage to organs (kidneys, liver) through prolonged or repeated exposure	It was classified into Category 2 (kidney, liver) from description of Priority 2 (ICSC (J), (1993), SITTING (4th, 2002)) that the human kidney and liver may be affected. In addition, although effects on the central nervous systems, renal, and the liver were seen in the animal experiments, all were the results in the amount which exceeds the guidance value range of Category 2.
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)	Not classified	-	-	-	It carried out the outside of Category from 24-hour TLm=320mg/L of Crustacea (Brine shrimp) (HSDB, 2004).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since not water-insoluble (aqueous solubility =5040 mg/L (PHYSROP Database, 2005)) and acute toxicity is low.