

GHS Classification

ID1182

Ethyl chloroacetate

CAS 105-39-5

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 3	Flame	Warning	Flammable liquid and vapour	Flash point: 53degC(C.C.) (ICSC(J), 2001). UNRTDG No. 1181, Class: 6.1(3); PG II.
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	-	-	-	UNRTDG is classified into 6.1 (3) and II according to the U.N. number (1181) peculiar to a substance. Since 4.2 was not attached, it considered as the outside of Category.
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 oxygen and chlorine (but not fluorine) and these elements are 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	-	-	-	UNRTDG is classified into 6.1 (3) and II according to the UNRTDG No. (1181). Although 8 is not attached, since the data which negates corrosion behavior is not found, it cannot be classified.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 3	Skull and crossbones	Danger	Toxic if swallowed	Based on the calculated LD50 = 96.8mg/kg based on the rat oral LD50 values: 50, 180, 180 and 235mg/kg (PATTY (5th, 2001), RTECS (1999), IUCLID (2000)), the substance was classified as Category 3.
1 Acute toxicity (dermal)	Category 2	Skull and crossbones	Danger	Fatal in contact with skin	The lower rabbit LD50 = 230mg/kg. (Based on rabbit LD50 = 230mg/kg and 335mg/kg (both are IUCLID (2000))). Rat LD50 = 161mg/kg (RTECS (1999), IUCLID (2000)). It was set as Category 2 from high toxic rat LD50 = 161mg/kg.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Since the experimental result of a rabbit (the irritation of moderately, IUCLID (2000)), and that "skin is stimulated to humans (ICSC (J) (2001)", and "the skin was seriously stimulated by contact to humans" (SITTIG (4th, 2002), HSFS (1999)), it was set as category 2.
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	Due to the descriptions of the result of the experiment to the rabbit (Severe (RTECS (1999)), severe irritation (IUCLID (2000)), "irritation to human eye severely (ICSC (J) (2001))", "irritation to the eye seriously" (HSDB (2003), SITTIG (4th, 2002), IUCLID (2000)), it was classified into Category 2A.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category 1	(Respiratory sensitization)-; (Skin sensitization)Exclamation mark	(Respiratory sensitization)-; (Skin sensitization)Warning	(Respiratory sensitization)-; (Skin sensitization)May cause allergic skin reaction	Respiratory sensitization: no data available. Skin sensitization : among the document of Priority 2, since there is description that a positivity is shown in Maximization Test using a guinea pig (IUCLID(2000)), and the description (ICSC(J)(2001)) to humans "sensitization of the skin may be carried out by repetition or long-term contact", according to the technical indicator, it was considered as Category 1.
5 Germ cell mutagenicity	Classification not possible	-	-	-	There is only a Ames test negative database (IUCLID (2000)) of in vitro, it cannot be classified according to technical guidelines flow.
6 Carcinogenicity	Classification not possible	-	-	-	The negative result was obtained by dermal or subcutaneous administration in the experiment in mouse (IUCLID (2000)). But only female was used, and data is insufficient. Therefore, it cannot be classified.
7 Toxic to reproduction	Classification not possible	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 2 (respiratory)	Health hazard	Warning	May cause damage to organs (respiratory)	It was considered as Category 2 (respiratory systems) based on the description that it stimulates the human respiratory tract (ICSC (J) (2001), SITTIG (4th, 2002), and causes pulmonary edemas to humans (HSDB (2003), SITTIG (4th, 2002)) in Priority 2.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Although the description in Priority 2 that there is a possibility of causing damage to lungs (SITTIG (4th, 2002)), it was presupposed that it could not be classified for lack of data.
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 2	-	-	Toxic to aquatic life	It was classified into Category 2 from 96-hour LC50=1.48mg/L of fishes (Zebrafish) (IUCLID, 2000) .
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since rapidly degrading (BOD: 75% (IUCLID, 2000)), and less bio-accumulative (log Kow=0.94 (PHYSPROP Database, 2005)).