

GHS Classification

ID901

Ethane, 1,1'-thiobis[2-chloro-

CAS 505-60-2

Date Classified: Aug. 18, 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	Not classified	-	-	-	Flash point: >93degC
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	Classification not possible	-	-	-	No data available
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 and hydrogen (but not to other elements).
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	No data available

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 2	Skull and crossbones	Danger	Fatal if swallowed	SPECIES: Rat ENDPOINT: LD50 VALUE: 17mg/kg REFERENCE SOURCE: ATSDR (2003)
1 Acute toxicity (dermal)	Category 1	Skull and crossbones	Danger	Fatal in contact with skin	Rabbit LD50 value = 100mg/kg (DFGOT vol.4, 1992), and rat LD50 value = 18mg/kg (DFGOT vol.4, 1992) and 9mg/kg (DFGOT vol.4, 1992, ATSDR, 2003). The lower rat LD50 value was adopted and it was set as Category 1.
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	It was set as Category 2 from description that edema of the skin and blister formation are seen by humans evidence of exposure (DFGOT (4 vol. 1992), ATSDR (2003)).
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	We classified it as Category 2A based on the descriptions that damage on the eyes was acknowledged in human exposure examples (DFGOT (4 vol. 1992) and ATSDR (2003)).
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	Category 1B	Health hazard	Danger	May cause genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Since there is a positive result (DFGOT vol.4, 1992, IARC 9, 1975, ATSDR, 2003) by the dominant lethal test using a rat, it is set as Category 1B.
6	Carcinogenicity	Category 1A	Health hazard	Danger	May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	It was classified into group 1(IARC Suppl.7, 1987) in IARC, 1 (industrial hygiene academic society recommendation, 2005) in Japan Assoc. of Industrial Health, and K (NTP RoC 11th, 2005) in NTP. So it was considered as Category 1A.
7	Toxic to reproduction	Category 1B	Health hazard	Danger	May damage fertility or the unborn child	It was considered as Category 1B based on the description that the male reproductive function effects are indicated in the study for the humans of ATSDR (2003).
8	Specific target organs/systemic toxicity following single exposure	Category 1 (systemic toxicity)	Health hazard	Danger	Cause damage to organs (systemic toxicity)	Although it is described in ATSDR (2003) that the target organs in acute exposure, in human exposures, are skin, eyes and airways, DFGOT (vol.4, 1992) has description that affect is seen in various organs, such as a brain, bone marrow, blood, an alimentary canal, and kidney, by enzyme inhibition. Since target organ could not be specified, it was set as Category 1 (systemic toxicity).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (respiratory organs)	Health hazard	Danger	Causes damage to organs (respiratory organs) through prolonged or repeated exposure	We classified it to be Category 1 (respiratory tracts) based on the description that the impact on respiratory tracts is observed in occupational exposure examples (DFGOT (vol.4, 1992)).
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)	Classification not possible	-	-	-	Insufficient data available.
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	Classification not possible due to lack of data