

GHS Classification

ID843

1,1,2-tetrabromoethane

CAS 79-27-6

Date Classified: Jul. 1, 2005 (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	Not classified	-	-	-	The ignition points is 335 degC. (Hommel (1991) Card No.215)
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition)
11 Self-heating substances and mixtures	Not classified	-	-	-	UNRTDG Class: 6.1
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 no oxygen, fluorine and chlorine.
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 6.1

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 4	Exclamation mark	Warning	Harmful if swallowed	It was set to as Category 4 based on rat oral LD50: 924mg/kg (Health, Labor and Welfare Ministry reports (2005)).
1 Acute toxicity (dermal)	Not classified	-	-	-	Based on rat dermal LD50: 5250mg/kg (RTECS (2005), HSDB (2005)), it was set as the outside of Category.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	Based on rat 4-hour inhalation LC50: 0.549mg/L (38.9ppm) (RTECS (2005), HSDB (2005)), it was judged as steam vapor pressure with this concentration. So it was classified as Category 1.
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 the skin of the humans was stimulated (ICSC (J) (1995), HSDB (2005), SITTING (47th, 2002), DHP (13th, 2002)), and description that edema and bullous were seen within 24 hours by blocked applications of several hours with the rabbit (PATTY (4th, 1994)).
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	There is the description that the eyes of the humans are stimulated (ICSC (J), (1995), HSDB (2005), SITTING (47th, 2002), and DHP (13th, 2002)), and the description that in the rabbit, mild irritation was seen in the eyes (RTECS (2005), and HSDB (2005)). So it was set as Category 2A-2B.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	Since there are no in vivo mutagenicity or genotoxicity study data on germ or somatic cells, and there is only negative data with in vitro mutagenicity test. So it cannot be classified.
6 Carcinogenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
7 Toxic to reproduction	Classification not possible	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 2 (central nervous system); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Warning	May cause damage to organs (central nervous system); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	Description that the same disorder as a solvent induced encephalopathy was strongly suggested by the central nervous system function tests of the human acute evidence of exposure of HSDB (2005), and from description that central nervous systems manifestations was developed with the dose equivalent to Category 2 in the single-dose oral study in rats by the Health, Labor and Welfare Ministry reports (2005), and the rats single times mist inhalation studies of PATTY (4th, 1994), and these were judged that specific target organs were a central nervous systems, and it was set as Category 2. From description of ICSC (J) (1995), SITTIG (47th, 2002), and DHP (13th, 2002) that the airway is stimulated, it judged that there was airway stimulativeness and was set as Category 3.
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (liver, lung); Category 2 (thyroid gland)	Health hazard	Danger; Warning	Causes damage to organs (liver, lung) through prolonged or repeated exposure; May cause damage to organs (thyroid gland) through prolonged or repeated exposure	Based on descriptions that effect was observed at liver with dose from 20mg/kg/day and at thyroid with dose from 60mg/kg/day in the 28-day oral study of rats (the Health, Labor and Welfare Ministry reports (2005)); and that in the 100 to 106-day inhalation exposure test to rats, by 7-hour per day exposure of 14 ppm vapor, effect was observed in liver and lungs (PATTY (4th, 1994)), it was classified into Category 1 (liver, lung) and Category 2 (thyroid).
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	-	-	-	No data available
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	No data available.