GHS Classification

ID192 Benzene, (dichloromethyl)-

CAS 98-87-3 Date Classified: Apr. 20, 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 4	-	Warning	Combustible liquid	Category 4 because of its flash point: 85degC (Chapman ver.13.1 2005)
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: 525degC(Hommel (1991)) (>70degC)
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 metaloids(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	-	-	-	Containing no -0-0- structure
16	Corrosive to metals	Not classified	-	-	-	UNRTDG No. 1886, Class: 6.1 , PG II

Health Hazards

	Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1	Acute toxicity (oral)	Category 5	-	Warning	May be harmful if swallowed	It was based on rat LD50=2250 mg/kg (CERI Hazard Data (2000)) and 3250 mg/kg (IARC 29 (1982)). Both are equivalent to Category 5.
1	Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1	Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1	Acute toxicity (inhalation: vapour)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	It was classified as Category 1 based on 4-hour equivalent value of 0.3mg/L (45.5ppm) obtained from rat LC50 = 0.4mg/L = 60.7ppm (DFGOT vol.6 (1994)). The gaseous classification Category was applied to the classification, since LC50 value was lower than 90% of saturated vapor pressure concentration ((10^ (6) *0.0627(kPa) /101 (kPa) (25degC)) = 620.8ppm).
1	Acute toxicity (inhalation: dust, mist)	Category 4	Exclamation mark	Warning	Harmful if inhaled	It was set as Category 4 based on 4-hour converted values 4.3mg/L of rat LC50 = 654ppm (CERI Hazard Data (2000)).
2	Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Since it was evaluated to be "highly irritating" in the rabbit skin irritation test (IUCLID 2000) and described to "seriously stimulate the skin" as a result of short-term exposure (ICSC (2000)), it was classified as Category 2.
3	Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	It is described that "Temporary redness and edema were produced in the conjunctiva and mild irritation was indicated"after applicationing to eye of rabbit in CERI Hazard Data (2000). Furthermore, vapor has irritation in humans (HSDB (2003)), there is also description of "an eye is stimulated seriously" as short-term exposure effect (ICSC (2000)). So it was set as Category 2A-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)-	No data available
5	Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data

6	Carcinogenicity	Category 1B	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 is classified into 2A according to IARC and classified into 2A in Japan Society for Occupational Health, respectively. So it was set as Category 1B.
7	Toxic to reproduction	Classification not possible	–	–	–	No data available
8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract	There is the description of the irritaiton of airway membrane including respiratory depression by the inhalation exposure examination in rat (DFGOTvol.6, (1992)), and the description of "airway is irritated seriously"as the short-term exposure effect is indicated in ICSC (2000). Therefore, it was classified into Category 3 (airway stimulativeness).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	–	–	–	Only the decreased weight gain was observed in inhalation exposure examination for one-month in rat which carried out at relatively low levels, and the changes of skin application site was observed in dermal administration study for 41-50 weeks in mouse, no systemic effects are reported. (CERI Hazard Data (2000)). Therefore, since data is insufficient, it cannot be classified.
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-hour EC50=22mg/L of Crustacea (Daphnia magna) (MOE eco-toxicity tests of chemicals, 2000).
11	Hazardous to the aquatic environment (chronic)	Not classified	–	–	–	Since rapidly degrading (BOD: 90% (existing chemical safety inspections data)), and less bio-accumulative (log Kow=2.97 (PHYSPROP Database, 2005)).