

GHS Classification

ID587

Dibromochloropropane

CAS 96-12-8

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 4	-	Warning	Combustible liquid	Category 4 because of its flash point: >60degC and <90degC
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 : it is classified into a class 6.1 (Toxic substances) and PG 2 or 3.
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	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 6.1 (Toxic substances), PG II or III

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	Category 3 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: 185 mg/kg; REFERENCE SOURCE: ATSDR (1992)
1 Acute toxicity (dermal)	Category 4	Exclamation mark	Warning	Harmful in contact with skin	It was set as Category 4 based on rabbits dermal LD50 = 1400mg/kg (ATSDR (1992)).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: mist)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	It was classified as Category 2 based on rat inhalation LC50 = 154ppm (ATSDR (1992)).
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Not classified	-	-	-	When it was applied to the normal skin in rabbit test, there was no irritation, and since even when it was applied to the brushing skin, only very slight erythema was observed. Therefore, it was classified as out of Category.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Mild irritation was acknowledged in the conjunctiva and the iris of the rabbit. But it recovered completely in one to two days (ATSDR (1992)). So it was set as Category 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	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)	The substance was classified as Category 1B. Based on the positive results from the in vivo multi-generation mutagenicity test using germ cells (the rat dominant lethal test (IARC 71(1999)), the in vivo mutagenicity test using germ cells (the chromosome aberration test using rat spermatogenic cells (IARC 71(1999)), and the in vivo mutagenicity tests in somatic cells (the mouse spot test, micronucleus test using mouse or rat bone-marrow cells (IARC 71(1999)).

6	Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Since the IARC classification is 2B, the Japanese industrial hygiene academic Society classification is 2B, and the NTP classification is R, it was to category 2.
7	Toxic to reproduction	Category 1A	Health hazard	Danger	May damage fertility or the unborn child	In humans, azoospermia and oligospermia are observed and the possibility of infertility is suggested (IARC 71 (1999), IARC (2003)). Moreover, it is reported in a reference that although this is reproductive toxicity product to male and also it effects to infertility, it does not have an adverse effects on reproduction of male offspring (Chemically Induced Birth Defects-3rd edition), indirect correlation is observed between exposure and a sperm count (Catalog of Teratogenic Agents, 11th edition). Furthermore, it clearly describes "The spermatogenesis is inhibited in humans, and infertility is occurred" (IARC 71 (1999)). Therefore, it was classified into Category 1A.
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)	In the rat inhalation study, since the respiratory irritation was reported (ATSDR (1992)), it was classified into Category 3 (respiratory irritant).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (respiratory organs, kidneys, liver, central nervous system, blood system)	Health hazard	Danger	Causes damage to organs (respiratory organs, kidneys, liver, central nervous system, blood system) through prolonged or repeated	In the test of repetitive inhalation exposure to rats or mice, the influence on the respiratory system such as a necrosis of a nasal cavity and a trachea, pulmonary emphysema, and pneumonia (IARC 71 (1999), ATSDR (1992)), the nephrosis in kidney and nephropathia (ATSDR (1992)), the necrosis in liver (ATSDR (1992)), meningoencephalitis and brain necrosis (ATSDR (1992)), anemia, and atrophy of the spleen (ATSDR (1992)) are accepted in the equivalent concentration for the guidance value range of Category 1. It was referred to as Category 1 (respiratory system, kidney, liver, central nervous systems, and blood systems) based on these results.
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=19mg/L of Crustacea (Daphnia magna) (MOE eco-toxicity tests of chemicals, 1999).
11 Hazardous to the aquatic environment (chronic)	Category 3	-	-	Harmful to aquatic life with long lasting effects	Classified into Category 3, since acute toxicity was Category 3 and supposed not rapidly degrading (BIOWIN), though less bio-accumulative (BCF=19 (existing chemical safety inspections data)).