

GHS Classification

ID604

Trichloroacetic acid

CAS 76-03-9

Date Classified: Nov. 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	-	-	-	Solid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Solid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Solid (GHS definition)
6 Flammable liquids	Not applicable	-	-	-	Solid (GHS definition)
7 Flammable solids	Not classified	-	-	-	Non-combustible (ICSC (J), 1998; etc.)
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 applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Non-combustible (ICSC (J), 1998; etc.)
11 Self-heating substances and mixtures	Not classified	-	-	-	Non-combustible (ICSC(J), 1998; etc.)
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	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not classified	-	-	-	UNRTDG Class: 8
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to solid substances are not available. Corrosive to aluminum or etc. according to some reports.

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	SPECIES: Rat ENDPOINT: LD50 VALUE: 3320 mg/kg REFERENCE SOURCE: ACGIH (7th, 2001)
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (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 1A-1C	Corrosion	Danger	Causes severe skin burns and eye damage	Based on the description that although the strength varies depending on the concentration and exposure time, and it is corrosive to skin (ACGIH (7th, 2001)), it was classified as Category 1A-1C.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	From description that severe injury was admitted by the test applied to the ocular of the rabbit on ACGIH (7th, 2001), and change which corresponded to the acceptance criteria of critical ocular lesional (irreversible effects) in the ocular of rabbit which was applied the 30% solution shown in ECETOC TR 48 (1992) was admitted, it was set as Category 1.
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)-	Respirator: No data Skin: Although the possibility of putting it outside of the Category was considered from the description that skin sensitization was not found in Mouse-Ear-Swelling test of IUCLID (2000) and BUA 167 (1995), and maximization test using guinea pigs, it was decided that it could not be classified because there was no data to deny its harmful effects clearly in Priority 1.

5	Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Although there are positive (IARC 63, 1999, IRIS, 2005) and negative (IARC 63, 1995) results from micronucleus tests using mouse erythrocytes, which are in vivo mutagenicity tests using somatic cells, and positive results from the chromosome aberration test using mouse bone-marrow cells (IARC 63, 1995, IRIS, 2005) (the original text is the same). But there are no positive results from in vivo genotoxicity tests in germ cells. So the substance was classified as Category 2.
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)	It was classified into the group 3 (IARC 63, 1995) according to IARC and was classified into C (IRIS, 2005) according to EPA1986. But it was classified into A3 according to ACGIH (7th, 2001), it was set as 2.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Since there is the description of obvious reproductive toxicity in the dose causing general toxicity to parent animals in oral administration test with pregnancy 6-15 days using rat (ACGIH (7th, 2001) and IARC 63 (1995)), it is classified into the Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 2 (respiratory organs); Category 3 (narcotic effects)	Health hazard	Warning	May cause damage to organs (respiratory organs); May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects)	Based on the description that lung edemas may be caused, when the vapor is inhaled (ICSC (J) (1998), HSFS (2004), and SITTIG (4th, 2002)), it was set as Category 2 (respiratory tracts). Moreover, it was set as Category 3 (anesthetic actions) based on the description that an anesthetic action was identified by oral administration to the rat and mouse (ACGIH (7th, 2001)).
9	Specific target organs/systemic toxicity following repeated exposure	Not classified	-	-	-	It was carried out of the Category because significant toxicity is not acknowledged by over dose of the guidance value range of Category 2 in an administration test in drinking water for 90 days using the rat of ACGIH (7th, 2001) and IARC 63 (1995).
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)	Not classified	-	-	-	It carried out the outside of Category from 48-hour EC50=2000mg/L of Crustacea (Daphnia magna) (SIDS, 2000).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since not water-insoluble (aqueous solubility =44000 mg/L (PHYSPROP Database, 2005)) and acute toxicity is low.