

GHS Classification

ID29

Tetrachloromethane

CAS 56-23-5

Date Classified: Mar. 23, 2006 (Environmental Hazards: Feb. 10, 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	—	—	—	Containing no atom groups with explosive properties
2 Flammable gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
6 Flammable liquids	Not classified	—	—	—	Non-combustible (ICSC:2004)
7 Flammable solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no atom groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not classified	—	—	—	Non-combustible (ICSC:2004)
10 Pyrophoric solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
11 Self-heating substances and mixtures	Not classified	—	—	—	Non-combustible (ICSC:2004)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	—	—	—	Containing no 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), with the chlorine bound to carbon and hydrogen (but not to other elements)
14 Oxidizing solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
15 Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "O-O-" structure
16 Corrosive to metals	Not classified	—	—	—	Classified into Division 6.1 (UN#1846) (UN Recommendations on the Transport of Dangerous Goods)

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 5	—	Warning	Harmful if swallowed	Based on the LD50 value of 2,350mg/kg calculated from the testing data of rat LD50 (oral route) of 2,350mg/kg (MOE Risk Assessment Vol. 1, 2002), 2,821mg/kg and 10,054mg/kg (EHC 208, 1999).
1 Acute toxicity (dermal)	Not classified	—	—	—	Based on the testing data of rat LD50 (dermal route) of 5,070mg/kg (CERI Hazard Data 97-1, 1998).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "liquid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: vapour)	Not classified	—	—	—	Based on the testing data of rat LC50 (4 hour inhalation of vapor) of 8,000ppm (MOE Risk Assessment Vol. 1, 2002) was lower than 90% of the saturated vapor concentration (151,000ppm) under a saturated vapour pressure of 15.3 kPa (25degC), the substance was considered as "vapour containing substantially no mist" and was classified based on standard values expressed in ppm.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the evidence of "moderate irritation" in rabbit skin irritation tests (CERI-NITE Hazard Assessment No. 67, 2005).
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes severe eye irritation	Based on the following description from the report on rabbit eye irritation tests (CERI-NITE Hazard Assessment No. 67, 2005): "irritation was observed but completely disappeared by 14 days after exposure".
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) —	Respiratory sensitization: No data available Skin sensitization: No data available
5 Germ cell mutagenicity	Not classified	—	—	—	Based on the absence of data on heritable mutagenicity tests and germ cell mutagenicity tests in vivo and negative data on somatic cell mutagenicity tests in vivo (chromosome aberration tests), described in CERI-NITE Hazard Assessment No. 67 (2005), ATSDR (2005).
6 Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer	Due to the fact that the substance is classified as Category R by NTP (2005), Group 2B by IARC (1999), Category B2 by EPA (1991) and Category 2B by the Japan Society for Occupational Health.
7 Toxic to reproduction	Category 2	Health hazard	Warning	May damage fertility or the unborn child	Based on the evidence of absorbed embryos and adverse effects on male genital organs at dosing levels toxic to parent animals, described in CERI-NITE Hazard Assessment No. 67 (2005), ATSDR (2005) and EHC 208 (1999).
8 Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system, liver, kidneys)	Health hazard	Danger	Causes damage to organs (central nervous system, liver, kidneys)	Based on the human evidence including "vomiting, diarrhea, dizziness, headache, coma, loss of hepatic function, jaundice, hepatic enlargement, nephropathy and acute renal failure" (CERI-NITE Hazard Assessment No. 67, 2005) and the evidence from animal studies including "centrilobular necrosis of the liver" (EHC 208, 1999). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1.
9 Specific target organs/systemic toxicity following repeated exposure	Category 1 (liver, blood, kidneys, respiratory organs)	Health hazard	Danger	Causes damage to organs (liver, blood, kidneys, respiratory organs) through prolonged or repeated exposure	Based on the human evidence including "significant increases in ALT and gamma-GTP, cirrhosis" (CERI-NITE Hazard Assessment No. 67, 2005) and the evidence from animal studies including "vacuolation of centrilobular hepatocytes, histological changes in the liver (fatty degeneration, hepatocyte degeneration, ceroid deposition, bile duct proliferation, increase in mitosis, polymorphism and small hyperplastic foci of hepatocytes), thrombosis and necrosis of the liver, increased hemosiderin deposition in the spleen, hematological changes, abnormal urinalysis, protein cast accumulation in the kidney, progressive glomerulonephritis, acidophilic changes in the nasal mucosal epithelium" (CERI-NITE Hazard Assessment No. 67, 2005). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1.

10	Aspiration hazard	Classification not possible	—	—	—	No data available
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Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Category 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 72 hours ErC50=0.46mg/L of the algae (Green Algae) (MOE Eco-Toxicity Tests of Chemicals, 2002).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Although acute toxicity is Category 1 and bio-accumulation is low (BCF=11(Existing Chemical Safety Inspections Data.)), since there was no rapidly degrading (the decomposition by BOD: 0%(Existing Chemical Safety Inspections Data)), it was classified into Category 1.