

GHS Classification

ID113

Chloroethylene; Vinyl chloride

CAS 75-01-4

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	-	-	-	Classified as "gas" according to GHS definition
2 Flammable gases	Category 1	Flame	Danger	Extremely flammable gas	Based on the description in ICSC (2000): the lower explosion limit is 3.6vol%. Those containing stabilizers are classified into Division 2.1 (UN Recommendations on the Transport of Dangerous Goods, UN#1086)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Classification not possible	-	-	-	No data available Those containing stabilizers are classified into Division 2.1 (UN Recommendations on the Transport of Dangerous Goods, UN#1086)
5 Gases under pressure	Liquefied gas	Gas cylinder	Warning	Contains gas under pressure; may explode if heated	The boiling point is -13degC (ICSC 2000), and the critical temperature is 151.5degC (HSDB 2005) - i.e., liquefied gas. Those containing stabilizers are classified into Division 2.1(UN#1086) (UN Recommendations on the Transport of Dangerous Goods)
6 Flammable liquids	Not applicable	-	-	-	Classified as "gas" according to GHS definition
7 Flammable solids	Not applicable	-	-	-	Classified as "gas" according to GHS definition
8 Self-reactive substances and mixtures	Not applicable	-	-	-	Classified as "gas" according to GHS definition
9 Pyrophoric liquids	Not applicable	-	-	-	Classified as "gas" according to GHS definition
10 Pyrophoric solids	Not applicable	-	-	-	Classified as "gas" according to GHS definition
11 Self-heating substances and mixtures	Not applicable	-	-	-	Classified as "gas" according to GHS definition
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	-	-	-	Classified as "gas" according to GHS definition
13 Oxidizing liquids	Not applicable	-	-	-	Classified as "gas" according to GHS definition
14 Oxidizing solids	Not applicable	-	-	-	Classified as "gas" according to GHS definition
15 Organic peroxides	Not applicable	-	-	-	Classified as "gas" according to GHS definition
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to gaseous substances are not available.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Classification not possible	-	-	-	Insufficient data available
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: gas)	Not classified	-	-	-	Based on the testing data of rat LC50 (inhalation of gas) of 108,102ppm (SIDS (2001)).
1 Acute toxicity (inhalation: dust, mist)	Not applicable	-	-	-	Due to the fact that the substance is "gas" according to the GHS definition and inhalation of its vapour is not expected.
1 Acute toxicity (inhalation: dust, mist)	Not applicable	-	-	-	Due to the fact that the substance is "gas" according to the GHS definition and inhalation of its dust/mist is not expected.
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description on human health effects (EHC 215 (1999)) "erythema and some second-degree burns which healed without complication."
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Based on the description in EHC 215 (1999) of human health effects: The substance is considered to cause mild, reversible irritation to the eyes.
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	Category 2	Health hazard	Warning	Suspected of causing genetic defects	Based on negative data on germ cell multi-generation mutagenicity tests in vivo (dominant lethal tests), the absence of data on germ cell mutagenicity tests in vivo, positive data on somatic cell mutagenicity tests in vivo (chromosome aberration tests, micronucleus tests), and the absence of data on germ cell genotoxicity tests in vivo, described in CERI-NITE Hazard Assessment No.75 (2004), ATSDR (2004).
6 Carcinogenicity	Category 1A	Health hazard	Danger	May cause cancer	Due to the fact that the substance is classified as Category A1 by ACGIH (2001), Group 1 by IARC (1987), Category A by EPA (2000), Category K by NTP (2005), and Category 1 by the Japan Society for Occupational Health.
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the description in the report on inhalation exposure tests on male rats (CERI-NITE Hazard Assessment No.75 (2004)): Morphologic changes in the testes and a decrease in its relative weight are observed, though no description is available for general toxicity.
8 Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system) Category 3 (narcotic effects)	Health hazard and Exclamation mark	Danger Warning	Causes damage to organs (central nervous system) (Narcotic effects) May cause drowsiness or dizziness	Based on the human evidence including "confusion, headache, dizziness, euphoria, intoxication, narcotic influence, somnolency after working hours, hypersomnia" (CERI Hazard Data 96-10 (1997)).

9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (liver, nervous system, respiratory organs, testes)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (liver, nervous system, respiratory organs, testes)	Based on the human evidence including "hepatic hypertrophy, hepatic fibrosis, portal hypertension, splenic hypertrophy, dizziness, misty vision, tingling sensation in the hands and feet, cold hands and feet, neuropathy including sensorimotor polyneuropathy, the trigeminal nerve sensory neuropathy, mild pyramidal tract syndrome, cerebral ataxia, extrapyramidal motor nerve disorder, nervous debility, depression, changes in EEG, pulmonary emphysema, pulmonary fibrosis, Reynaud's phenomenon, osteolysis of the epiphysis of the hands and feet, scleroderma" (CERi-NITE Hazard Assessment No.75 (2004)), and the evidence from animal studies including "a significant increase in pleomorphic hepatocytes, an increase in hepatic cysts, hepatocyte necrosis, proliferation of Kupffer cells, seminiferous tubule damage, necrosis of the seminiferous epithelia, necrosis, impaired spermatogenic ability associated with giant multinucleate syncytial cells" (CERi-NITE Hazard Assessment No.75 (2004)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1.
10	Aspiration hazard	Not applicable	-	-	-	Not applicable

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 24 hours LC50=80.7mg/L of the crustacea (Daphnia magna) (EHC215, 1999).
11 Hazardous to the aquatic environment (chronic)	Category 3	-	-	Harmful to aquatic life with long lasting effects	Although acute toxicity was Category 3 and the bio-accumulation potential was low (log Kow=1.48(Existing Chemical Safety Inspections Data)), since there was no rapidly degrading (the decomposition by BOD: 3%(Existing Chemical Safety Inspections Data)), it was classified into Category 3.