

GHS Classification

ID95

Ethylene glycol monoethyl ether

CAS 110-80-5

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	Category 3	Flame	Warning	Flammable liquid and vapour	The flashing point is 44degC (ICSC, 2003) (closed cup flash test), which is classified into Category 3, or Class 3 and Container III (UN Recommendations on the Transport of Dangerous Goods, UN#1171).
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	-	-	-	Not pyrophoric when in contact with air at ordinary temperatures: the flashing point is 235degC (ICSC, 2003)
10 Pyrophoric solids	Not applicable	-	-	-	Classified as "liquid" according to 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	-	-	-	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 oxygen (but not fluorine and chlorine), with the oxygen 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 Class 3 (UN Recommendations on the Transport of Dangerous Goods, UN#1171)

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 3017mg/kg calculated from the testing data of rat LD50 (oral route) of 5500mg/kg (PATTY 4th, 1995), 3000mg/kg (PATTY 4th, 1995), 3460mg/kg (PATTY 4th, 1995) 2800mg/kg (PATTY 4th, 1995) and 4450mg/kg (PATTY 4th, 1995).
1 Acute toxicity (dermal)	Category 5	-	Warning	May be harmful in contact with skin	Based on the rat LD50 (dermal route) of 3,311mg/kg (ECETOC TR 64, 1995) .
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)	Category 4	Exclamation mark	Warning	Harmful if inhaled	Based on the rat LC50 (4 hour inhalation of vapour) value of 16 mg/L (4,267 ppm) (ECETOC TR 64, 1995) was lower than 90% of the saturated vapor concentration (5,000 ppm) under a saturated vapour pressure of 0.5 kPa (20degC) (ICSC, 2003), 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 3	-	Warning	Causes mild skin	Based on the evidence of mild irritation from rabbit skin irritation tests (ECETOC TR64, 1995) (PATTY 4th, 2000), although insufficient data
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Based on the evidence of mild irritation from rabbit eye irritation tests (ECETOC TR64, 1995) (PATTY 4th, 2000).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Classification not possible	-	-	-	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 (micronucleus tests), described in NTP TR 26 (1993).
6 Carcinogenicity	Classification not possible	-	-	-	Insufficient data available
7 Toxic to reproduction	Category 1B	Health hazard	Danger	May damage fertility or the unborn child	Based on the evidence of developmental effects at dosing levels not toxic to dams in mice, rats and rabbits, described in MOE Risk Assessment Vol. 2 (2003), EHC 115 (1990) and PATTY (4th, 1994).
8 Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system, kidneys, liver, testes)	Health hazard	Danger	Causes damage to organs (central nervous system, kidneys, liver, testis)	Based on the human evidence including "disturbance of the central nervous system (dizziness, loss of consciousness, tonic convulsion and clonic convulsion, etc.) and metabolic acidosis observed immediately after ingestion, renal failure observed after 2 weeks, hepatopathy observed after 3 weeks and neuroathenic symptoms lasting a year" (EHC 115, 1990) and the evidence from anima studies including "atrophy of testes" (EHC 115, 1990). 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 (testes, hematopoietic system)	Health hazard	Danger	Causes damage to organs (testis, hematopoietic system) through prolonged or repeated exposure	Based on the human evidence including "a significantly low sperm count and higher rates of oligospermia and azospermia in the exposure group compared to the control group" and "anemia and agranulocytosis found in 10% and 5% of the exposed subjects, respectively" (EHC 115, 1990).
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 was classified into Not classified from 48 hours EC50>90mg/L of the crustacea (Daphnia magna) (MOE eco-toxicity tests of chemicals, 2002).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since it was not water-insolubility (the water-solubility =1.00*106mg/L (PHYSPROP Database, 2005)), and acute toxicity was low, it was classified into Not classified.