

## GHS Classification

**ID663**

**Ethanethiol**

**CAS 75-08-1**

Date Classified: Apr. 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	-	-	-	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 1	Flame	Danger	Extremely flammable liquid and vapour	Category 1 because of its flash point: -48.3degC and boiling point: 35degC (ICSC, 2004). UNRTDG No. 2363, Class: 3, PG
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	-	-	-	Flash point: 299degC (ICSC, 2004)
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 no oxygen, fluorine and chlorine.
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to gas substances are not available. Boiling point: 35degC (ICSC, 2004)

**Health Hazards**

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 4	Exclamation mark	Warning	Harmful if swallowed	SPECIES: Rat ENDPOINT: LD50 VALUE: 682 mg/kg REFERENCE SOURCE: PATTY (5th, 2001)
1 Acute toxicity (dermal)	Classification not possible	-	-	-	Data is only rat LD50 >2000mg/kg (PATTY (5th, 2001)). Since data is insufficient, it cannot be classified.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 4	Exclamation mark	Warning	Harmful if inhaled	It was classified as Category 4 based on rat LC50 (4h) = 4420ppm (PATTY (5th, 2001)). Since LC50 value was lower than 90% of saturated vapor pressure concentration, the gaseous classification Category was applied for the classification.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	As results of animal examinations, "Moderate erythema (redness/inflammation)" on rabbits, "pain and skin discoloration" on rats are reported (PATTY (5th, 2001)), however, there are also descriptions that respective irritation disappeared in less than 24 hours or not sustained. Therefore, it was judged to be mild and was classified as Category 3.
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	Based on evaluation of "slight irritant" (PATTY (5th, 2001)) and "moderate" (RTECS (2004)) as a result of the eye stimulativeness examination of a rabbit, it was set as Category 2A-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)-	[respiratory sensitization] No data. [Skin sensitization] No data
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Classification not possible	-	-	-	No data available
7 Toxic to reproduction	Classification not possible	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Danger; Warning	Cause damage to organs (central nervous system); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	There is the effect to central nervous system (disappearance of righting reflex, incoordination, the abnormalities in a walk, weakness, headache, vomiting) in animal test (PATTY (5th, 2001), IUCLID (2000)), and there is the report that the symptoms such as headache, vomiting, incoordination, weakness even in human (IUCLID (2000), HSDB (2002)). So it is classified into Category 1 (central nervous). Moreover, there is the mild irritation to respiratory mucous membrane in both of human and animal (IUCLID (2000)). So it is classified into Category 3 (respiratory irritation).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Although the examination of inhalation exposure in humans and an animal is carried out, all of a toxic phenomena are mild because of low concentrations. Therefore, since data is insufficient, it cannot be classified.
10	Aspiration hazard	Classification not possible	-	-	-	Classification not possible due to lack of data on an animal experimentation (chemical pneumonia, etc.), though Dynamic viscosity: $\leq 14 \text{ mm}^2/\text{s}$ .

### 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 48-hour EC50=0.077mg/L of Crustacea (Daphnia magna) (MOE eco-toxicity tests of chemicals, 1998).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity was Category 1 and not rapidly degrading (BOD: 0% (existing chemical safety inspections data)), though less bio-accumulative (BCF=70 of diethyl disulfide as degradation product (existing chemical safety inspections data)).