

GHS Classification

ID563

CAS 75-86-5

Physical Hazards

Propanenitrile, 2-hydroxy-2-methyl-

Date Classified: Jun. 20, 2006 (Environmental Hazards: Mar. 31, 2006)

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 4	-	Warning	Combustible liquid	Flash point: 74degC, Boiling point: 95degC
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: 685degC and UNRTDG: Class6.1
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 oxygen (but not chlorine and fluorine) chemically bonded only to carbon and hydrogen (but not to other elements).
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	-	-	-	No data available on corrosion to metals

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 2	Skull and crossbones	Danger	Fatal if swallowed	SPECIES: Rat ENDPOINT: LD50 VALUE: 0.017ml/kg (15.8mg/kg) REFERENCE SOURCE: ACGIH (2001)
1 Acute toxicity (dermal)	Category 1	Skull and crossbones	Danger	Fatal in contact with skin	It was set as Category 1 from rabbit LD50 = 0.017ml/kg (reduced value: 15.8mg/kg) (ACGIH (2001)).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	There is no data for LC50 value, and it cannot be classified. (Since there is a description that with 62.5ppm of inhalation exposure, 2 out of 6 rats died (ACGIH (2001)), it is supposed to be Category 1.)
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Classification not possible	-	-	-	No data available
3 Serious eye damage / eye irritation	Category 2	-	-	-	Based on data that there was irritation with a rat, it was set as Category 2(CICAD 61 (2004)).
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)-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	Although there is a result that the substance does not induce mutagenicity in chromosome aberration or change in rat bone-marrow cells in vivo (CICAD 61(2004)), the test is not for mammals. So it was decided that the substance could not be classified.
6 Carcinogenicity	Classification not possible	-	-	-	There is no data against carcinogenic properties and rating administrative information.

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Since there is abnormality in scaffold of child in administration dose causing maternal toxicity to pregnancy hamster (ACGIH (2001)), it is classified into the Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system, circulatory system)	Health hazard	Danger	Cause damage to organs (central nervous system, circulatory system)	Due to the description that "it caused the headache, paralysis, sense of exhaustion, bilious vomiting, and walk difficulty, and after the symptoms such as cyanosis, coma, and evanescent disturbance of mouth opening, it takes 10 days for recovering with no sequelae" in the example of an accident in human transdermal exposure (ACGIH (2001)), it was classified into Category 1 (central nervous system, circulatory system). The effects of circulatory organ systems, such as tachycardia, respiratory distress, respiratory paralysis are observed also in dermal exposure of guinea pigs at 1.5ml (weight equivalent: 1395mg/kg (it corresponds to the 1000 - 2000mg/kg in guidance value of Category 2 in rat and ...))
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (liver, kidneys)	Health hazard	Danger	Causes damage to organs (liver, kidneys) through prolonged or repeated exposure	It was classified in Category 1 by that which has a case of liver and the kidney with the value (5mg/(kg)) of a rat (PATTY (5th, 2001)).
10	Aspiration hazard	Classification not possible	-	-	-	No data available on chemical pneumonia

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=0.13mg/L of Crustacea (Daphnia magna) (SIDS, 1997).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since rapidly degrading (completely degraded <60 mg/L (SIDS, 1997)), and less bio-accumulative (log Kow=-0.03 (PHYSPROP Database, 2005)).