

GHS Classification

ID929

2-methylaziridine

CAS 75-55-8

Date Classified: Jun. 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 2	Flame	Danger	Highly flammable liquid and vapour	Flash point <23 degC and boiling point (initial boiling point)> 35 degC [special note] According to UNRTDG classification, it should be judged as Category 1. Since initial boiling point though substituted with boiling point, and far exceeded 35 degC, it was judged as Category 2. But validation by an expert is required.
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Not classified	-	-	-	Classified in UNRTDG Class: 3, Subsidiary risks Class: 6.1
9 Pyrophoric liquids	Not classified	-	-	-	UNRTDG Class: 3 Subsidiary risks Class: 6.1
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 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	Not classified	-	-	-	UNRTDG Class: 3, Subsidiary risks Class: 6.1

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	It was classified as category 2 based on the rat LD50 value: 19mg/kg (Advice of Sanei Society (1993), IARC 9 (1975), PATTY 4th (1994)).
1 Acute toxicity (dermal)	Category 2	Skull and crossbones	Danger	Fatal in contact with skin	It was set as Category 2 based on the description that the dose of 0.043ml/kg (reduced value: about 54mg/kg) of guinea pigs corresponds to LD50 of an outline (PATTY 4th, 1994).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	Since the mortality rate in 2-hour and 4-hour exposure to 500ppm was 0/6 and 5/6, respectively in inhalation exposure test on rats (PATTY (4th, 1994) and Industrial Hygiene Society advice (1993)), it was assumed that LC50 (4 hours) was within the limits of 350 - 500ppm in general. Standard value for exposure to vapor was applied, and it was classified as Category 2.
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 description that there is severe irritation to humans and skin inflammations, bubble, and a burn may be caused (PATTY (4th, 1994), HSDB (2005), HSFS (1998), and SITTIG (4th, 2002)), it was set as Category 2.
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	We found the description that damages were acknowledged in the cornea by the test in which 5% aqueous solutions were trickled into eyes of rabbits (ACGIH (7th, 2001)), and description that it causes severe disorder in the cornea of the rabbit (Japan Society for Occupational Health Recommendation of Occupational Exposure Limits (1993)), and descriptions that for human it has the ocular irritant property and there was a possibility of causing the permanent damage on the human eyes (HSFS (1998), SITTIG (2002)). However, the concrete case reports about the effect on the human body were not shown. Therefore we classified it as Category 2A. In addition, in R phrase of EU, it is categorized as R41 : it has the risk of severe damage to the eye (EU-ANNEX I (2005)).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available

5	Germ cell mutagenicity	Classification not possible	-	-	-	Although it is positive in the mutagenicity test using the bacteria by in vitro, there is no test data used as other indices. So it cannot classify.
6	Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	It was classified into the category 2 in EU (EU-ANNEX I, 2005). But it was classified into 2B in IARC (IARC 71 (1999)) and in Japan Assoc. of Industrial Health (industrial hygiene academic society recommendation, 2005), A3 in ACGIH (ACGIH 7th, 2001) and R in NTP (NTP RoC 11th (2005)). So it was considered as Category 2.
7	Toxic to reproduction	Classification not possible	-	-	-	No data available
8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	Exclamation mark	Warning	may cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	Because of descriptions that upper respiratory tracts may be stimulated by inhalation exposure to humans (SITTIG (4th, 2002), HSDB (2005)), it was judged that there was respiratory irritant, determined to be Category 3.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	No data available
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)	Classification not possible	-	-	-	No data available
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	No data available.