

GHS Classification

ID241

1,2-Oxathiolane 2,2-dioxide

CAS 1120-71-4

Date Classified: Oct. 1, 2005 (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	-	-	-	Solid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Solid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Solid (GHS definition)
6 Flammable liquids	Not applicable	-	-	-	Solid (GHS definition)
7 Flammable solids	Classification not possible	-	-	-	No data available
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	No data available
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Classification not possible	-	-	-	No data available
11 Self-heating substances and mixtures	Classification not possible	-	-	-	No data 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	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Classification not possible	-	-	-	No data available
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to solid substances are not available.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 3	Skin and water	Danger	Toxic if swallowed	It was set as Category 3 based on rat oral LD50 value = 350mg/kg and 157mg/kg (both are DFGOT (vol.4, 1992)).
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	It was set as Category 3 based on rabbit percutaneous LD50 value = 660mg/kg (DFGOT (vol.4, 1992)).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	Classification not possible due to lack of data
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	Based on the descriptions that it caused skin irritation to laboratory animals (animal species is unknown) (DFGOT, vol.4, 1992) and mild irritation on rabbit skin (RTECS (2005)), and as for human, contact dermatitis (DFGOT, vol.4, 1992), slight irritation on skin (ICSC (J) (2004)), or skin irritation (HSFS (2000), SITTING(4th, 2002)), it was judged to have mild stimulativeness and was classified as Category 3.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	As human impact, the concrete case report etc. was not shown. But from description that the eye irritation which stimulates an eye slightly (ICSC (J) (2004)) or that there was slight eye irritation (HSFS (2000), SITTING (4th, 2002)). So it judged that there was slight eye irritation and was taken as Category 2B.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available

5	Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	The substance was classified as Category 2. Because there are positive results from the in vivo genotoxicity test using somatic cells (the DNA damage test in rat brain cells) (IARC Vol. 71 (1999)), and there are also positive results from the in vitro mutagenicity tests (the bacterial reverse mutation tests, chromosome aberration tests using mammalian cultured cells, etc (DFGOT (vol.4, 1992) and IARC Vol. 71 (1999)).
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)	Classified into the category 2 in EU (EU ANNEX I (2005)). But it is classified into 2B in IARC and Japan Society for Occupational Health (IARC 71 (1999), Japan Society for Occupational Health recommendation (2005)), and is classified into A3 (ACGIH, 7th, 2001) according to ACGIH, and is classified into R (NTP RoC (11th, 2005)) according to NTP. So it was set as Category 2.
7	Toxic to reproduction	Classification not possible	-	-	-	Classification not possible due to lack of data
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)	As toxic symptom of the acute toxicity test by oral administration in rat, dyspnea is described in RTECS (2005), and as human effects, there are description that "it may irritate nose and throat by inhalation" in HSFS (2000) and "it may irritate respiratory irritant" in SITTING (4th, 2002). Based on these descriptions, it was classified into 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.