

GHS Classification

ID991

2-Pentanol, 4-methyl-

CAS 108-11-2

Date Classified: Jul. 24, 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 3	Flame	Warning	Flammable liquid and vapour	Flash point: >=23degC and <=60degC, UNRTDG Class: 3, PGIII
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	-	-	-	UNRTDG Class: 3
10 Pyrophoric solids	Not applicable	-	-	-	Liquid (GHS definition)
11 Self-heating substances and mixtures	Not classified	-	-	-	UNRTDG Class: 3
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	Not classified	-	-	-	UNRTDG Class: 3

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 5	-	Warning	May be harmful if swallowed	SPECIES: Rat ENDPOINT: LD50 VALUE: 2600 mg/kg REFERENCE SOURCE: ACGIH (7th, 2001), PATTY (4th, 1994)
1 Acute toxicity (dermal)	Category 5	-	Warning	May be harmful in contact with skin	It was set as Category 5 based on rabbit LD50 value: 2880mg/kg (ACGIH 7th, 2001, PATTY 4th, 1994).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	There are descriptions that 5 of 6 rats died from 8-hour exposure to 2000ppm (4-hour equivalent: 11.8mg/L) (ACGIH (7th, 2001) and PATTY (4th, 1994)) and that death was not observed with 2-hour exposure to 4600ppm (4-hour equivalent: 13.57mg/L). But there was no data of LC50 value, and since Category could not be specified. So it cannot be classified due to data insufficiency.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	It was set as Category 3 from description that the skin of the rabbit was stimulated very slightly (ACGIH (7th, 2001) and PATTY (4th, 1994)).
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	We classified it as Category 2A-2B based on the descriptions that the eyes of the rabbits were stimulated moderately (ACGIH (7th, 2001) and PATTY (4th, 1994)). Since there were no descriptions about resilience, deliberate categorization was impossible.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available
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 3 (respiratory tract irritation, narcotic effects)	Exclamation mark	Warning	may cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation, narcotic effects)	Because of descriptions in ACGIH (7th, 2001) and PATTY (4th, 1994) referring to that respiratory irritant and anesthetic actions were confirmed in inhalation exposure tests using mice, and of a description referring to confirmation of nose and throat irritation in examples of human exposure. So it was judged as Category 3 (respiratory irritation, anesthesia action).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Although we have description that the serious toxic effect was not observed with the dose which exceeds the guidance value range of Category 2 in the inhalation exposure test using the rat (IUCLID (2000)), we presupposed that we could not classify it because of the lack of data, since there was no statement which clearly deny hazard in Priority 1.
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 carried out the outside of Category from 24-hour LC50=370mg/L of Crustacea (Brine shrimp) (IUCLID, 2000).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since not water-insoluble (water solubility=16400mg/L(PHYSPROP Database, 2005)) and acute toxicity is low.