

GHS Classification

ID826

temephos

CAS 3383-96-8

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	-	-	-	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	-	-	-	It is a solid by the definition of GHS. However, since this product is liquefied at 30 – 31 degC, and the flash point is 43 – 93 degC and it is equivalent to the flammable liquid of "Category 3" or "Category 4" depending on storage conditions, precautions are required.
7 Flammable solids	Classification not possible	-	-	-	Classification not possible due to lack of data, though "Flammable" (ICSC(J), 1995; etc.)
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	Classification not possible due to lack of data, though the substance contains P-O bonds as chemical groups with self-reactive properties present.
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Although there was no data of firing point, it was judged that there was no spontaneous combustibility at normal temperature since the flash point was measured at normal temperature or higher temperatures (HSDB (2005), Gangolli (2nd, 1999)).
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Test suitable for a liquid state substance (solid with a melting point of 140degC or less) has not been established.
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Since aqueous solubility is measured (ICSC (1995), Merck (13th, 2001), Howard (1997)), it can be judged that it is stable in the water.
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Classification not possible	-	-	-	Classification not possible due to lack of data, though containing oxygen bonded to phosphorus.
15 Organic peroxides	Not applicable	-	-	-	Organic compounds containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	No data available

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	Category 5 based on SPECIES: Rat; ENDPOINT: LD50; VALUE:2719mg/kg; REFERENCE SOURCE: ACGIH (2001), PDS No.8 (1978)
1 Acute toxicity (dermal)	Category 4	Exclamation mark	Warning	Harmful in contact with skin	It was set as Category 4 based on LD50 = 1082mg/kg calculated from four data (PATTY (5th, 2001), PDS No.8 (1978)) of rabbit LD50 values.
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	-	-	-	There is only data LC50 >1.3mg/L in the study considered to be based on a dust. So it cannot be classified.
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	It was set as Category 3 based on the statement that mild irritation was seen in the animal (PATTY (5th, 2001), RTECS (2004)), and the statement that there was irritant by contact in humans (HSFS (2000)).
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Based on the statement that there is slight irritation in animals, it was set as Category 2B.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Not classified	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization: No data. Skin sensitization: We classified it as Out Of Category based on the statement that it had no skin sensitization property for the animals(PATTY (5th, 2001)).
5 Germ cell mutagenicity	Classification not possible	-	-	-	No data available
6 Carcinogenicity	Classification not possible	-	-	-	No data available

7	Toxic to reproduction	Not classified	-	-	-	It was considered as the outside of category based on the description that the effect is not observed on fertility property of parents and generating and growth of a child at the dose causing general toxicity to parents (ACGIH (2001), PDS No.8 (1978)).
8	Specific target organs/systemic toxicity following single exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs (nervous system)	There is a statement (ACGIH (2001), PATTY (5th, 2001)) that a organophosphate poisonings specific symptoms and cholinesterase inhibition are acknowledged by oral administration at the dosage of the guidance value range of Category 2 with rats and mice. In humans, there is a statement (HSDB (2005), SITTIG (47th, 2002)) that the symptoms of severe poisoning is developed by inhalations and contacts, and that headache, perspiration, nausea, vomiting, diarrhea, coordinated movement loss, and death are seen by contact. It was set as Category 2 (nerve systems) based on the above information.
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system)	Health hazard	Danger	Causes damage to organs (nervous system) through prolonged or repeated exposure	There is a statement that red blood cell cholinesterase inhibition in rats, mice, and dogs exposed to guidance value within the limits of Category 1 is observed, and that typical cholinergic organophosphate intoxication is observed in those exposed to guidance value within the limits of Category 2 (ACGIH (2001), PATTY (5th, 2001), PDS No.8 (1978)). In humans, it is stated that respiratory insufficiency, debility, and prick pain feeling and incoordination at arms and legs are observed, and that the effect of the cholinesterase inhibitor may be accumulated (HSFS (2000), SITTIG (47th, 2002)). It was classified into Category 1 (nerve systems) based on the above information.
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	-	-	-	Insufficient data available.
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	Classification not possible due to lack of data