

GHS Classification

ID828

Demeton (mixed isomers)

CAS 8065-48-3

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	Category 3 because of its flash point: 45degC
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
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 classified	-	-	-	Flash point: 464degC (ICSC, 2002; Weiss (2nd, 1985))
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 classified	-	-	-	Based on that aqueous solubility is measured (ICSC (2002), SRC (2005), HSDB (2005)), it is judged that it is stable in the water.
13 Oxidizing liquids	Classification not possible	-	-	-	Classification not possible due to lack of data, though organic compounds containing oxygen chemically bonded to phosphorus.
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
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)	Mixture:Category 1; O-; Category 1; S-; Category 1	Skull and crossbones	Danger	Fatal if swallowed	Mixture: It was set as Category 1 based on LD50= 2.5mg/kg calculated from six data of rat LD50 value (ACGIH (2002), DFGOT vol.9 (2003), PATTY (5th, 2001) vol.7, PDS (1987)). O-object: It was set as Category 1 based on LD50= 1.5mg/kg calculated from four data of rat LD50 values (ACGIH (2002), DFGOT vol.9 (2003), PATTY (5th, 2001)). S-object: It was set as Category 1 based on LD50= 1.5mg/kg calculated from five data of rat LD50 value (ACGIH (2002), DFGOT vol.9 (2003), PATTY (5th, 2001)).
1 Acute toxicity (dermal)	Mixture:Category 1; O-; Classification not possible; S-; Classification not possible	Skull and crossbones	Danger	Fatal in contact with skin	Mixture: It was set as Category 1 based on rat LD50= 8.2mg/kg (ACGIH (2002), DFGOT vol.9 (2003), PDS (1987)). O-body: no data. S-body: no data.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Mixture:Classification not possible; O-; Classification not possible; S-; Classification not possible	-	-	-	Mixture: no data available; O-, S-: no data available
1 Acute toxicity (inhalation: dust, mist)	Mixture:Category 1; O-; Classification not possible; S-; Classification not possible	Skull and crossbones	Danger	Fatal if inhaled	Since the this vapor saturated vapor pressure of the mixture: material is 0.297ppm (0.003mg/L), it is thought that the inhalation study was done in mist. It was set as Category 1 based on LC50 = 0.0439mg/L calculated from four data (ACGIH (2002), PATTY (5th, 2001)) of rat LC50 value. O-body: datum without. S-body: datum without.

2	Skin corrosion / irritation	Mixture:Classification not possible; O-:Classification not possible; S-:Classification not possible	-	-	-	Mixture: no data. O-body: no data. S-body: no data.
3	Serious eye damage / eye irritation	Mixture:Category 2A-2B; O-:Classification not possible; S-:Classification not possible	Exclamation mark	Warning	Causes serious eye irritation	Mixtures: Based on the statement (HSDB (2005) that in humans redness, hurt in humans (ICSC (J), (2002), blurred visions and tearing are seen, it was set as Category 2A-2B. O-body: No data S-body: No data
4	Respiratory/skin sensitization	Respiratory sensitization, Mixture: Classification not possible, O-: Classification not possible, S-: Classification not possible; Skin sensitization, Mixture: Classification not possible, O-: Classification not possible, S-: Classification not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization:No data. O-<substance>: No data. S-<substance>: No data. Skin sensitization: Mixture:No data. O-<substance>: No data. S-<substance>: No data.
5	Germ cell mutagenicity	Mixture: Category 2, O-:Not classified, S-:Classification not possible	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)	Compound : Since there are no results of human generation epidemiology, generation mutagenicity test, or productive cell in vivo mutagenicity test result. There is a positive result of the somatic cell in vivo mutagenicity test (chromosome aberration test on hamster bone marrow cells) indicated in DFGOT vol.9 (2003), and there is no positive finding with the productive cell in vivo genotoxicity study. So it was classified as Category 2. O-body : Since there is no human generation epidemiological information; negative result of generation mutagenicity tests (dominant lethal test on mouse) is indicated in DFGOT vol.9 (2003), and there is no positive result with the productive cell and the somatic cell in vivo mutagenicity test. So it was classified as out of Category. S-body: No data.
6	Carcinogenicity	Mixture: Classification not possible, O-: Classification not possible, S-: Classification not possible	-	-	-	Mixture: no data. O-object: no data. S-object: no data.
7	Toxic to reproduction	Mixture: Category 2; O-: Classification not possible; S-: Classification not possible	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Mixture : It was classified into Category 2 because that fetotoxicity (reduction of fetal weight, the increase in mortality rate, etc.) is observed, although it is small, skeletal abnormalities are also observed, but there is no description on general toxicity in parent animals in the rat and mouse administration examination of the abdominal cavity (DFGOT vol.9 (2003), PATTY(5th, 2001) vol.7, PDS (1987)). O-object: no data. S-object: no data.
8	Specific target organs/systemic toxicity following single exposure	Mixture: Category 1 (nervous system); O-: Classification not possible; S-: Classification not possible	Health hazard	Danger	Mixture: Cause damage to organs (nervous system); O-: Classification not possible; S-: Classification not possible	Mixture: It was set as Category 1 (nervous systems) based on the statement (DFGOT vol. 9(2003), PATTY (5th, 2001) vol.7, PDS (1987), ICSC (J) (2002), and HSDB (2005)) that significant reduction of plasma cholinesterase activity was acknowledged in terms of mixture for humans by the dosage of guidance value within the limits of Category 1, and that twitch, dizziness, closeness, feeling of sickness, vomited, miosis, muscle spasticity, the salivatsweating, and unconsciousness were seen by inhalation, and stomach cramps, diarrhea and vomiting were seen by intakes. O-body: There is no data. S-body: There is no data.
9	Specific target organs/systemic toxicity following repeated exposure	Mixture:Category 1 (nervous system)O-:Classification not possibleS-:Classification not possible	Health hazard	Danger	Mixture: Causes damage to organs (nervous system) through prolonged or repeated exposureO-:S-:	Mixture: in rats, dogs, rabbits and guinea pigs, at the dosage of the guidance value range of Category 1, it is stated that inhibition of the cholinesterase activity inside of blood and in brain is observed, and toxic symptoms such as muscle fasciculation, debility, tremor, lacrimation, the salivation, dyspnea, nasal and mouth bubble, diarrhea, muscle paralysis, coma, and mild asphyxial convulsions were observed (ACGIH (2002), DFGOT vol.9 (2003), PDS (1987)). In humans, there is a statement that shows inhibition of plasma cholinesterase activity was observed (ACGIH (2002), DFGOT vol.9 (2003), PATTY(5th, 2001) vol.7). It was classified into Category 1 (nervous systems) based on these information. O-object: data not available. S-object: data not available.

10	Aspiration hazard	Mixture: Classification not possible; O-: Classification not possible; S-: Classification not possible	-	-	-	Mixture: no data available; o- and s-: no data available
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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=14.0microg/L of Crustacea (Water flea), and others (AQUIRE, 2003).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Classified into Category 1, since acute toxicity was Category 1, rapid degradability is unknown, though supposed less bioaccumulative (log Kow=3.21 (PHYSPROP Database, 2005)).