

GHS Classification

ID602

fensulfothion

CAS 115-90-2

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	Classification not possible	-	-	-	Classification not possible due to lack of data, though it is flammable (ICSC, 2001)
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	Although it has S=O binding and P-O binding as a grouping relevant to autoreactive in a molecule, there is no data. So it cannot be classified.
9 Pyrophoric liquids	Classification not possible	-	-	-	No data available
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	-	-	-	It is judged from water solubility, a water-octanol distribution coefficient, etc. being measured that it is stable in the water (ICSC (2001), Howard (1997), etc.).
13 Oxidizing liquids	Classification not possible	-	-	-	Classification not possible due to lack of data, though containing oxygen bonded to phosphorus and sulfur.
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)	Category 1	Skull and crossbones	Danger	Fatal if swallowed	It was set as Category 1 based on LD50=1.8mg/kg calculated from six data of rat LD50 values (ACGIH, (2001), PATTY (5th, 2001), PD No.44 (1980), PIMs (1998), and JMPR 239 (1972)).
1 Acute toxicity (dermal)	Category 1	Skull and crossbones	Danger	Fatal in contact with skin	It was set as Category 1 based on LD50 = 5.2mg/kg calculated from eight data of rat LD50 value (ACGIH (2001), PATTY (5th, 2001), PD No.44 (1980), JMPR 239 (1972)).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	The saturated vapor pressures concentrations pressure of this product is 0.0663ppm (0.00084mg/L), and it is thought that the inhalation study was done in mist. It was set as Category 1 based on LC50 = 0.0283mg/L calculated from eight data of rat LC50 value (ACGIH (2001), PATTY (5th, 2001), PD No.44 (1980), JMPR 239 (1972)).
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	It was classified as Category 3 based on the statements that irritation was observed on humans with 5 consecutive days of administration (ACGIH (2001)) and that contact may indicate irritation to human skin (HSFS (2005)).
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	It was set as Category 2B based on the statement (HSFS (2005)) that irritant to eye might be indicated by contact.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	No data available
5 Germ cell mutagenicity	Not classified	-	-	-	The substance was regarded as outside the categories by the technical guidelines. Because there are no positive results in human multi-generation epidemiological tests, multi-generation mutagenicity tests and mutagenicity tests using germ cells and somatic cells, and there are records of negative results from dominant lethal tests in mice (ACGIH (2001), PD No.44 (1980), JMPR 239 (1972), JMPR 588 (1982)).
6 Carcinogenicity	Not classified	-	-	-	Based on being classified into A4 according to ACGIH (ACGIH (2001)), it carried out the outside of Category.

7	Toxic to reproduction	Not classified	-	-	-	Since there is no effect to reproductive potential of parent and development/growth of neonatal in rat, mouse, and rabbit, and there is no toxic effect to the third generation (ACGIH (2001), PATTY (5th, 2001), PD No.44 (1980), JMPR 588 (1982)), it was considered as on the outside of Category.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Cause damage to organs (nervous system)	There are descriptions that suppression of cholinesterase is observed in the plasma and red corpuscle of humans and that symptoms such as cough, nausea, contracted pupils, muscular spasticity, an excess of saliva secretion, perspiration, suffocation, dizziness, ataxie, achalasia, vomiting and the loss of consciousness are caused (ACGIH (2001), PATTY (5th, 2001), RTECS (2004), ICSC (J) (1994), HSDB (2005)). There is a description that although the dosage is unknown, irreversible inhibition of cholinesterase activity is observed in animals, causing respiratory paralysis, hypoxia, and terminal spasm (ACGIH (2001)). It was set as Category 1 (nerve systems) based on these 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 of the inhibition of cholinesterase activity in serum, plasma, red blood cells and brain is seen and the accompanying symptoms (weight reduction, food consumption decreased, defective a health, and death) is also seen in rats and dogs in the exposure of guidance value within the limits of Category 1 (ACGIH (2001), PATTY (5th, 2001), PD No.44 (1980), JMPR 239 (1972), JMPR 588 (1982)). The statement says that this material is a cholinesterase inhibitor to humans and the effects may be accumulated. It was classified to as Category 1 (nerve systems) based on these informations.
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)	Category 1	Environment	Warning	Very toxic to aquatic life	It was classified into Category 1 from 96-hour TLm=0.12mg/L of fishes (Bluegill) (PDS, 1980).
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, supposed not rapidly degrading (BIOWIN), though supposed less bioaccumulative (log Kow=2.23(PHYSPROP Database, 2005)).