

GHS Classification

ID41

Fenthion

CAS 55-38-9

Date Classified: Jul. 24, 2006 (Environmental Hazards: Sep. 20, 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	Not classified	-	-	-	Flash point: 170degC (Bayer CropScience Co.).
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	No data available
9 Pyrophoric liquids	Not classified	-	-	-	May burn but does not ignite readily.(HSDB(2006)) Even if it contacts air, it does not ignite (Bayer crop science corporations based on experience).
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 does not become spontaneous combustibility even if it contacts water. Moreover, flammable and combustible gases are not produced (Bayer crop science corporations based on experience).
13 Oxidizing liquids	Classification not possible	-	-	-	No data available
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	There are no chemical groups associated with peroxide present in the molecule.
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 4	Exclamation mark	Warning	Harmful if swallowed	SPECIES: Rat ENDPOINT: LD50 VALUE: 320 mg/kg, 509 mg/kg REFERENCE SOURCE: Agricultural Chemical Registration Data
1 Acute toxicity (dermal)	Category 4	Exclamation mark	Warning	Harmful in contact with skin	It was classified into Category 4 based on rat LD50 = 2000 and 2000mg/kg (Agricultural-Chemicals abstracts).
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 3	Skull and crossbones	Danger	Toxic if inhaled	It was classified into category 3 based on the lower value among rat LC50 = 1.2 and 0.8mg/L (Agricultural-Chemicals abstracts).
2 Skin corrosion / irritation	Not classified	-	-	-	Since "there was almost no irritation (Draze score 0.4)" in test on rabbits (Agricultural-Chemicals abstracts), it was classified as out of Category.
3 Serious eye damage / eye irritation	Not classified	-	-	-	It was classified out of Category based on the result of "no stimulativeness" in rabbit test (Agricultural-Chemicals abstracts).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization: No data Skin sensitization: Classified as out of category on the basis that no sensitization was found by the Maximization method using guinea pigs (agrochemical abstract).
5 Germ cell mutagenicity	Not classified	-	-	-	There are negative results from the in vivo multi-generation mutagenicity test using germ cells (dominant lethal test in mice) and the in vivo mutagenicity test using somatic cells (the chromosome aberration test using mouse bone-marrow cells, the mouse micronucleus test) (Agricultural-Chemicals abstracts). And there is no test with a positive result, the substance was regarded as outside the categories.
6 Carcinogenicity	Not classified	-	-	-	Based on being classified into A4 according to ACGIH (ACGIH (1996)), it was classified as out of Category. In addition, there was no finding which indicates carcinogenicity also in the carcinogenic examination of mice (Agricultural-Chemicals abstracts).

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Since there was increase of late resorptied embryo in the dose affecting to parent animals in pregnant period administration to rabbit, and there were decrease of conception rate, birth rate, survival rate, and nursing rate and the decrease of the average of the number of implantation and the average of the number of litters, and the increase of the number of the death, in the dose affecting to parent animals in the two-generation test of rat (Agricultural-Chemicals abstracts), it is classified into the Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Cause damage to organs (nervous system)	The substance was classified as Category 1 (nervous system). Because effects on the nervous system (effects resulting from cholinesterase inhibition, blurred vision, staggering, not responding to stimuli and dyspnea) were observed (ACGIH (2001), JMPR (1980)). Cholinergic effects and effects on the nervous system, such as tremors, convulsions, decrease in locomotor activity, and salivation, have also been observed in tests using rats (Agricultural-Chemical abstracts, JMPR (1997)).
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	The cholinesterase inhibition and cholinergic symptoms (tremor, convulsion, etc.) in the repeated oral administration for three months using rat were observed, and because the dose are within the range of the guidance value of Category 1 (Agricultural Chemicals abstracts) they are classified into Category 1 (nervous system) .
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 48-hour EC50=0.00087mg/L of Crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 2004).
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 is Category 1, supposed not rapidly degrading (BIOWIN), and bioaccumulative (log Kow=4.09 (PHYSPROP Database, 2005)).