

GHS Classification

ID584

Parathion

CAS 56-38-2

Date Classified: Apr. 20, 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	Classification not possible	-	-	-	No data available
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: 120degC (ICSC, 2004)
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, 2005)
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	Classification not possible	-	-	-	No data available
13 Oxidizing liquids	Classification not possible	-	-	-	No data available
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	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 2	Skull and crossbones	Danger	Fatal if swallowed	The data of rat LD50 is based on 5.56mg/kg (statistically calculated values) (IARC30 (1983), JMPR901 (1995)).
1 Acute toxicity (dermal)	Category 1	Skull and crossbones	Danger	Fatal in contact with skin	It is based on rat LD50 = 6.8mg/kg (IARC30 (1983)) which is lower among rat and rabbit. A rat statistically calculated value was 5.71mg/kg. But it was less than lowest value of the data, LD50 value used for decision is the lowest value of data: 6.8mg/kg.
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	It is based on rat LC50 0.032mg/L (4hours) (a statistically calculated values, ACGIH (2003) others).
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	It is based on the test result on rabbits (a mild irritant) (JMPR (1995)).
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	It is based on a studies of rabbits (Slightly irritating) (IUCLID (2000)).
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: It is based on the knowledge of negativity as a result of the examination by the Magnusson Kligman method using the guinea pigs (JMPR (1995)).
5 Germ cell mutagenicity	Not classified	-	-	-	It is based on the negative results in the multi-generation mutagenicity test (mouse dominant lethal test) (IARC 30 (1983)) and in the in vivo mutagenicity test (the in vivo mouse micronucleus test) (JMPR901 (1995)).
6 Carcinogenicity	Not classified	-	-	-	It is based on the ACGIH classifications of A4, IARC classification of 3, and the EPA classification of C.
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	In the rat two generation test, it is based on there was the disorder to the reproduction and the growth capacity in nascent under the condition that maternal toxicity is not obvious (ACGIH (2003) and IARC30 (1983) etc).

8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Cause damage to organs (nervous system)	Based on the descriptions that the acute symptoms with the decreasing of cholinesterase activities (cholinergic nervous symptom; respiration failure, severe nystagmus, weakness of muscles of leg and the decreased tendon reflexes etc. were observed (ACGIH (2003)), and that the decreasing of cholinesterase activities, tremor, and movement dysfunction syndrome were observed in the equivalent dosage of Category 1 in rat (ACGIH (2003)). So it was classified into Category 1 (nervous system).
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	It was classified in Category 1 (nervous systems, optic organs) on the basis that the cholinesterase activity reduction in the plasma and red corpuscles was seen in rat with Category 1 guidance value and tremors, hair loss, gait abnormality, etc. were seen as a symptom and degeneration and atrophy of the retina were seen (JMPR901 (1995)).
10	Aspiration hazard	Classification not possible	-	-	-	No data available on an animal experimentation or etc, though Dynamic viscosity(calculated value): <=14mm ² /s

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 LC50=0.001mg/L of Crustacea (Daphnia magna) (ECETOC TR91, 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, supposed not rapidly degrading (BIOWIN), though supposed less bioaccumulative (log Kow=3.83(PHYSPROP Database, 2005)).