GHS Classification

ID143 Malathon

CAS 121-75-5 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	Not classified	–	–	–	Flash point: >93degC
7	Flammable solids	Not applicable	–	–	–	Liquid (GHS definition)
8	Self-reactive substances and mixtures	Not applicable	–	–	–	There are no chemical groups associated with explosive or self-reactive properties present in the molecule.
9	Pyrophoric liquids	Not classified	–	–	–	The flash points is 163 degC (HSDB, 2006), and even if it contacts air in room temperatures, it does not ignite.
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	–	–	–	Insufficient data available
13	Oxidizing liquids	Classification not possible	–	–	–	Insufficient 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	–	–	–	Although there is information that it corrodes iron and other metals (HSDB, 2006), since data is insufficient.

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: 1390 mg/kg REFERENCE SOURCE: Agricultural Chemicals abstracts
1	Acute toxicity (dermal)	Not classified	–	–	–	It was set as the outside of Category. Since rat LD50 value = >5000mg/kg and death is not observed in 5000mg/kg or less (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)	Classification not possible	–	–	–	Since the category can not be specified only by the data (Agricultural-Chemicals abstracts) that rat LC50 (4 hours) value is >3.450mg/L, it cannot be classified.
2	Skin corrosion / irritation	Not classified	–	–	–	Since no local reactions was seen in the test on rabbits (Agricultural-Chemicals abstracts), it was classified as out of Category.
3	Serious eye damage / eye irritation	Not classified	–	–	–	Since change applicable to the stimulative judging standard indicated in the technical indicator by the test using a rabbit was not admitted (Agricultural-Chemicals abstracts), it was set as the outside of Category.
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category1	(Respiratory sensitization)-; (Skin sensitization)Exclamation mark	(Respiratory sensitization)-; (Skin sensitization)Warning	(Respiratory sensitization)-; (Skin sensitization)May cause allergic skin reaction	Respirator: No data Skin : Neither contact allergy nor optical allergy was found in human patch tests and photopatch tests. However we classified this Category 1 because the Maximization method test using guinea pigs showed more than 30% of positive rate (agrochemical abstract).
5	Germ cell mutagenicity	Not classified	–	–	–	The substance was regarded as outside the categories because the result of the micronucleus test using mouse bone-marrow cells, which is an in vivo mutagenicity test using somatic cells, is negative (Agricultural-Chemicals abstracts).
6	Carcinogenicity	Not classified	–	–	–	Since it is classified into a group 3 (IARC Suppl.7, 1987) according to IARC and was classified into A4 (ACGIH 7th, 2001) according to ACGIH. So it was set as the outside of Category.
7	Toxic to reproduction	Not classified	–	–	–	The reproductive function, reproductive ability, and the bad effect to a child's generating were not admitted by three-generation breeding examination using rat, and medication examination during the pregnancy using rat and rabbit (Agricultural-Chemicals abstracts). So it was considered as on the outside of Categry.

8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Cause damage to organs (nervous system)	Since there was description that the symptom which indicates the effects on the nervous systems in WHO"Recommended health-based limits in occupational exposure to pesticides"as the human acute toxicity symptoms (Agricultural-Chemical abstracts), it is considered that the nerve is target organ. Therefore, it was classified into
9	Specific target organs/systemic toxicity following repeated exposure	Not classified	-	-	-	Since significant toxicity was not observed in the oral study using rat, mouse and dog, and the repeated oral administrations to human (Agricultural Chemicals abstracts), it was carried out the out of Category.
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=0.72microg/L of Crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 2005).
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, not rapidly degrading (BOD: 22% (existing chemical safety inspections data)), though supposed less bioaccumulative (log Kow=2.36 (PHYSPROP Database, 2005)).