GHS Classification

ID77 **monocrotophos**

CAS 6923-22-4 Date Classified: Jun. 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	Not applicable	–	–	–	There are no chemical groups associated with explosive properties present in the molecules.
2	Flammable gases	Not applicable	–	–	–	Solid (GHS definition)
3	Flammable aerosols	Not applicable	–	–	–	Not aerosol products
4	Oxidizing gases	Not applicable	–	–	–	Solid (GHS definition)
5	Gases under pressure	Not applicable	–	–	–	Solid (GHS definition)
6	Flammable liquids	Not applicable	–	–	–	Solid (GHS definition)
7	Flammable solids	Classification not possible	–	–	–	No data available by regulated examination methods, though "Flammable under specific conditions" (ICSC (J) (1995))
8	Self-reactive substances and mixtures	Classification not possible	–	–	–	No data available
9	Pyrophoric liquids	Not applicable	–	–	–	Solid (GHS definition)
10	Pyrophoric solids	Classification not possible	–	–	–	No data available
11	Self-heating substances and mixtures	Classification not possible	–	–	–	Test methods applicable to liquid or solid substances at 140degC are not available.
12	Substances and mixtures, which in contact with water, emit flammable gases	Classification not possible	–	–	–	No data available
13	Oxidizing liquids	Not applicable	–	–	–	Solid (GHS definition)
14	Oxidizing solids	Classification not possible	–	–	–	No data available
15	Organic peroxides	Not applicable	–	–	–	Containing no -0-0- structure
16	Corrosive to metals	Classification not possible	–	–	–	Although there is information that it corrodes various metals (HSDB (Access on Jan. 2006)), there is no data based on set test methods.

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	SPECIES: Rat ENDPOINT: LD50 VALUE: 17 mg/kg, 14mg/kg REFERENCE SOURCE: ACGIH (2002)
1	Acute toxicity (dermal)	Category 2	Skull and crossbones	Danger	Fatal in contact with skin	Based on rat LD50 value: 112mg/kg (ACGIH, 2002), rabbit LD50 value: 354mg/kg and 270mg/kg (ACGIH, 2002), the lowest value of rat LD50 was adopted and it was set as Category 2.
1	Acute toxicity (inhalation: gas)	Not applicable	–	–	–	Solid (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	Calculated based on rat LC50 (4 hours) value: 0.063mg/L and 0.1mg/L (ACGIH, 2002), and LC50 (1 hour) value:0.163mg/L (4-hour equivalent 0.0408mg/L) (ACGIH, 2002). The calculation value was lower than these lowest value. And 0.0408 mg/L of lowest value was adopted and set it to category 1.
2	Skin corrosion / irritation	Not classified	–	–	–	Since ACGIH (2002) describes that no skin irritation was observed in the test on rabbits, it was classified as out of Category.
3	Serious eye damage / eye irritation	Not classified	–	–	–	From description that there was no eye irritation in the test using the rabbit of ACGIH (2002), it was set as the outside of Category.
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not classified	–	–	–	Respirator: No data Skin: Classified as out of category because ACGIH (2002) describes that the standard test using guinea pigs found no sensitization.

5	Germ cell mutagenicity	Category 2	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)	Although there is a positive result from the chromosome aberration test using rat bone-marrow cells, which is an in vivo mutagenicity test using somatic cells (ACGIH, 2002), there is no positive result from in vivo genotoxicity tests using germ cells. So the substance was classified as Category 2.
6	Carcinogenicity	Not classified	–	–	–	Not classified because of "A4"(ACGIH, 2002)
7	Toxic to reproduction	Not classified	–	–	–	According to ACGIH (2002), there was no obvious reproductive toxicity in the dose causing general toxicity to parent animals in the pregnancy peroral administration using rat and rabbit, and in the two generation reproduction study using rat. 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)	The substance was classified as Category 1 (nervous system). Based on the reports of observed symptoms indicating the effects on the nervous system in human exposure cases, and on observed symptoms indicating the effects on the nervous system in inhalation exposure tests using rats and oral administration tests using rats and mice, at dosages within the guidance values for Category 1.
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 into Category 1 (nerve systems) from description that the decreased brain cholinesterase activities was observed with the given dose within the guidance value range of Category 1 in the oral study using the rat, mouse, or dog of ACGIH (2002).
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 LC50=160microg/L of Crustacea (Amphipod) (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, supposed not rapidly degrading (BIOWIN), though supposed less bioaccumulative (log Kow=-0.2(PHYSPROP Database, 2005)).