

GHS Classification

ID40

Chlorpyrifos

CAS 2921-88-2

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	-	-	-	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" (ICSC (J) (1998))
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	No data available
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Flash point: 148degC (MSDS) and non-pyrophoric when in contact with air at a room temperature
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 -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Although there is information that it corrodes coppers and brass (HSDB (Access on Mar. 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 3	Skull and crossbones	Danger	Toxic if swallowed	SPECIES: Rat ENDPOINT: LD50 VALUE: 135 mg/kg REFERENCE SOURCE: Agricultural Chemicals abstracts
1 Acute toxicity (dermal)	Not classified	-	-	-	It was set as the outside of Category since death is not observed in 2000mg/kg or less (Agricultural-Chemicals abstracts).Based on rat LD50 value >2000mg/kg.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	Rat LC50 (4 hours) value is >0.2mg/L (Agricultural-Chemicals abstracts). But Category could not be specified only with this data, it was regarded that it cannot beclassified due to data insufficiency.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Not classified (applicable to 72% Water dispersible)	-	-	-	Since irritation was not observed in the skin irritation test of 72% granules hydrated agent on rabbits (Agricultural-Chemicals abstracts), it was classified as out of Category.
3 Serious eye damage / eye irritation	Not classified	-	-	-	Since change of the eye which is adapted for basis of irritation was not admitted in the test applied to the eye of the rabbit (Agricultural-Chemicals abstracts), it was set as the outside of Category.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Not possible	-	-	-	Respirator: No data Skin: Classified as out of category because the skin sensitization test by the Buehler method using guinea pigs showed 0% of positive rate (agrochemical abstract).
5 Germ cell mutagenicity	Not classified	-	-	-	Because there is a negative result in the mouse micronucleus test using bone-marrow cells from mice, which is an in vivo mutagenicity test using somatic cells (Agricultural-Chemicals abstracts), the substance was regarded as outside the categories.
6 Carcinogenicity	Not classified	-	-	-	It was classified into Group E according to EPA(Office of Pesticide Programs List of Chemicals Evaluated for Carcinogenic Potential) and A4 (ACGIH, 2003) according to ACGIH. So it was set as the outside of Category.

7	Toxic to reproduction	Not classified	-	-	-	In the peroral administration reproduction study using rat, and the teratogenicity test using rat, mouse, and rabbit there was no reproductive toxicity in the dose causing general toxicity for parent animals (Agricultural-Chemicals abstracts). So 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)	The substance was classified as Category 1 (nervous system). Because the effects resulting from inhibition of cholinesterase activity and the symptoms suggesting the effects on the nervous system were observed in the oral administration tests using rats at the dosage within the guidance values for Category 1 (Agricultural Chemical Abstracts).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system, adrenal); Category 2 (eye)	Health hazard	Danger; Warning	Causes damage to organs (nervous system, adrenal) through prolonged or repeated exposure; May cause damage to organs (eye) through prolonged or repeated exposure	Since in the oral study using rat, paralysis of both legs and a tail, the decrease in activity of brain cholinesterase and adrenal zona fasciculata fatty vacuolization were observed within the given dose of the guidance value range of Category 1, and in the oral study using mouse, acute or subacute keratitis were observed within the given dose of the guidance value range of 2 Category (all were Agricultural Chemicals abstracts), they were classified into Category 1 (nervous system, the adrenal gland) and Category 2 (eye).
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 LC50=0.000058mg/L of Crustacea (Ceriodaphnia) (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 is Category 1, not rapidly degrading (BOD:0.2% (existing chemical substances safety inspections data)), and bioaccumulative (BCF=2880 (existing chemical substances safety inspections data)).