

GHS Classification

ID525

CAS 67375-30-8

Physical Hazards

(S)-alpha-Cyano-3-phenoxybenzyl 3-(2,2-dichlorovinyl)-2,2-dimethyl-cis-cyclopropanecarboxylate; alpha-Cypermethrin

Date Classified: Sep. 20, 2006 (Environmental Hazards: Mar. 31, 2006)

Reference Manual: GHS Classification Manual (Feb. 10, 2006)

| Hazard class | Classification | symbol | signal word | hazard statement | Rational for the classification |
|---|-----------------------------|--------|-------------|------------------|---|
| 1 Explosives | Not applicable | — | — | — | Containing no chemical groups with explosive properties |
| 2 Flammable gases | Not applicable | — | — | — | Classified as "solid" according to GHS definition |
| 3 Flammable aerosols | Not applicable | — | — | — | Not aerosol products |
| 4 Oxidizing gases | Not applicable | — | — | — | Classified as "solid" according to GHS definition |
| 5 Gases under pressure | Not applicable | — | — | — | Classified as "solid" according to GHS definition |
| 6 Flammable liquids | Not applicable | — | — | — | Classified as "solid" according to GHS definition |
| 7 Flammable solids | Classification not possible | — | — | — | No data available |
| 8 Self-reactive substances and mixtures | Classification not possible | — | — | — | Classification not possible due to lack of data, though containing unsaturated bonds (olefin) |
| 9 Pyrophoric liquids | Not applicable | — | — | — | Classified as "solid" according to 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 substances are not available (melting point: 78-81degC (HSDB, 2006), test temperature: 140degC). |
| 12 Substances and mixtures, which in contact with water, emit flammable gases | Not applicable | — | — | — | Containing no metals or metalloids (B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At) |
| 13 Oxidizing liquids | Not applicable | — | — | — | Classified as "solid" according to GHS definition |
| 14 Oxidizing solids | Not applicable | — | — | — | Organic compounds containing oxygen and chlorine (but not fluorine), with the oxygen and chlorine bound to carbon and hydrogen respectively (but not to other elements) |
| 15 Organic peroxides | Not applicable | — | — | — | Organic compounds containing no "-O-O-" structure |
| 16 Corrosive to metals | Classification not possible | — | — | — | Test methods applicable to solid substances are not 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 | Based on the LD50 value of 40mg/kg calculated from the testing data of rat LD50 (oral route) of 79mg/kg (MOE Risk Assessment vol. 4 (2005)), 40mg/kg, 80mg/kg and 368mg/kg (EHC 142 (1992)). |
| 1 Acute toxicity (dermal) | Classification not possible | — | — | — | Insufficient data available |
| 1 Acute toxicity (inhalation: gas) | Not applicable | — | — | — | Due to the fact that the substance is "solid" according to the GHS definition and inhalation of its gas is not expected. |
| 1 Acute toxicity (inhalation: dust, mist) | Classification not possible | — | — | — | Insufficient data available |
| 2 Skin corrosion / irritation | Category 2 | Exclamation mark | Warning | Causes skin irritation | Based on the description in the report on rabbit eye irritation tests (EHC 142 (1992)): "Mildly irritating." |
| 3 Serious eye damage / eye irritation | Category 1 | Corrosion | Danger | Causes serious eye damage | Based on the description in the report on rabbit eye irritation tests (EHC 142 (1992)): "Severe eye irritant," "The vascularization of the cornea and iris were considered to be irreversible." The substance is thus considered to have irreversible effects on the eye and thus classified as Category 1. The effects induced may differ depending on the type of formulation (such as "EC" and "SC"). |
| 4 Respiratory/skin sensitization | Respiratory sensitization: Classification not possible Skin sensitization: Classification not possible | (Respiratory sensitization) — (Skin sensitization) — | (Respiratory sensitization) — (Skin sensitization) — | (Respiratory sensitization) — (Skin sensitization) — | Respiratory sensitization: No data available Skin sensitization: The results of guinea pig Maximization tests and Buehler tests reported in EHC 142 (1992) suggest no evidence of skin sensitization, whereas the substance is considered positive for sensitization according to EU Risk Phrase. These inconsistent data do not allow the presence or absence of sensitization to be determined, and thus classification is not possible. |
| 5 Germ cell mutagenicity | Not classified | — | — | — | Based on the absence of data on multi-generation mutagenicity tests and germ cell mutagenicity tests in vivo, and negative data on somatic cell mutagenicity tests in vivo (chromosome aberration tests), described in EHC 142 (1992). |
| 6 Carcinogenicity | Classification not possible | — | — | — | No data available |
| 7 Toxic to reproduction | Classification not possible | — | — | — | Classification is not possible since no data are available regarding adult reproduction, though no definitive evidence of pup reproductive toxicity was observed in any of the teratogenicity studies with rats and rabbits, described in MOE Risk Assessment vol. 4 (2005). |
| 8 Specific target organs/systemic toxicity following single exposure | Category 1 (nervous system) | Health hazard | Danger | Causes damage to organs (nervous system) | Based on the evidence from animal studies: "clonic convulsions, piloerection, salivation and splayed hind-leg gait were found" (EHC 142 (1992)), "ataxia, dyspnea, salivary gland dysfunction" (RTECS (2006)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1. |

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|----|--|---|---------------|--------|---|---|
| 9 | Specific target organs/systemic toxicity following repeated exposure | Category 1 (nervous system) Category 2 (blood system, liver) | Health hazard | Danger | Causes damage to organs through prolonged or repeated exposure (nervous system) May cause damage to organs through prolonged or repeated exposure (blood system) | Based on the human evidence: "The substance induces neurotoxicity that affects the axons of the peripheral and central nervous systems via sodium channels" (MOE Risk Assessment vol. 4 (2005)). Also based on the evidence from animal studies including "ataxia and abnormal gait, hyperactivity, hunchback position, elevated ALAT/ASAT levels," "decreased hemoglobin level and increased platelet counts; increased lymphocyte counts and decreased acidophile counts in males; decreased mean red blood cell volume and mean corpuscular hemoglobin, and increased blood level of urea in females" (MOE Risk Assessment vol. 4 (2005)). "abnormal gait and hypersensitivity were observed; decreases in protein and increases in urea levels were observed in both sexes" (EHC 142 (1992)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1 (nervous system) and Category 2 (liver, blood 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 hours EC50=0.0003mg/L of the crustacea (Daphnia magna) (EHC142, 1992). |
| 11 Hazardous to the aquatic environment (chronic) | Category 1 | Environment | Warning | Very toxic to aquatic life with long lasting effects | Since acute toxicity was Category 1 and there was no rapidly degrading (BIOWIN), and since there was bio-accumulation (log Kow=6.94 (PHYSPROP Database, 2005)), it was classified into Category 1. |