

GHS Classification

ID432

CAS 5598-13-0

Physical Hazards

O-3,5,6-trichloro-2-pyridyl O,O-dimethyl phosphorothioate

Date Classified: Dec. 18, 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	—	—	—	Classification not possible due to lack of data
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Not classified	—	—	—	Considered non-pyrophoric when in contact with air at ordinary temperatures since the substance is stable to heat (up to 150degC) (Agricultural Chemical Registration Data)
11 Self-heating substances and mixtures	Not classified	—	—	—	Stable to heat (up to 150degC) (Agricultural Chemical Registration Data)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (water solubility: 2.64mg/L (20degC) (Agricultural Chemical Registration Data))
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
14 Oxidizing solids	Classification not possible	—	—	—	Cannot be classified though being organic compounds containing oxygen bound to elements other than carbon and hydrogen
15 Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "-O-O-" structure
16 Corrosive to metals	Classification not possible	—	—	—	Classification not possible due to lack of data on the substances with melting points of <55degC (melting point: 46degC (Agricultural Chemical Registration Data)).

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	Based on the rat LD50 (oral route) value of 1,828mg/kg (Agricultural Chemical Registration Data (1989)).
1 Acute toxicity (dermal)	Not classified	—	—	—	Based on the rat LD50 (dermal route) value of >2,000mg/kg, together with the absence of mortality (Agricultural Chemical Registration Data (1989)).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is a solid according to the GHS criteria and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	Classification cannot be determined, though the available rat inhalation studies reported the LC50 values of >0.031mg/L and >0.67mg/L (Agricultural Chemical Registration Data (1989, 2005)).
2 Skin corrosion / irritation	Not classified	—	—	—	In rabbit skin irritation tests, the treated animals exhibited the highest Draize score of 0.7 and were fully recovered after 24 hours (Agricultural Chemical Registration Data (1989)).
3 Serious eye damage / eye irritation	Not classified	—	—	—	In the available rabbit eye irritation tests, mild effects were noted immediately after instillation, but the effects cleared up by 24 hours (Agricultural Chemical Registration Data (1989)).
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Not classified	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	Respiratory sensitization: No data available Skin sensitization: No skin sensitizing potential was found in guinea pig sensitization tests (Agricultural Chemical Registration Data (1989)).
5 Germ cell mutagenicity	Not classified	—	—	—	Based on negative data in in vitro chromosome aberration tests, in vitro reverse mutation tests and mouse in vivo micronucleus tests (Agricultural Chemical Registration Data (1989)).
6 Carcinogenicity	Not classified	—	—	—	There was no treatment-related increase in tumor incidence observed in 2-year (rats) and 18-month (mice) carcinogenicity studies (Agricultural Chemical Registration Data (1989, 1991)).
7 Toxic to reproduction	Not classified	—	—	—	Based on no evidence of adverse effects on parental reproduction and offspring development observed in rat 2-generation reproduction studies and rat/rabbit teratogenicity studies (Agricultural Chemical Registration Data (1989)).

8	Specific target organs/systemic toxicity following single exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs (nervous system)	Based on the evidence from animal studies including "piloerection," "tremors," "perspiration," "lacrimation," and "diarrhea" (Agricultural Chemical Registration Data (1973)). These effects were observed at dosing levels within the guidance value ranges for Category 2.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	—	—	—	In repeat dose toxicity studies in animals, increased organ weights and cholinesterase inhibition were noted, but no target organs were identified from these findings (Agricultural Chemical Registration Data (1991)).
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=0.62microg/L of the crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 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=4.31 (PHYSPROP Database, 2005)), it was classified into Category 1.