

## GHS Classification

**ID431**

**CAS 2636-26-2**

### Physical Hazards

**O-4-cyanophenyl 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 "liquid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
6 Flammable liquids	Not classified	—	—	—	The flash point is 104degC (HSDB (2006)).
7 Flammable solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not classified	—	—	—	Considered non-pyrophoric when in contact with air at ordinary temperatures since the substance is stable to heat (Agricultural Chemical Registration Data)
10 Pyrophoric solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
11 Self-heating substances and mixtures	Classification not possible	—	—	—	Classification not possible due to lack of data
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (water solubility: 115.9mg/L (20degC) (Agricultural Chemical Registration Data))
13 Oxidizing liquids	Classification not possible	—	—	—	Cannot be classified though being organic compounds containing oxygen bound to elements other than carbon and hydrogen
14 Oxidizing solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
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

### 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 580mg/kg (Agricultural Chemical Registration Data (1969)).
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	Based on the rat LD50 (dermal route) value of 560mg/kg (Agricultural Chemical Registration Data (1972)).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is a liquid 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 study reported the LC50 value of >1.5mg/L (Agricultural Chemical Registration Data (1988)).
2 Skin corrosion / irritation	Not classified	—	—	—	Based on no evidence of irritation observed in rabbit skin irritation tests (Agricultural Chemical Registration Data (1986)).
3 Serious eye damage / eye irritation	Not classified	—	—	—	Based on no evidence of irritation observed in rabbit eye irritation tests (Agricultural Chemical Registration Data (1986)).
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 (1986)).
5 Germ cell mutagenicity	Not classified	—	—	—	Based on negative data in mouse in vivo micronucleus tests and rat in vivo unscheduled DNA synthesis tests (Agricultural Chemical Registration Data (1989)). When tested in vitro, the substance tested positive for chromosome aberration (Agricultural Chemical Registration Data (1989)) and negative for reverse mutation (Agricultural Chemical Registration Data (1976)).
6 Carcinogenicity	Not classified	—	—	—	There was no treatment-related increase in tumor incidence observed in mouse carcinogenicity studies (Agricultural Chemical Registration Data (1986, 1988)).
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Based on the evidence of increased incidence of the runt syndrome and decreased viability at doses causing a reduction in parental body weight gain observed in rat 2-generation reproduction studies (Agricultural Chemical Registration Data (1988)).

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 including "convulsions," "tremors," "ataxic gait," and "salivation" (Agricultural Chemical Registration Data (1969)). These effects were observed at dosing levels within the guidance value ranges for Category 1.
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system)	Health hazard	Danger	Causes damage to organs through prolonged or repeated exposure (nervous system)	Based on the evidence from animal studies including "fibrous contraction," "tremors," and "piloerection" (Agricultural Chemical Registration Data (1969, 1970)). These effects were observed at dosing levels within the guidance value ranges for Category 1.
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=97microg/L of the crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 2005).
11 Hazardous to the aquatic environment (chronic)	Not classified	—	—	—	Since there was rapidly degrading (the decomposition by TOC: 73%(Existing Chemical Safety Inspections Data)) and the bio-accumulation was low (log Kow=2.71(PHYSROP Database, 2005)), it was classified into Not classified.