

## GHS Classification

**ID279**

**CAS 60-51-5**

**Physical Hazards**

**O,O-Dimethyl S-(N-methylcarbamoyl)methyl phosphorodithioate; Dimethoate**

Date Classified: Nov. 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	Not classified	—	—	—	Classified as flammable according to ICSG (1999). Classified into Division 6.1 (UN#2783 Organophosphorous Pesticide, solid, toxic (ICSC (1999)) (UN Recommendation on the Transport of Dangerous Goods).
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	—	—	—	Classified into Division 6.1 (UN#2783 Organophosphorous Pesticide, solid, toxic (ICSC (1999)) (UN Recommendation on the Transport of Dangerous Goods).
11 Self-heating substances and mixtures	Not classified	—	—	—	Classified into Division 6.1 (UN#2783 Organophosphorous Pesticide, solid, toxic (ICSC (1999)) (UN Recommendation on the Transport of Dangerous Goods).
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (water solubility: 15.9g/L (20degC), Agricultural Chemical Registration Data).
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
14 Oxidizing solids	Classification not possible	—	—	—	Classification not possible due to lack of data, though being organic compounds containing oxygen (but not chlorine and fluorine) bound to the 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	—	—	—	No data available on substances with melting point of <55degC (melting point: 47.5-49.3degC, Agricultural Chemical Registration Data).

## 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	Based on the rat LD50 (oral route) value of 255mg/kg (Agricultural Chemical Registration Data (1986)).
1 Acute toxicity (dermal)	Category 3	Skull and crossbones	Danger	Toxic in contact with skin	Based on the mouse LD50 (dermal route) value of 310mg/kg (Agricultural Chemical Registration Data (1986)).
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is a solid according to the GHS definition 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	—	—	—	The available rat inhalation studies yielded the LC50 (4 hour) value of >0.900mg/L (Agricultural Chemical Registration Data (1986)). However, classification is not possible because there is no evidence of death at the highest dose of 0.900mg/L, and the acute toxicity value cannot be
2 Skin corrosion / irritation	Not classified	—	—	—	Based on no evidence of irritation reported in several skin irritation studies with rabbits (Agricultural Chemical Registration Data (1985)).
3 Serious eye damage / eye irritation	Category 2B	—	Warning	Causes eye irritation	Based on the description in the report on rabbit eye irritation tests (Agricultural Chemical Registration Data (1985)): "The substance caused mild irritation, with effects clearing up by day 7 in all affected animals."
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: Based on a positive rate of 0% for guinea pig Buehler tests (Agricultural Chemical Registration Data (1984)) and 25% for Maximization assays (Agricultural Chemical Registration Data (1984)).
5 Germ cell mutagenicity	Not classified	—	—	—	Based on negative data on mouse dominant lethal tests, chromosome aberration tests on somatic cells in vivo and mouse micronucleus tests in vivo, though positive results were reported in reverse mutation tests in vitro and chromosome aberration tests on CHL cells in vitro (Agricultural Chemical Registration Data (1985)).
6 Carcinogenicity	Not classified	—	—	—	There was no treatment-related increase in tumor incidence observed in 2-year (rats) and 18-month (mice) carcinogenicity studies, reported in Agricultural Chemical Registration Data (1986). Also due to the fact that the substance is classified as Group C by EPA (1992).
7 Toxic to reproduction	Not classified	—	—	—	Based on no evidence of adverse effects on reproductive function/capacity and pup development observed in rat 3-generation reproduction studies (Agricultural Chemical Registration Data (1965)) and gestation studies in rats and rabbits (Agricultural Chemical Registration Data (1984)).
8 Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system)	Health hazard	Danger	Causes damage to organs (nervous system)	In the available rat and mouse single dose toxicity studies, clinical signs and symptoms including muscular fasciculations, reduced locomotor activity, staggering gait, limb paralysis, loss of righting reflex, irregular respiration, dyspnea, lacrimation, chromodacryorrhea, salivation, incontinence, soft feces, diarrhea, pupillary constriction, piloerection, exophthalmos, and reduced body weight (males) have been reported (Agricultural Chemical Registration Data (1986)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1.
9 Specific target organs/systemic toxicity following repeated exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (nervous)	The nervous system is considered to be the target organ based on the observations in animal studies including unknempt fur and piloerection, and exophthalmos with pale eyes in female (Technical Reports for Agricultural Chemical Registration (1961, 1967)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1. Therefore the substance has been classified as Category 1 (nervous system).

10	Aspiration hazard	Classification not possible	-	-	-	No data available
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### Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Category 2	-	-	Toxic to aquatic life	It was classified into Category 2 from 48 hours EC50=2mg/L of the crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 2004).
11 Hazardous to the aquatic environment (chronic)	Category 2	Environment	-	Toxic to aquatic life with long lasting effects	Although acute toxicity was Category 2 and the bio-accumulation potential was low (BCF=0.8(Existing Chemical Safety Inspections Data)), since there was no rapidly degrading (the decomposition by BOD: 0%(Existing Chemical Safety Inspections Data)), it was classified into Category 2.