

GHS Classification

ID1250

O,O-dimethyl phthalimidomethyl S-phosphorodithioate

CAS 732-11-6

Date Classified: Mar. 15, 2007 (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	-	-	-	Classification not possible due to lack of experimental data, though "Flammable"
8 Self-reactive substances and mixtures	Not applicable	-	-	-	There are no chemical groups associated with explosive or self-reactive properties present in the molecule.
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Non-pyrophoric when in contact with air at a room temperature and used as agricultural chemicals.
11 Self-heating substances and mixtures	Classification not possible	-	-	-	Test methods applicable to solid (melting point <= 140degC) substances are not available.
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water (the water solubility is obtained)
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Classification not possible	-	-	-	No data available
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 3	Skull and crossbones	Danger	Toxic if swallowed	Based on the rat oral LD50 values (121.3 - 369mg/kg, number of data: 14) (JMPR 448 (1978)), we obtained the LD50 of 199.7mg/kg by calculation, and we classified the substance as Category 3.
1 Acute toxicity (dermal)	Category 5	-	Warning	May be harmful in contact with skin	Considering rabbit dermal LD50 value = 3160mg/kg (JMPR 448 (1978)), it was set as Category 5.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	The saturated concentration of this product is 6.43*10 ⁻⁴ ppm. Therefore, it is presumed that each inhalation test was performed in mist conditions. Since there is no data about steam, it cannot be classified.
1 Acute toxicity (inhalation: dust, mist)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	Based on the lower one among rat inhalation LC50 (4 hours) = 0.054mg/L (RTECS (2003)) and LC50 (1 hour) = 2.76mg/L [4-hour conversion value 0.69mg/L] (HSDB (2003)), it was set as Category 2.
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	There is description which indicates irritant in Priority 2 (HSDB (2003), SITTIG (4th, 2002)). But there is no specific information, Moreover, the irritation was set to "mildly" in HSDB (2003), it was thought that irritant was slight, and it was set as 3.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	There is description which indicates the irritation against the human eyes by Priority 2 (ICSC (J) (1997), and SITTIG (4th, 2002)), in addition, the irritation was set to "mildly" (HSDB (2003)). So it was set as Category 2B.
4 Respiratory/skin sensitization	Classification not possible; Skin sensitization: Classification not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	No data available
5 Germ cell mutagenicity	Not classified	-	-	-	There is the negative result of the in vivo small core test using mouse bone marrow cells (JMPR 883 (1994)), and it is classified as the out of the Category according to the technical guidelines.
6 Carcinogenicity	Not classified	-	-	-	There was the description (all are JMPR 883 (1994)) that liver adenomas (high-dose male rat) or a pituitary adenoma arises to a rat. But JMPR judged the carcinogenic negative in rat and mouse as a conclusion. Therefore, it considered as the outside of category.

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Although remarkable influence was not seen except that the slight skeletal abnormalities in the fetus were acknowledged in high doses in the rabbit teratogenicity studies on the of Priority 1 (JMPR 883 (1994)), some influence on reproduction ability (decline in copulation rate and fertilization rates) was seen in the two-generation examination on rats (JMPR 883 (1994)). So it was set as Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 2 (nervous system)	Health hazard	Warning	May cause damage to organs (nervous system)	Since in Priority 2, there is description of "a nervous systems may be affected" to humans (ICSC (J) (1997), SITTIG (4th, 2002), in addition, effect on a nervous system also in the experimental to the male rat of JMPR 448 (1979) is observed, (however, since original literature is old and the detailed experimental condition are unknown, application of a guidance value cannot be performed), it was considered as Category 2 (nervous system).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system); Category 2 (liver)	Health hazard	Danger	Causes damage to organs (nervous system) through prolonged or repeated exposure; May cause damage to organs (liver) through prolonged or repeated	Since in Priority 1 (JMPR 883 (1994)), to humans (spraying working personnel of this substance), although it is reversible, the neuromuscular dysfunction and ultrastructure defects of motor end plates are observed and moreover, in the experiment of the rat in Priority 1(JMPR 883(1994)), since the effects on the liver was observed within the limits of Category 2 of a guidance value, it was classified into Category 1 (nervous systems) and Category 2 (liver).
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=27microg/L of Crustacea (Daphnia magna) (Agricultural Chemical Registration Data, 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 was Category 1, supposed not rapidly degrading (BIOWIN), though supposed less bioaccumulative (log Kow=2.78(PHYSPROP Database, 2005)).