

GHS Classification

ID1406

CAS 10265-92-6

Physical Hazards

Methamidophos

Date Classified: Oct. 23, 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	—	—	—	Cannot be classified due to lack of data, though classified as flammable under specific conditions according to ICSC (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: 1*10 ⁶ (6)mg/L (20degC), SRC (2006))
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
14 Oxidizing solids	Not classified	—	—	—	No data available, though being organic compounds containing oxygen bound to elements other than carbon and hydrogen. Classified into Division 6.1 (UN#2783 Organophosphorous Pesticide, solid, toxic (ICSC, 1999)) (UN Recommendation on the Transport of Dangerous Goods).
15 Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "-O-O-" structure
16 Corrosive to metals	Not classified	—	—	—	Classification not possible due to lack of data, though the substance acts on (engineering) alloys including mild steel and copper according to ICSC (1999). Classified into Division 6.1 (UN#2783 Organophosphorous Pesticide, solid, toxic (ICSC, 1999)) (UN Recommendation on the Transport of Dangerous Goods).

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 rat LD50 (oral route) value of 16mg/kg representing the lower of the two testing data. 21mg/kg (PATTY (4th, 2000)) and 16mg/kg (PATTY (4th, 1999)).
1 Acute toxicity (dermal)	Category 2	Skull and crossbones	Danger	Fatal in contact with skin	Based on the rabbit LD50 (dermal route) value of 118mg/kg (PATTY (4th, 2000)).
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)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	Based on the rat LC50 (4 hour inhalation of dust) value of 0.162mg/L (RTECS (2006)).
2 Skin corrosion / irritation	Not classified	—	—	—	Based on the results of rabbit skin irritation tests that suggest "no evidence of irritation" (though the results are those of 24 hour application) (IUCLID (2000)).
3 Serious eye damage / eye irritation	Category 2B	—	Warning	Causes eye irritation	Based on the data on rabbit eye irritation tests (IUCLID (2000)): "Mildly irritating."
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: Insufficient data available
5 Germ cell mutagenicity	Classification not possible	—	—	—	No data available
6 Carcinogenicity	Classification not possible	—	—	—	No data available
7 Toxic to reproduction	Classification not possible	—	—	—	Insufficient data available

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 human evidence including "miosis," "parasympatholytic agent" (RTECS (2004)), "unconsciousness, miosis, muscular fasciculations, sweating, and delayed neurotoxicity," "neuropathic target esterase (LNTE) inhibition (delayed neurotoxicity)," "retrobulbar ocular neuritis, thigh paresthesias, peripheral neuropathy and delayed neuropathy" (HSDB (2003)), "the present substance may adversely affect the central nervous system, causing convulsions and respiratory failure" (ICSC (J) (1994)). Also based on the evidence from animal studies: "tremors, salivation, chromodacryorrhea, dyspnea, rhinorrhea and clonic convulsions were observed," "abnormal gait, muscular fasciculations, tremor," "miosis, salivation, rhinorrhea, ataxia and central nervous system depression" (HSDB (2003)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1. However, as the referenced study is assigned a priority rating of 2, which does not meet the criteria for 1b (3) specified in the "Technical Guideline for GHS Health Hazard Classification," the substance is placed in Category 2.
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)	Based on the human evidence: "the present substance may adversely affect the nervous system and cause delayed neuropathy" (ICSC (J) (1994)). Also based on the evidence from animal studies including "mild tremor and aggressive behaviour" (HSDB (2003)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 2.
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=0.026ppm of the crustacea (Daphnia magna) (AQUIRE, 2003).
11 Hazardous to the aquatic environment (chronic)	Category 1	Environment	Warning	Very toxic to aquatic life with long lasting effects	Although acute toxicity is Category 1 and bio-accumulation is low (log Kow=-0.8/PHYSPROP Database, 2005), since there was no rapidly degrading (BIOWIN), it was classified into Category 1.