

GHS Classification

ID1116

CAS 71048-99-2

Physical Hazards

4-[(Hydroxy)(methyl)phosphiny]-L-Abu-L-Ala-L-Ala-ONa

Date Classified: Mar. 15, 2007 (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	-	-	-	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	-	-	-	No data available
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	-	-	-	No data available
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water. (The value of aqueous solubility is acquired. Moreover, as pesticide, many are produced commercially as a water-soluble powders.)
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	Because the LD50 in rats was 268mg/kg (RTECS (2004), the Journal of Pesticide Science (1987)), the substance was classified as Category 3.
1 Acute toxicity (dermal)	Category 5	-	Warning	May be harmful in contact with skin	It was set as Category 5 based on rat LD50 = 3g/kg (RTECS (2002) and Pesticide Science Society of Japan (1987)).
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	Rat LC50 value in inhalation is 2570mg/m3 (= 2.57mg/L, RTECS, 2002; Pesticide Science Society of Japan, 1987). But there was no description of steam or dust/mist, and also no vapor pressure data. It could not judge to be either, so it was presupposed that it cannot be classified due to data insufficiency. In addition, it is Category 3 if it is assumed to be steam, and it is Category 4 if it is assumed to be dust/mist.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	Rat LC50 value in inhalation is 2570mg/m3 (= 2.57mg/L, RTECS, 2002; Pesticide Science Society of Japan, 1987). But there was no description of steam or dust/mist, there was also no vapor pressure data, and it could not be judged either one. Therefore, it cannot be classified since data was insufficient. In addition, it corresponds to category 3 if it assumes that it is steam, and category 4 if it assumes to be dust/mist.
2 Skin corrosion / irritation	Not classified	-	-	-	Since block paste of 0.5g of this product did not indicate irritation to the rabbit skin (Pesticide Science Society of Japan, 1987), it carried out the outside of Category.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	Although the result of administration to the rabbit eye of 0.1g of this product showed very slight stimulativeness, but it recovered after 48 hours (Pesticide Science Society of Japan, 1987). Therefore, it was classified into Category 2B.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category 1	(Respiratory sensitization)-; (Skin sensitization)Exclamation mark	(Respiratory sensitization)-; (Skin sensitization)Warning	(Respiratory sensitization)-; (Skin sensitization)May cause allergic skin reaction	Respiratory sensitization: no data available. Skin sensitization: since very slight causing sensitivity was acknowledged in the quality of a genuine article (Pesticide Science Society of Japan, 1987) with the Draize method using a guinea pigs, the ratio of the positive animal was set to Category 1 though it was unknown. In addition, the 20% water-soluble powders of this product did not indicate sensitizing by the maximization method which used the guinea pigs (Pesticide Science Society of Japan, 1987).
5 Germ cell mutagenicity	Classification not possible	-	-	-	Although it is negative in the in vitro mutagenicity test (Ames examination, and in vitro chromosomal aberration test) (Pesticide Science Society of Japan, 1987), there is no in vivo mutagenicity test data. So it cannot taxonomic according to lack of data.
6 Carcinogenicity	Not classified	-	-	-	In chronic toxicity and carcinogenicity test in rat and mouse, significant development of tumor was not observed (Journal of Pesticide Sci. Soc. of Japan, 1987). So it was out of Category.

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	In the effect test exerted on the next-generation using a rat (generation reproduction and teratogenicity), delayed ossification and decreasing in fetus weight was seen in the dose which indicated maternal toxicity (Pesticide Science Society of Japan (1987)), so it was set as Category 2. On the other hand, in the teratogenicity study using rat and rabbit, it was negative (Pesticide Science Society of Japan (1987)).
8	Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system)	Health hazard	Danger	Cause damage to organs (central nervous system)	The substance was classified as Category 1 (central nervous system) because in a report which is equivalent to a Priority 1 document, there are inertia, salivation, clonic convulsions and increased irritability to outside stimuli in a rat acute oral administration test at the dosages within the guidance values ($\leq 300\text{mg/kg}$) of Category 1 (Pesticide Science Society of Japan, 1987).
9	Specific target organs/systemic toxicity following repeated exposure	Not classified	-	-	-	Although in a document equivalent to priority 1, hypertrophy of the renal proximal tubule and the increase of kidney weights were observed in the subacute toxicity study for three months and the chronic toxicity and carcinogenicity test for 24 months of a rat, since degenerative change except renal dysfunction and increase of an smooth endoplasmic reticulum was not observed (Pesticide Science Society of Japan, 1987), it considered as the outside of Category.
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)	Classification not possible	-	-	-	No data available
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	No data available.