GHS Classification

ID906 Pyrethrins and Pyrethroids

CAS 8003-34-7 Date Classified: Aug. 18, 2006 (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	Classification not possible	–	–	–	Classification not possible due to lack of data on the compounds (expert judgment required because Pyrethrin containing diene structure of the target for the chemical groups with explosive properties present is only a part of a Pyrethrum structure).
2	Flammable gases	Not applicable	–	–	–	Liquid (GHS definition)
3	Flammable aerosols	Not applicable	–	–	–	Not aerosol products
4	Oxidizing gases	Not applicable	–	–	–	Liquid (GHS definition)
5	Gases under pressure	Not applicable	–	–	–	Liquid (GHS definition)
6	Flammable liquids	Category 4	–	Warning	Combustible liquid	Flash point: >60degC and <=93degC
7	Flammable solids	Not applicable	–	–	–	Liquid (GHS definition)
8	Self-reactive substances and mixtures	Classification not possible	–	–	–	Although only the pyrethrin, which is a part of component, has a grouping relevant to explosiveness, there is no data as a mixture. [special notes] Although pyrethrin has the diene systems which is the target of the atom group relevant to explosive, this is not the structure applicable to all the composition ingredients of PIRETORAMU. So it requires expert judgment about aforementioned results.
9	Pyrophoric liquids	Classification not possible	–	–	–	No data available
10	Pyrophoric solids	Not applicable	–	–	–	Liquid (GHS definition)
11	Self-heating substances and mixtures	Classification not possible	–	–	–	Test methods applicable to liquid substances are not available
12	Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	–	–	–	The chemical structure of the substance does not contain metals or metaloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
13	Oxidizing liquids	Not applicable	–	–	–	Organic compounds containing oxygen (but not chlorine and fluorine) chemically bonded only to carbon and hydrogen (but not to other elements).
14	Oxidizing solids	Not applicable	–	–	–	Liquid (GHS definition)
15	Organic peroxides	Not applicable	–	–	–	Containing no -0-0- structure
16	Corrosive to metals	Classification not possible	–	–	–	No data available

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	Calculated based on the following data: Rat LD50 value: 200mg/kg, 1870mg/kg, 273mg/kg, 796mg/kg (ACGIH 7th, 2001), and 1030mg/kg (ATSDR, 2003). Since the calculated values was 337.7mg/kg, it was classified to category 4.
1	Acute toxicity (dermal)	Classification not possible	–	–	–	No data available
1	Acute toxicity (inhalation: gas)	Not applicable	–	–	–	Liquid (GHS definition)
1	Acute toxicity (inhalation: vapour)	Classification not possible	–	–	–	No data available
1	Acute toxicity (inhalation: dust, mist)	Category 4	Exclamation mark	Warning	Harmful if inhaled	Category 4 because of "SPECIES: Rat; ENDPOINT: LC50(4hr.); VALUE: 3.4mg/L"(ATSDR, 2003)
2	Skin corrosion / irritation	Category 3	–	Warning	Causes mild skin irritation	It was referred to as Category 3 from description that slight skin irritations were acknowledged in employment evidence of exposure on ATSDR (2003).
3	Serious eye damage / eye irritation	Category 2B	–	Warning	Causes eye irritation	We classified it as Category 2B based on the description that mild irritation was acknowledged when applied to the eyes of the laboratory animals (ATSDR (2003)).
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Category1	(Respiratory sensitization)–; (Skin sensitization)Exclamation mark	(Respiratory sensitization)–; (Skin sensitization)Warning	(Respiratory sensitization)–; (Skin sensitization)May cause allergic skin reaction	Respiratory sensitization: Although ATSDR (2003) and ACGIH (7th, 2001) had descriptions of one case which developed hypersensitivity pneumonitis by inhalation exposure, we could not find other case reports, therefore we presupposed that we could not classify it for the insufficiency of data since it was not concluded that sensitizing property for respiratory organ was positive. Skin sensitization: Since two or more case reports of contact dermatitis was found in ACGIH (7th, 2001), we classified it as Category 1.
5	Germ cell mutagenicity	Classification not possible	–	–	–	Classification not possible due to lack of data
6	Carcinogenicity	Not classified	–	–	–	Not classified because of "A4" (ACGIH, 7th, 2001)

7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the undorn child	It was considered as Category 2 based on the description that in the oral administration examination during the pregnancy rabbit indicated to ATSDR (2003), although it was unknown about the general toxicity of parent animals, increase in postimplantation loss was observed.
8	Specific target organs/systemic toxicity following single exposure	Category 3 (narcotic effects)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects)	From description in ACGIH (7th, 2001) that transient spasm was seen in the child whom oral ingestion was given, and from description in ACGIH (7th, 2001) and ATSDR (2003) that the tremor was seen by the oral administration using rats and an inhalation exposure test, it was judged that it had transient effect to the nervous system. So it was set as Category 3 (anesthetic actions).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (nervous system, blood, respiratory organs)	Health hazard	Warning	May cause damage to organs (nervous system, blood, respiratory organs) through prolonged or repeated	Based on the description that the effects on the nervous system were observed with the dose a little exceeding the guidance value range of Category 2 in the oral study using the dog (ACGIH (7th, 2001)), and based on the description that the effects on the blood were observed with the dose of the guidance value range of Category 2 in the oral study using the dog (ATSDR (2003)), and based on the description that the effects on the respiratory system was observed with the concentration of the guidance value range of Category 2 in the inhalation exposure test using the rat (ATSDR (2003)), therefore we classified it as Category 2 (nervous systems, blood, respiratory systems).
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 96-hour LC50=0.14ppb of Crustacea (Mysid shrimp) (AQUIRE, 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 is Category 1, supposed not rapidly degrading (BIOWIN), and bioaccumulative (log Kow=6.15 (PHYSPROP Database, 2005)), it was classified into Category 1.