

GHS Classification

ID829

Ronnel

CAS 299-84-3

Date Classified: Jul. 24, 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	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	Not classified	-	-	-	Non-combustible (ICSC (1995))
8 Self-reactive substances and mixtures	Classification not possible	-	-	-	Classification not possible due to lack of data, though the substance contains P-O bonds as chemical groups with self-reactive properties present.
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Non-combustible (ICSC, 1995)
11 Self-heating substances and mixtures	Not classified	-	-	-	Not combustible (ICSC (1995))
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Since aqueous solubility is measured (ICSC (1995), Merck (13th, 2001), Howard (1997)), it is judged that it is stable in the water.
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Classification not possible	-	-	-	Classification not possible due to lack of data, though containing oxygen bonded to phosphorus.
15 Organic peroxides	Not applicable	-	-	-	Organic compounds containing no -O-O- 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	It was set as Category 4 based on LD50= 1492mg/kg calculated from five data of rat LD50 value (ACGIH (2001) and JMPR 130 (1968)).
1 Acute toxicity (dermal)	Category 4	Exclamation mark	Warning	Harmful in contact with skin	It was set as Category 4 based on LD50= 1600mg/kg which is the lower value among two data (ACGIH (2001)) of rabbit LD50 values.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	Based on the description as which hyperemia of the only slight skin was regarded by the examination of the rabbit (ACGIH (2001)), and the description of having felt the irritation for the skin of the human face (HSDB (2005)), it was set as Category 3.
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	There is the statement that although slight sense of discomfort and transient conjunctival irritation were seen in the rabbit , but they were disappeared 48 hours afterward (ACGIH (2001)). So it was set as Category 2B.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization: No data. Skin sensitization: We classified it as Out Of Category based on the statement that it was not thought to have a skin sensitizing property in the patch test performed in human body(ACGIH (2001), HSDB (2005)).
5 Germ cell mutagenicity	Classification not possible	-	-	-	Since there is no in vivo test result, and multiple indices has not resulted in positive with in vitro examination, it was presupposed that it cannot be classified.
6 Carcinogenicity	Not classified	-	-	-	It was considered as the outside of Category based on that it was classified into A4 in ACGIH (ACGIH (2001)).
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Although there is no statement on maternal toxicity in rat and rabbit test, the fetus with cardiovascular system malformation and those with cerebellum hyperplasia increased in number, and it is observed the effects on the viability F1 and F2 and lacting index (PATTY(5th, 2001) vol.7, JMPR 130 (1968)). Therefore, it was classified into Category 2.

8	Specific target organs/systemic toxicity following single exposure	Category 2 (nervous system); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Warning	May cause damage to organs (nervous system); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	It was set as Category 2 (nervous systems), based on the statement (ACGIH (2001)) that sweating, closeness, loss of consciousness, vomited, a miosis, muscular spasticities, the excess of salivation, nausea, muscular spasticities, etc. are indicated in humans (ICSC (J) (1995)), and salivary secretion, tremor, diarrhea, the miosis, and increased respiration in a rat by the dose considered to be the guidance value range of Category 2 are indicated. It was set as Category 3 (respiratory irritant) based on statement (HSDB (2005)) that the irritant of the throat for humans.
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (nervous system)	Health hazard	Danger	Causes damage to organs (nervous system) through prolonged or repeated exposure	Based on statements that inhibition of the cholinesterase activities was observed in dogs at administration of guidance value within the limits of Category 1 (ACGIH (2001), JMPR 130 (1968)), that nausea, debility, blurred visions, etc. were seen in patients with creeping eruption as side effects at the time of medicating (ACGIH and (2001), HSDB (2005)); and that an abdominal cramps, anorexia, a blurred visions, diarrhea, headach, heartburn, malaise, nausea, debility, etc. were observed in humans when medicated (JMPR 130 (1968)), it was classified into Category 1 (nervous 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=171microg/L of fishes (Cutthroat trout) (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=4.88 (PHYSPROP Database, 2005)).