GHS Classification

ID905 piperazine dihydrochloride

CAS 142-64-3 Date Classified: Oct. 1, 2005 (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	–	–	–	No data available by regulated examination methods, though "May burn" (HSFS, 2004)
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	Classification not possible	–	–	–	No data available
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 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	–	–	–	Solid (GHS definition)
14	Oxidizing solids	Not applicable	–	–	–	Organic compounds containing chlorine (but not oxygen and fluorine) and the chlorine is chemically bonded only to carbon and hydrogen (but not to other elements).
15	Organic peroxides	Not applicable	–	–	–	Containing no -0-0- 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 5	–	Warning	May be harmful if swallowed	Category 5 based on SPECIES: Rat; ENDPOINT: LD50; VALUE: :4900mg/kg; REFERENCE SOURCE: ACGIH 7th, 2001)
1	Acute toxicity (dermal)	Classification not possible	–	–	–	No data available
1	Acute toxicity (inhalation: gas)	Classification not possible	–	–	–	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 2	Exclamation mark	Warning	Causes skin irritation	From description that mild to moderate skin burn was acknowledged in the human acute evidence of exposure (ACGIH (7th, 2001)), it was judged as skin irritation and set as Category 2.
3	Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	We classified it as Category 2A-2B based on the description that it stimulated the eye a little (somewhat irritating) as effect on the human body (ACGIH (7th, 2001)).
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	–	–	–	Respiratory organ : Although there is description that asthma was acknowledged in relation to occupational exposure in ACGIH (7th, 2001), in ACGIH (7th, 2001), ACGIH (7th, 2001) did not declare that it was clearly respiratory-organs sensitizing property because of the lack of sufficient data about sensitizing, therefore we presupposed that we could not classify it since data was insufficient. Skin: Although we found a description that sensitizing property was acknowledged in the human acute exposure cases in ACGIH (7th, 2001), there were no epidemiology investigation reports and case reports which showed the development of allergic contact dermatitis, so we presupposed that we could not classify it for the insufficiency of data.
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	–	–	–	No data available
8	Specific target organs/systemic toxicity following single exposure	Classification not possible	–	–	–	Although ACGIH (7th, 2001) had statement that systemic toxicity is low as effect on humans, there was very little toxicological data and harmful cannot be classified from there being no statement which negates clearly.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	–	–	–	Although ACGIH (7th, 2001) had statement that systemic toxicity is low as effect on human, there was very little toxicological data and there was no statement which denies the hazardousness cleary, therefore we presupposed that we could not classify it.
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.