

GHS Classification

ID957

pentaborane(9)

CAS 19624-22-7

Date Classified: Feb. 20, 2007 (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	-	-	-	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	Not classified	-	-	-	UNRTDG Class: 4.2
7 Flammable solids	Not applicable	-	-	-	Liquid (GHS definition)
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	Category 1	Flame	Danger	Catches fire spontaneously if exposed to air	UNRTDG Class: 4.2 PGI
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 classified	-	-	-	UNRTDG Class: 4.2
13 Oxidizing liquids	Not applicable	-	-	-	Organic compounds containing no oxygen, fluorine and chlorine.
14 Oxidizing solids	Not applicable	-	-	-	Liquid (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 4.2

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Classification not possible	-	-	-	No data available
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: dust, mist)	Category 1	Skin and respiratory	Danger	Fatal if inhaled	Based on rat LC50 value (4 hours): 6ppm (equivalent: 0.01548mg/L) (ACGIH 7th, 2001), it was classified as Category 1.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	There was no animal examination data. But it was set as Category 2 from the description "strong stimulativeness and a burn may be caused by skin contacts" (HSFS (2000)).
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	We classified it as Category 1 based on description that "it stimulated the eyes" (HSDB (2005)), and on the description that "it had a severe irritant property accompanied by the eye injuries when touched to the eye" (HSFS (2000)).
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)-	No 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	-	-	-	No data available

8	Specific target organs/systemic toxicity following single exposure	Category 1 (central nervous system); Category 3 (narcotic effects, respiratory tract irritation)	Health hazard	Danger	Cause damage to organs (central nervous system); May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects, respiratory tract irritation)	In ACGIH (7th, 2001), PATTY (4th, 1994), HSDB (2005), HSFS (2000), and SITTIG (4th, 2002), symptoms accompanied by anesthesia actions such as sleepiness, giddiness, headache, anxiety, mental poor concentration, nausea have been confirmed at low level exposure to humans, while central nervous system symptoms such as excitement, directions sensory paralysis, impaired judgement, memory loss, confusion, muscle aches, trembles, spasms, muscular stiffness of face, neck, trunk and limbs, opisthotonus, and comas have been described at high exposure levels. It was judged as Category 1 (central nervous systems) and Category 3 (anesthetic actions). Moreover, it was judged as Category 3 (respiratory irritant) based on descriptions in HSFS (2000) and SITTIG (4th, 2002) referring to that noses, throats, and lungs were stimulated and coughs, sneezes, and breathlessness were caused.
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (central nervous system, liver)	Health hazard	Danger	Causes damage to organs (central nervous system, liver) through prolonged or repeated exposure	Based on descriptions that excitement and tremor were observed in the four-week inhalation exposure test on rats (ACGIH (7th, 2001)), that hypoesthesia and hypalgesia, ataxia, and tremor were observed in six month inhalation exposure test on apes, dogs, rabbits, rats, and hamsters (PATTY (4th, 1994)), and that character change, such as depression, anxiety, and hypersensitivity, and effects on liver and brain were occurred on humans (HSFS (2000)), it was classified into Category 1 (central nervous systems, liver).
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.