GHS Classification

ID1346 **brucine**

CAS 357-57-3 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	–	–	–	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	–	–	–	Not classified because of UNRTDG No. 1570, Class: 6.1, PGI (not Class: 4.1)
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	–	–	–	UNRTDG is classified into 6.1 and I according to the U.N. number (1570) peculiar to this substance. Since 4.2 which indicates a self-febrility chemistry article was not attached, it carried out the outside of Category.
11	Self-heating substances and mixtures	Not classified	–	–	–	UNRTDG is classified into 6.1 and I according to the U.N. number (1570) peculiar to this substance. Since 4.2 which indicates a self-febrility chemistry article was not attached, it carried out the outside of Category.
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 oxygen and the oxygen is chemically bonded only to carbon (but not to other elements).
15	Organic peroxides	Not applicable	–	–	–	Organic compounds 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 3	Skull and	Danger	Toxic if swallowed	Category 3 based on SPECIES: Mouse; ENDPOINT: LD50; VALUE: 150mg/kg; REFERENCE SOURCE: RTECS (2005)
1	Acute toxicity (dermal)	Classification not possible	–	–	–	No data available
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	Classification not possible	–	–	–	No data available
3	Serious eye damage / eye irritation	Category 2B	–	Warning	Causes eye irritation	From description that stimulation and redness (ICSC(J), 2002; HSDB, 2002; SITTIG, 2002) are caused to the human eye, it is set as Category 2B.
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not	(Respiratory sensitization)–; (Skin sensitization)–	(Respiratory sensitization)–; (Skin sensitization)–	(Respiratory sensitization)–; (Skin sensitization)–	No data available
5	Germ cell mutagenicity	Classification not possible	–	–	–	There is only the negative result (HSDB, 2002) in an Ames test, and it cannot be classified because of insufficient data
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 2 (nervous system); Category 3 (respiratory tract irritation)	Health hazard	Warning	May cause damage to organs (nervous system); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract	It was considered as Category 2 (nervous systems) based on the description that it affects nervous systems and causes convulsions and respiratory paralysis (ICSC (J), 2002). Moreover, it was considered as Category 3 (respiratory irritant) based on the description that it stimulates nose and airways (HSDB, 2002).
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	–	–	–	No data available
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 3	–	–	Harmful to aquatic life	It was classified into Category 3 from 96-hour LC50=20ppm of fishes (Sumatran silverside), and others (HSDB, 2004).
11	Hazardous to the aquatic environment (chronic)	Category 3	–	–	Harmful to aquatic life with long lasting effects	Classified into Category 3, since acute toxicity was Category 3 and supposed not rapidly degrading (BIOWIN), though supposed less bio-accumulative (log Kow=0.98(PHYSPROP Database, 2005)).