GHS Classification

ID864 ferbam

CAS 14484-64-1 Date Classified: Jun. 20, 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	Classification not possible	–	–	–	No data available by regulated examination methods, though "Flammable" (ICSC (J) (1997))
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	Classification not possible	–	–	–	Although there is the information that water is contacted and inflammable gas is produced (ICSC (J) (1997)), no data based on a set test method.
13	Oxidizing liquids	Not applicable	–	–	–	Solid (GHS definition)
14	Oxidizing solids	Not applicable	–	–	–	Containing no oxygen , chlorine and fluorine.
15	Organic peroxides	Not applicable	–	–	–	Containing no -O-O- 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)	Not classified	–	–	–	Considering the description of "Rat LD50 value=>4000mg/kg (EHC 78 (1988))", and that 1 rat among 10 rats died from the 17000mg/kg medication (ACGIH (7th, 2001) and DFGOT (vol.18, 2002)), the value was regarded out of category.
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)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	Category 2 because of "SPECIES: Rat; ENDPOINT: LC50(4hr.); VALUE: 0.4mg/L"(HSDB, 2006)
2	Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	From description that dermatitis is caused to part humans (ACGIH (7th, 2001), DFGOT (vol.18, 2002)), it was judged that there was skin irritation and, it was set as Category 2.
3	Serious eye damage / eye irritation	Category 2B	–	Warning	Causes eye irritation	Based on the description that in the test applied to the eye of the rabbit, mild irritation was acknowledged (HSDB (2006)), it was set as Category 2B.
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not	–	–	–	Respiratory organ: No data. Skin : It is judged as negative based on the description in HSDB (2006) that positive rates were 5% in the skin sensitivity test which used the guinea pigs, however, there was description that sensitization of the skin may be expressed as influence to the human (though no case reports were made) in HSDB (2006), ICSC (J), (1997), HSFS (1999), and SITTIG (4th, 2002), therefore we presupposed that we could not classify it because of the insufficiency of the data .
5	Germ cell mutagenicity	Classification not possible	–	–	–	Classification not possible due to lack of data
6	Carcinogenicity	Not classified	–	–	–	Since it is classified into a group 3 (7 IARC Suppl. 1987) in IARC and A4 (ACGIH 7th, 2001) in ACGIH, it was considered as the outside of Category.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the undorn child	It was classified into Category 2 based on the description that it is observed malformation of offspring at dose causing general toxicity to maternal animal in pregnant rat oral administration test (EHC 78 (1988) and the DFGOT (vol.18, 2002)).

8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation, narcotic effects)	Exclamation mark	Warning	May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation, narcotic effects)	From description in ACGIH (7th, 2001) and DFGOT (vol.18, 2002) that respiratory irritant is seen in humans, and description in HSDB (2006) that central nervous system depressions was seen in the single oral administrations to rats, it was thought that there were respiratory irritant and an anesthesia action. So it was set as Category 3 (respiratory irritant, anesthesia action).
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (thyroid gland, nervous system)	Health hazard	Warning	May cause damage to organs (thyroid gland, nervous system) through prolonged or repeated exposure	Based on the description that the effects on the nervous systems were observed with the dosage a little exceeded the Category 2 guidance value range in the two-years oral study using the rat, and with the dosage in the Category 2 guidance value range in the oral study for one year using the dog (EHC 78 (1988)), and the description that in the 80-weeks feeding oral administration tests using the rat, the effects on the thyroid and nervous systems were observed with the dosage in the Category 2 guidance value range (DFGOT (vol.18, 2002)), it was classified into Category 2 (thyroid, 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 48-hour LC50=0.09mg/L of Crustacea (Daphnia magna), and others (EHC78, 1988).
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 was Category 1, supposed not rapidly degrading (BIOWIN), though supposed less bioaccumulative (log Kow=-1.6(PHYSPROP Database, 2005)).