

GHS Classification

ID593

Ethane, bromo-

CAS 74-96-4

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	-	-	-	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	Category 2	Flame	Danger	Highly flammable liquid and vapour	Category 2 because of its flash point: <23degC and initial Boiling point: >35degC
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	Not classified	-	-	-	There is data which says the ignition points is 511degC and it is thought that it does not ignite in room temperatures.
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 applicable	-	-	-	The chemical structure of the substance does not contain metals or metalloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
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	Classification not possible	-	-	-	There is no examination data of metal corrosiveness and it cannot be classified. There is information that it reacts as promptly as with aluminum powders (IARC 52 (1991)), and there is fear of metal corrosion.

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	Category 4 based on SPECIES: Rat; ENDPOINT: LD50:1350mg/kg; REFERENCE SOURCE: CICADS 42 (2002)
1 Acute toxicity (dermal)	Classification not possible	-	-	-	There is no quantitative experimental data and it cannot be classified. In addition, there is a report that this substance contact to the rabbit skin for 6 hours and toxic effects was not seen (CICADS 42 (2002)). But ACGIH attaches Notation of Skin. so the bad influence by skin exposure in long-term/repetition is considered.
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Liquid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Category 5	-	Warning	May be harmful if inhaled	There is rat inhalation data that is converted to 8273ppm for 4 hours. Other two data are close to 13500ppm, which is a little more than 2.5 times the maximum of Category 4: 5000ppm (CICADS 42 (2002), IARC 52 (1991)), it was classified as Category 5.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	Classification not possible due to lack of data
2 Skin corrosion / irritation	Category 3	-	Warning	Causes mild skin irritation	There is a test result of irritant and non-irritant on rabbits (CICADS 42 (2002)). And it was classified as Category 3 based on the statement of "skin irritant" on humans (Patty (5th.2001)).
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	Although the quantitative experiment report was not obtained, it was set as "Category 2A-2B" by the statement of eye irritant about humans (ICSC (2001), CICADS 42 (2002), ACGIH (2001), Patty (5th.2001)).
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)-	About respiratory and skin sensitization: It cannot be classified because examination data and epidemiology information cannot be obtained.
5 Germ cell mutagenicity	Classification not possible	-	-	-	The only in vivo test results which have been found were from experiments with drosophila (CICADS 42 (2002)). In in vitro tests, there is one strong positive result from the Ames test (0.185 revertants/nmol (review of original text by Dr. Sofuni)) but the chromosome aberration test is negative (IARC 52 (1991)). So it cannot be considered that there are several positive results. It was decided that the substance could not be classified according to the experts comments.

6	Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	A carcinogenic examination using rats and mice was performed by NTP (TR-363 (1989)), ACGIH is estimating it as A3 based on this result. EU has classified into Car.Cat.3. It was set as "2" from these. Since IARC does not have several studies reports, it is concluded that it classified into 3.
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Since, testicular atrophy in the male rat is reported (NTP-TR-363 (1989)) and this is considered to be the influence on the reproduction potential of male (CICADS 42 (2002)), it was classified into "Category 2". There is an epidemiologic report of adverse effect to the female workers in pregnancy (ACGIH (2001)). However, since it was a mixed exposure with other solvents, it removed from the evidence of evaluation
8	Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system, respiratory); Category 3 (narcotic effects)	Health hazard	Danger	Cause damage to organs (nervous system, respiratory); May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects)	The influence from anesthetic on the peripheral and central nerves is reported in a human case (ACGIH (2001)). Moreover, since the respiratory-organs stimulus and the lung stimulus were also described (Patty (5th.2001)). So it was set as "Category 1 (nerve system, the respiratory system) and Category 3 (anesthetic)". Anesthesia is identified in the animal inhalation experiments, too.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (central nervous system)	Health hazard	Warning	May cause damage to organs (central nervous system) through prolonged or repeated exposure	Since HSDB (2005) has the description which suggests a chronic effects on the central nervous systems in humans, and an ACGIH-TVL advice value has the statement of "CNS impair", it was classified to as Category 2 (central nervous systems). Although "hepatic dysfunction" was mentioned in the TLV advice value, it was withheld to use for classification since the inhalation exposure test for rats, which is used as an evidence, was carried out overdose the guidance value of 2, 583 ppm * 4 hours /a day.
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.