

## GHS Classification

**ID588**

**diborane(6)**

**CAS 19287-45-7**

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	-	-	-	Gas (GHS definition)
2 Flammable gases	Category 1	-	Danger	Extremely flammable gas	Category 1 because "the flammable range is 0.8-88 %" (ICSC, 1990; Hommel, 1991) and it is ignitable when in a mixture of 13% or less by volume in air. UNRTDG No.1911, Class: 2.3(2.1)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Classification not possible	-	-	-	No data available
5 Gases under pressure	High pressure liquefied gas	Gas cylinder	Warning	Contains gas under pressure; may explode if heated	Compressed gas because of "the steam pressure: 3999kPa at 17degC" (HSDB, 2006) and ">280kPa at 20degC" (GHS definition). High pressure liquefied gas because of the critical temp: 16.7degC"(HSDB, 2006; ICSC(J), 1990) which is between -50degC and 65degC.
6 Flammable liquids	Not applicable	-	-	-	Gas (GHS definition)
7 Flammable solids	Not applicable	-	-	-	Gas (GHS definition)
8 Self-reactive substances and mixtures	Not applicable	-	-	-	Gas (GHS definition)
9 Pyrophoric liquids	Not applicable	-	-	-	Gas (GHS definition)
10 Pyrophoric solids	Not applicable	-	-	-	Gas (GHS definition)
11 Self-heating substances and mixtures	Not applicable	-	-	-	Gas (GHS definition)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	-	-	-	Gas (GHS definition)
13 Oxidizing liquids	Not applicable	-	-	-	Gas (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Gas (GHS definition)
15 Organic peroxides	Not applicable	-	-	-	Gas (GHS definition)
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to gas substances are not available

**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)	Category 1	Skin and crossbones	Danger	Fatal if inhaled	It was considered as Category 1 based on the lower rat inhalation LC50 value (4hrs) = 40ppm (from the two-point data of 40ppm (ACGIH (2001)) and 50ppm (PATTY (5th, 2001))).
1 Acute toxicity (inhalation: dust, mist)	Not applicable	-	-	-	Gas (GHS definition)
1 Acute toxicity (inhalation: dust, mist)	Not applicable	-	-	-	Gas (GHS definition)
2 Skin corrosion / irritation	Category 1A-1C	Corrosion	Danger	Causes severe skin burns and eye damage	Based on the descriptions that it has skin stimulativeness on humans (HSDB (2006)) and skin corrosiveness especially (ICSC (1990)), it was classified as Category 1A-1C. Moreover, there is also a description of critical frostbite (ICSC (1990)).
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	There is a statement of the stimulus to the eye in humans (HSDB (2006), HSFS (1999)), especially the eye corrosive (ICSC (1990)) and serious burn (ICSC (1990)). A it was set as Category 1.
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	-	-	-	Insufficient data available
6 Carcinogenicity	Classification not possible	-	-	-	No data available

7	Toxic to reproduction	Classification not possible	-	-	-	Insufficient data available
8	Specific target organs/systemic toxicity following single exposure	Category 1 (respiratory)	Health hazard	Danger	Cause damage to organs (respiratory)	In the effect to human, due to the descriptions that the irritation to respiratory organs, lung oedema, pneumonia, and the effect to bronchus are observed (ICSC and (1990), HSDB (2006) and PATTY (5th, 2001)), and that the inflammation of lung and lung oedema are described in the range of equivalent guidance dose of Category 1 in the study using mouse (DFGOT Vol.4 (2000)). So it was classified into Category 1 (respiratory system).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (respiratory organs, nervous system)	Health hazard	Danger	Causes damage to organs (respiratory organs, nervous system) through prolonged or repeated exposure	It was classified to as Category 1 (the respiratory system, nervous system) based on the indication of the pulmonary edema by respiratory irritations with the given dose of guidance value within the limits of Category 1 in the test using a guinea pigs (ACGIH (2001)), and the indication of poisoning of a nervous system in human impact (ACGIH (2001)). In addition, the headache, giddiness, pneumonia, pulmonary edema, and irritation in lungs are indicated as the human impact (HSDB (2006)).
10	Aspiration hazard	Not applicable	-	-	-	Gas (GHS definition)

### 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.