

## GHS Classification

**ID581**

**Borane, trifluoro-**

**CAS 7637-07-2**

Date Classified: May 24, 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	-	-	-	Gas (GHS definition)
2 Flammable gases	Not classified	-	-	-	Non-combustible (ICSC, 1993; Hommel, 1991).
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not classified	-	-	-	UNRTDG Class: 2.3. Subsidiary risks Class: 8
5 Gases under pressure	Compressed gas	Gas cylinder	Warning	Contains gas under pressure; may explode if heated	Compressed gas because of "the critical temp: -12.25degC to -12.25degC" (Hommel, 1991; HSDB, 2005), "the critical pressure: 4.98MPa" (HSDB, 2005), and the state in a usual circulation.
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	-	-	-	Although it is UNRTDG class 2.3 subsidiary risks 8, these 8 is corrosive in exposure to human bodies such as inhalation. Since test methods is not established (gas), corrosion behavior cannot be classified.

**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 2	Skin and crossbones	Danger	Falaf if inhaled	It was considered as Category 2 based on rat LC50 = 436ppm (ACGIH (2001)).
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	It is reported to have corrosiveness on human skin and caused severe burns (ICSC (J), (1993), HSDB (2005)), therefore, it was classified as Category 1A-1C.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	It was set as Category 1 based on the statement that caustic was seen in the human skin, and human eye caustic was indicated and there was severe irritation (ICSC (J), (1993), HSDB (2005)).
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)-	Respiratory sensitization: No data Skin sensitization: No data
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 2 (respiratory, cardiovascular system); Category 3 (narcotic effects)	Health hazard; Exclamation mark	Warning	May cause damage to organs (respiratory, cardiovascular system); May cause respiratory irritation or may cause drowsiness and dizziness (narcotic effects)	Based on the descriptions that respiratory irritant, corrosion of the respiratory tract, and the obstacle of pulmonaries (the congestion of pulmonaries, pulmonary edemas, pneumonia) in humans (ICSC (J) (1993), HSDB (2005), RTECS (2005)), it was classified into Category 2 (respiratory systems). It was classified into Category 2 (cardiovascular system) based on that the cardiovascular systems disorders (a cardiomyopathy, a circulatory shock) are described in human (HSDB (2005)). Based on the destription that the effect to nervous system in human (hyporeflexia, drowsiness, syncope, blood-pressure decreased, hyperpnea and respiration depressed) (ICSC (J) (1993), HSDB (2005)), it was classified into Category 3 (anesthetic action).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (kidneys, respiratory organs); Category 2 (bone, tooth)	Health hazard	Danger; Warning	Causes damage to organs (kidneys, respiratory organs) through prolonged or repeated exposure; May cause damage to organs (bone, tooth) through prolonged or repeated	Nephrotoxicity, pneumonia, and stimulative of respiratory organs in a rat with the amount of administration of Category 1 guidance value range (50 ppm / 6h/(day)) are indicated (ACGIH (2001)). Nephrotoxicity, nasal mucosas/gums bleeding, decreased lung function, osteosclerosis, bone fragility, enamel dissolution and fluoride deposit are indicated in humans (ICSC (J), (1993), IUCLID (2000), HSDB (2005)). It was classified in Category 1 (kidney, respiratory system) and Category 2 (bones,tooth) based on these statements.
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)	Category 3	-	-	Harmful to aquatic life	It was classified into Category 3 from 48-hour EC50=21.3mg/L of Crustacea (Daphnia magna) (IUCLID, 2000).
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 behavior in water and bioaccumulative potential are unknown.