

## GHS Classification

**ID872**

**Sulfur dioxide**

**CAS 7446-09-5**

Date Classified: Jul. 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 (Merck, 2005; etc.)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not classified	-	-	-	Not classified in UNRTDG Subsidiary risks Class: 5.1
5 Gases under pressure	Liquefied gas	Gas cylinder	Warning	Contains gas under pressure; may explode if heated	Critical temp: >-50degC (Partially liquid at temperatures above -50degC)
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 there is information that it corrodes aluminum (HSDB (2005)), test methods suitable for gaseous substances are not established.

## Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Not applicable	-	-	-	Gas (GHS definition)
1 Acute toxicity (dermal)	Not applicable	-	-	-	Gas (GHS definition)
1 Acute toxicity (inhalation: gas)	Category 3	Skull and crossbones	Danger	Toxic if inhaled	LC50 value of the study was judged to 593 - 1319ppm, and it was considered as Category 3. This is from description that death is not observed at 593ppm, three of eight examples died at 965ppm, five of eight examples died at 1168ppm, and the all eight examples died at 1319ppm in the rat 4-hour inhalation exposure test (ATSDR (1998)).
1 Acute toxicity (inhalation: dust, mist)	Not applicable	-	-	-	Gas (GHS definition)
2 Skin corrosion / irritation	Classification not possible	-	-	-	No data available
3 Serious eye damage / eye irritation	Category 2A	Exclamation mark	Warning	Causes serious eye irritation	There is the description that in high concentrations evidence of exposure in the humans, reversible conjunctivitis and burn of corneal surface were acknowledged (ATSDR (1998)). As judging that there were eye irritations, it was set as Category 2A.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	Respiratory organ: Since data was insufficient, we could not classify it. Skin: Since data was insufficient, we could not classify it.
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Not classified	-	-	-	Since it was classified into a group 3 (IARC 54, 1992) in IARC and A4 (ACGIH 7th, 2001) in ACGIH, it was considered as the outside of Category.
7 Toxic to reproduction	Classification not possible	-	-	-	There is a description that specific reproductive toxicity was not observed in inhalation exposure test using pregnant mice and rabbits (IARC 54 (1992) and ATSDR (1998)). However, general toxicity of parent animals is not observed, either. Therefore, the data was not enough to be classified as out of Category, it is unclassifiable due to insufficient data.

8	Specific target organs/systemic toxicity following single exposure	Category 1 (respiratory organs)	Health hazard	Danger	Cause damage to organs (respiratory organs)	From description in EHC 8 (1979), ACGIH (7th, 2001), IARC 54 (1992) and ATSDR (1998) that in the inhalation exposure test using guinea pigs, dogs, rabbits, and rats, airway mucosa irritation, increased airway resistances and respiratory ciliary loss are seen by the concentration of the guidance value range of Category 1, and that decreases respiratory function, such as an increase in airway resistance, was seen also in the inhalation exposure test in humans. And description in IARC 54 (1992) that pulmonary edemas was seen in evidence of concentrated accidental exposure, it was set as Category 1 (respiratory tracts).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (respiratory organs)	Health hazard	Danger	Causes damage to organs (respiratory organs) through prolonged or repeated exposure	Based on the description that in the inhalation exposure test using the rat and guinea pig, pneumonia and bronchitis were observed with the concentration in the Category 1 guidance value range (EHC 8 (1979) and ATSDR (1998)), it was classified into Category 1 (respiratory systems).
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	-	-	-	Insufficient data available.
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	Classification not possible due to lack of data