

GHS Classification

ID290

Dihydrogen selenide

CAS 7783-07-5

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	—	—	—	Classified as "gas" according to GHS definition
2 Flammable gases	Category 1	Flame	Danger	Extremely flammable gas	Insufficient data is available, though classified as "flammable gas" by ICSC(2004). Classified into Division 2.1 (UN Recommendations on the Transport of Dangerous Goods (UN#2202))
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not classified	—	—	—	Classified into Division 2.1(UN#2202) (UN Recommendations on the Transport of Dangerous Goods)
5 Gases under pressure	Liquefied gas	gas cylinder	Warning	Contains gas under pressure; may explode if heated	The boiling point is -41 degC (ICSC 2004), and the critical temperature is 137degC (Merck (13th, 2001)) - i.e., liquefied gas. Classified into Divisions 2.1 and 2.3 (UN#2202) (UN Recommendations on the Transport of Dangerous Goods)
6 Flammable liquids	Not applicable	—	—	—	Classified as "gas" according to GHS definition
7 Flammable solids	Not applicable	—	—	—	Classified as "gas" according to GHS definition
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Classified as "gas" according to GHS definition
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "gas" according to GHS definition
10 Pyrophoric solids	Not applicable	—	—	—	Classified as "gas" according to GHS definition
11 Self-heating substances and mixtures	Not applicable	—	—	—	Classified as "gas" according to GHS definition
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	—	—	—	Classified as "gas" according to GHS definition
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "gas" according to GHS definition
14 Oxidizing solids	Not applicable	—	—	—	Classified as "gas" according to GHS definition
15 Organic peroxides	Not applicable	—	—	—	Classified as "gas" according to GHS definition
16 Corrosive to metals	Classification not possible	—	—	—	Test methods applicable to gaseous 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)	Classification not possible	—	—	—	No data available
1 Acute toxicity (inhalation: dust, mist)	Not applicable	—	—	—	Due to the fact that the substance is "gas" according to the GHS definition and inhalation of its vapour is not expected.
1 Acute toxicity (inhalation: dust, mist)	Not applicable	—	—	—	Due to the fact that the substance is "gas" according to the GHS definition and inhalation of its dust/mist is not expected.
2 Skin corrosion / irritation	Classification not possible	—	—	—	Insufficient data available
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	Based on a report of accidental exposure of a worker handling selenium hydride (EHC 58 (1986)): "Accidental eye spillage of selenium hydride caused burning sensation and lacrimation." The substance should be placed in Category 2A from the viewpoint of safety, if further subclassification is needed.
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 available Skin sensitization: No data available
5 Germ cell mutagenicity	Classification not possible	—	—	—	No data available
6 Carcinogenicity	Not classified	—	—	—	Due to the fact that the substance is classified as Category D by EPA (1993) and Group 3 by IARC (1987).
7 Toxic to reproduction	Classification not possible	—	—	—	No data available
8 Specific target organs/systemic toxicity following single exposure	Category 1 (respiratory organs, heart, blood system, liver)	Health hazard	Danger	Causes damage to organs (respiratory organs, heart, blood system, liver)	Based on the human evidence including "changes in pulmonary function persisted for 3 years" (PATTY (4th, 2000)), "pulmonary edema, changes in myocardium found in ECG records and porphyrinuria" (EHC 58 (1986)), and the evidence from animal studies including "liver damage" (ACGIH (7th, 2001)). The effects on experimental animals were observed at dosing levels within the guidance value ranges for Category 1 (liver).
9 Specific target organs/systemic toxicity following repeated exposure	Category 1 (respiratory organs) Category 2 (nervous system)	Health hazard	Danger Warning	Causes damage to organs through prolonged or repeated exposure (respiratory organs) May cause damage to organs through prolonged or repeated exposure (nervous)	Based on the human evidence including "pulmonary edema" (ACGIH (7th, 2001)), "lethargy, generalized tremor" (HSDB (1998)).

10	Aspiration hazard	Not applicable	-	-	-	Due to the fact that the substance is a gas at ordinary temperatures.
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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