GHS Classification

ID568 Thionyl dichloride

CAS 7719-09-7 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	–	–	–	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	Not classified	–	–	–	Non-combustible (ICSC(J), 2002; Hommel, 1991).
7	Flammable solids	Not applicable	–	–	–	Liquid (GHS definition)
8	Self-reactive substances and mixtures	Not classified	–	–	–	Not classified based on UNRTDG Class: 8, though containing unsaturated S=O bonds as chemical groups associated with self-reactive properties present
9	Pyrophoric liquids	Not classified	–	–	–	Non-combustible (ICSC (J), 2002; Hommel, 1991)
10	Pyrophoric solids	Not applicable	–	–	–	Liquid (GHS definition)
11	Self-heating substances and mixtures	Not classified	–	–	–	Non-combustible (ICSC(J), 2002; Hommel, 1991)
12	Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	–	–	–	Metal or half-metal (B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At) is not included. It is known that this product decomposes very violently when contacted by water, and generates sulfur dioxide, sulfur dichloride, chlorines and chloride (all being nonflammable gases) with accompanied by fever (Hommel (1991)).
13	Oxidizing liquids	Not classified	–	–	–	Not classified because of UNRTDG Class: 8 though inorganic compounds containing oxygen and halogen.
14	Oxidizing solids	Not applicable	–	–	–	Liquid (GHS definition)
15	Organic peroxides	Not applicable	–	–	–	Inorganic substance
16	Corrosive to metals	Classification not possible	–	–	–	Classification not possible due to lack of data. UNRTDG Class: 8.

Health Hazards

Hazard class		Classification	symbol	signal word	hazard statement	Rational for the classification
1	Acute toxicity (oral)	Category 3	Skull and crossbones	Danger	Toxic if swallowed	Category 3 based on SPECIES: Rat (female and male); ENDPOINT: LD50; VALUE (lower value): 270mg/kg; REFERENCE SOURCE: IUCLID (2000)
1	Acute toxicity (dermal)	Classification not possible	–	–	–	No data available
1	Acute toxicity (inhalation: gas)	Not applicable	–	–	–	Liquid (GHS definition)
1	Acute toxicity (inhalation: vapour)	Category 2	Skull and crossbones	Danger	Fatal if inhaled	Since the saturated vapor pressure concentration of this product is 12300ppm, it is thought that all inhalation tests were done with vapor. It was classified as Category 2 based on rat LC 50 with 1 hour exposure test = 500ppm (equivalent of LC50 = 249ppm in 4-hour exposure) (ACGIH (7th, 2001)).
1	Acute toxicity (inhalation: dust, mist)	Classification not possible	–	–	–	No data available
2	Skin corrosion / irritation	Category 1A-1C	Corrosion	Danger	Causes severe skin burns and eye damage	Corrosivity and severe irritation on animals are described (IUCLID (2000)). It was classified as Category 1A-1C based on the fact that severe skin irritations is indicated also on humans (ACGIH (2001), HSDB (2005)) and that it is classified as EU-R35.
3	Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	This product is a skin corrosive substance. It was set as Category 1 based on what is indicated that caustics and severe irritation are indicated by the animal (IUCLID (2000)), and there is severe irritation also in humans (HSDB (2005), PATTY (5th, 2001)).
4	Respiratory/skin sensitization	Respiratory sensitization: Classification not possible; Skin sensitization: Classification not	(Respiratory sensitization)–; (Skin sensitization)–	(Respiratory sensitization)–; (Skin sensitization)–	(Respiratory sensitization)–; (Skin sensitization)–	No data available
5	Germ cell mutagenicity	Classification not possible	–	–	–	It was decided that the substance could not be classified by the technical guidelines. Because there are no results from in vivo mutagenicity tests, and only the data from the in vitro mutagenicity test (the bacterial reverse mutation test only) (IUCLID (2000)) are reported.
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 1 (respiratory)	Health hazard	Danger	Cause damage to organs (respiratory)	Based on the description that difficulty breathings and lung edemas are observed in humans (ACGIH (7th, 2001)), and that the strong respiratory tract irritation is reported (ACGIH (7th, 2001), HSDB (2005)), it was classified into Category 1 (respiratory system)
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	–	–	–	No data available
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	–	–	–	Insufficient data available.
11	Hazardous to the aquatic environment (chronic)	Classification not possible	–	–	–	Classification not possible due to lack of data