GHS Classification

ID595 Oxalic acid

CAS 144-62-7 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	–	–	–	There are no chemical groups associated with explosive properties present in the molecules. (A violent reaction of the substance with strong oxidizing agents causes a danger of an explosion or a fire. A reaction of the substance with a certain kind of silver compounds produces explosive Silver Oxalate. (ICSC(J), 996))
2	Flammable gases	Not applicable	–	–	–	Solid (GHS definition)
3	Flammable aerosols	Not applicable	–	–	–	Not aerosol products
4	Oxidizing gases	Not applicable	–	–	–	Solid (GHS definition)
5	Gases under pressure	Not applicable	–	–	–	Solid (GHS definition)
6	Flammable liquids	Not applicable	–	–	–	Solid (GHS definition)
7	Flammable solids	Classification not possible	–	–	–	Classification not possible due to lack of data, though "Flammble" (ICSC(J), 1996)
8	Self-reactive substances and mixtures	Classification not possible	–	–	–	No data available
9	Pyrophoric liquids	Not applicable	–	–	–	Solid (GHS definition)
10	Pyrophoric solids	Classification not possible	–	–	–	No data available
11	Self-heating substances and mixtures	Classification not possible	–	–	–	No data available
12	Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	–	–	–	The chemical structure of the substance does not contain metals or metaloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
13	Oxidizing liquids	Not applicable	–	–	–	Solid (GHS definition)
14	Oxidizing solids	Not applicable	–	–	–	Organic compounds containing oxygen (but not chlorine and fluorine) and the oxygen is chemically bonded only to carbon and hydrogen (but not to other elements).
15	Organic peroxides	Not applicable	–	–	–	Organic compounds containing no –0–0– structure
16	Corrosive to metals	Classification not possible	–	–	–	Since it is a solid with the melting points of 189.5 degC (HSDB (2005)), test methods suitable for this substance have not been established.

Health Hazards

	Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1	Acute toxicity (oral)	Category 4	Exclamation mark	Warning	Harmful if swallowed	Although three rat LD50 values are reported (475mg/kg, 375 mg/kg, 7.5 g/kg: PATTY (5th, 2001)), two higher toxicicity values were adopted and they were set as Category 4.
1	Acute toxicity (dermal)	Not classified	–	–	–	Based on the report that 20000 mg/kg of the rabbit was considered as not lethal (PATTY (5th, 2001)), it was set as the outside of Category.
1	Acute toxicity (inhalation: gas)	Not applicable	–	–	–	Solid (GHS definition)
1	Acute toxicity (inhalation: vapour)	Classification not possible	–	–	–	No data available
1	Acute toxicity (inhalation: dust, mist)	Classification not possible	–	–	–	No data available
2	Skin corrosion / irritation	Category 1	Corrosion	Danger	Causes severe skin burns and eye damage	It was classified as Category 1 based on the statements that burn was produced on a local skin regions with airborne dust on humans (ACGIH (2001)) that corrosivity is indicated to the skin (ICSC (J), (1996)).
3	Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	The eye was also set to Category 1 based on skin corrosiveness Category 1. This is supported by a statement (ACGIH (2001)) that a quite critical burn is produced in an ophthalmic in humans, and statement (ICSC (J), (1996)) that caustic is indicated to an ophthalmic.
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	–	–	–	It was decided that the substance could not be classified because there are no data from in vivo tests, and there are no positive results from in vitro mutagenicity tests either (PATTY (2001), NTP DB (2006)).

6	Carcinogenicity	Classification not possible	–	–	–	No data available
7	Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the undorn child	Since under the conditions the effect on parent animals is unknown, the reduction of the number of littermates was reported (PATTY (5th, 2001)), it is classified into the Category 2.
8	Specific target organs/systemic toxicity following single exposure	Category 2 (respiratory organs)	Health hazard	Warning	May cause damage to organs (respiratory organs)	Since respiratory tract corrosive and pulmonary oedemas by inhalation were pointed out in humans (ICSC (J) (1996)), it was set as Category 2 (respiratory systems).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (kidneys)	Health hazard	Danger	Causes damage to organs (kidneys) through prolonged or repeated exposure	Since the increase of urinary stones in humans was reported (ACGIH (2001), PATTY (5th, 2001)), it was classified to as Category 1 (kidney).
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)	Category 3	–	–	Harmful to aquatic life	It was classified into Category 3 from 48-hour EC50=15mg/L of Crustacea (Daphnia magna) (MOE eco-toxicity tests of chemicals, 1998).
11	Hazardous to the aquatic environment (chronic)	Not classified	–	–	–	Since rapidly degrading (the decomposition of TOC: 100% (Existing Chemicals Safety Check Data)), and supposed less bio-accumulative (log Kow=-2.22 (PHYSPROP Database, 2005)).