

GHS Classification

ID831

Iron trichloride

CAS 7705-08-0

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	-	-	-	There are no chemical groups associated with explosive properties present in the molecules.
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	Not classified	-	-	-	Non-combustible (ICSC (2004))
8 Self-reactive substances and mixtures	Not applicable	-	-	-	There are no chemical groups associated with explosive or self-reactive properties present in the molecule.
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Non-combustible (ICSC, 2004)
11 Self-heating substances and mixtures	Not classified	-	-	-	Non-combustible (ICSC, 2004)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Although contact with waters hydrolyzes, product is ferric hydroxides of nonflammables and hydrochloric acids. So it is not a combustible.
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not classified	-	-	-	Not classified in UNTDG Class: 5.1
15 Organic peroxides	Not applicable	-	-	-	Inorganic compound
16 Corrosive to metals	Classification not possible	-	-	-	The test suitable for a solids material is not established. (There is a statement that it exerts corrosive effects on a great portion of metal (Hommel (1991)).

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	It was classified into Category 4 from the statistics calculated value of rat LD50 value (316 mg/kg).
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
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 1C	Corrosion	Danger	Causes severe skin burns and eye damage	It was classified into Category1C from their being those with written that solid caused a burned to humans (HSDB (2005)), and UN classification classes 8 III. .
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	There is the statement as causing a burned in humans, and skin corrosivity/irritation is Category1C, it was set as Category 1.
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: There is no data and we could not classify it. Skin sensitization: The data is insufficient, because in the test using two guinea pigs, first one gave a positive result and the second one gave negative. Although there are two reports about humans, we could not classify them, since these were singular report in the workplaces handling much other metals and we could not determine that it was affected by the ferric chloride.
5 Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	Since there is a statement that as for in vivo examinations, it was negative in chromosome aberration test on mouse testis, positive in mouse micronucleus examination, and positive in chromosomal aberration test of mouse bone marrow cell (IUCRID (2000)), and there is no positive result reported for productive cell in vivo genotoxicity studies. So it was classified as Category 2. The result of in vitro test (Ames test) was negative.
6 Carcinogenicity	Not classified	-	-	-	It was considered as the outside of Category based on the description that in the test of drinking water and baiting medication of a rat, it was all negative (HSDB (2005)) (IUCRID (2000)).

7	Toxic to reproduction	Classification not possible	-	-	-	It was not teratogenicity and fetotoxicity in mouse administration in drinking water,(IUCLID (2000)). Moreover, it affects sperm morphology taken from the epididymidis of rats in abdominal administration. There is a statement that sperm motility is reduced and reactive oxygen species competence of cauda epididymidis is reduced in mouse 14-days feeding administration test (HSDB (2005)). However, it cannot be classified due to insufficiency of data.
8	Specific target organs/systemic toxicity following single exposure	Category 2 (systemic toxicity); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Warning	May cause damage to organs (systemic toxicity); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	In humans, it was set into Category 3 (respiratory irritant) according to the statement that respiratory tracts are stimulated through dust and mists (ACGIH (2001)). There is a statement of the abnormalities of consciousness disorder, tachycardia, tachypnea, lasting nausea, acid hemie, and blood biochemistry by accidental ingestions (HSDB (2005)), and it was set into Category 2 (systemic toxicity) from it being priority 2.
9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Without reports on humans slight impact was seen with value of Category 2 out of the guidance only in animal experiments; due to insufficient data, it cannot be classified.
10	Aspiration hazard	Category 1	Health hazard	Danger	May be fatal if swallowed and enters airways	Category 1 because of "aspiration pneumonia" (HSDB, 2005)

Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Category 2	-	-	Toxic to aquatic life	It was classified into Category 2 from 48-hour EC50=9600microg/L of Crustacea (Daphnia magna) (AQUIRE, 2003).
11 Hazardous to the aquatic environment (chronic)	Category 2	Environment	-	Toxic to aquatic life with long lasting effects	Classified into Category 2, since acute toxicity was Category 2 and it is a metallic compound, behavior in water and bioaccumulative potential are unknown.