

GHS Classification

ID740

Titanium dioxide

CAS 13463-67-7

Date Classified: Aug. 18, 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	-	-	-	Not classified because of "Not combustible" (HSDB (2005))
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	-	-	-	Not classified because of "Non-combustible" (HSDB, 2005)
11 Self-heating substances and mixtures	Not classified	-	-	-	Not classified because of non-combustible (HSDB, 2005)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not classified	-	-	-	Stable oxidizing substance
15 Organic peroxides	Not applicable	-	-	-	Inorganic substance
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to solid substances are not available.

Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Not classified	-	-	-	SPECIES: Rat ENDPOINT: LD50 VALUE: > 10000 mg/kg REFERENCE SOURCE: IUCLID (2000)
1 Acute toxicity (dermal)	Not classified	-	-	-	It was set as the outside of Category from the description of rabbit approx.LD >10000mg/kg (IUCLID (2000)).
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)	Not classified	-	-	-	Not classified because of "SPECIES: Rat; LC>6.82mg/L/4h" (IUCLID, 2000)
2 Skin corrosion / irritation	Not classified	-	-	-	It was classified as out of Category from the statement of slightly irritating, and not irritating in rabbit examination (IUCLID (2000)).
3 Serious eye damage / eye irritation	Category 2B	-	Warning	Causes eye irritation	It was set as Category 2B from the statement with mild by rabbit test (IUCLID (2000)).
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization: Since there is no data, it cannot be classified. Skin sensitization: It was put outside of the Category because of the negative publication of a patch test.in humans(IUCLID (2000)).
5 Germ cell mutagenicity	Not classified	-	-	-	We classified it as Out Of Category based on the description that it gave negative for the mouse micronucleus assay, and negative for the mouse chromosomal aberration test (NTPDB (2005)).
6 Carcinogenicity	Not classified	-	-	-	It carried out the outside of Category from it being classified into a group 3 according to IARC, and being classified into A4 according to ACGIH.
7 Toxic to reproduction	Classification not possible	-	-	-	Classification not possible due to lack of data

8	Specific target organs/systemic toxicity following single exposure	Category 3 (respiratory tract irritation)	Exclamation mark	Warning	may cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	Hume was set as category 3 (respiratory irritation) from the statement which stimulates an respiratory tract (HSDB (2005)).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (inhalation: lung)	Health hazard	Danger	Causes damage to organs (inhalation: lung) through prolonged or repeated exposure	It was classified into Category 1 (lungs: inhalation) according to the statement that pneumoconiosis changes became clear by x-ray test, although not accompanied by change of the lung function of very few of the laborers with occupational exposure for 20 years or more (DFGOTvol.2 (1991)) .
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)	Not classified	-	-	-	Since it was suggested from 48-hour EC50>1000000microg/L of Crustacea (Daphnia magna) (AQUIRE, 2003), and others that relevant toxicity is not indicated in the water solubility (insoluble (HSDB, 2004)) of this substance, it carried out the outside of Category.
11 Hazardous to the aquatic environment (chronic)	Category 4	-	-	May cause long lasting harmful effects to aquatic life	Classified into Category 4, since it is a metallic compound, and behavior in water is unknown, though no acute toxicity is reported within the saturated aqueous solution.