

GHS Classification

ID1169

dibismuth dichromium nonaoxide

CAS 37235-82-8

Date Classified: Aug. 22, 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 it is considered as non-combustible substances structurally
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 it is considered as Non-combustible substances structurally
11 Self-heating substances and mixtures	Not classified	-	-	-	Not classified because it is considered as non-combustible substances structurally
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	Stable to water. (Uses are paints and are insoluble at water.)
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Classification not possible	-	-	-	No data available
15 Organic peroxides	Not applicable	-	-	-	Inorganic compound
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)	Classification not possible	-	-	-	No data available
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	Classification not possible	-	-	-	Data without. In addition, there is the description that "caustics or irritation" is shown as influence of chromate and its salts to the skin (IRIS (1998), DHP (13th, 2002), DFGOT vol.3 (1992)).
3 Serious eye damage / eye irritation	Classification not possible	-	-	-	No data available
4 Respiratory/skin sensitization	Respiratory sensitization: Category 1; Skin sensitization: Category 1	(Respiratory sensitization)Health hazard; (Skin sensitization)Exclamation mark	(Respiratory sensitization)Danger; (Skin sensitization)Warning	(Respiratory sensitization)May cause allergy or asthma symptoms or breathing difficulties if inhaled; (Skin sensitization)May cause allergic skin reaction	Respiratory sensitization : although there is no report of this material itself, chromium and chromium compound were classified into "the 2nd group (material considered that there is probably sensitizing to human)" in Japan Association of Industrial Health, and chromium was classified into the material with respiratory sensitization in Japanese Society of Occupational Allergy Special Committee, this product thought that it had respiratory sensitization and was set to Category 1. Skin sensitization : although there is no report of this material itself, hexavalent chromium compound was classified into "Sh (risk of skin sensitization)" in DFG , chromium and chromium compound were classified into "the 1st group (material which has sensitizing clearly to human)" in Japan Society for Occupational Health, this product thought that it had skin sensitization, and was set to Category 1.
5 Germ cell mutagenicity	Classification not possible	-	-	-	No data. In addition, although this product is the insoluble hexavalent chromium compounds, the mutagenicity knowledge in in vivo is indicated about many flood solubility hexavalent chromium compounds (NTP RoC(11th, 2005), IARC49(1990), EU-RAR (2005)). Refer to potassium dichromate (ID 262, Chemical Abstracts Service:7778-50-9).

6	Carcinogenicity	Category 1A	Health hazard	Danger	May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	As hexavalent chromium compounds, since it was classified K (Chromium hexavalent (VI) compounds) in NTP (2005), group 1 (Chromium(VI)) in IARC (1990), and A (Chromium(VI), Inhalation route) in EPA (1986), respectively. So it was classified into Category 1A.
7	Toxic to reproduction	Classification not possible	-	-	-	There is no data. In addition, also refer to potassium dichromate (ID 262, CAS: 7778-50-9) as reproductive toxicity of hexavalent chromium compounds.
8	Specific target organs/systemic toxicity following single exposure	Category 1 (kidneys, digestive system)	Health hazard	Danger	Cause damage to organs (kidneys, digestive system)	Although there is no this product data, Since there was a statement of vomiting, diarrhea, a spasm, a hemorrhagic nephritis, etc. when oral or percutaneous absorption is carried out as acute toxicities of the hexavalent chromium compound, (DFGOT vol.3 (1992), DHP (13th, 2002)), it was considered as Category 1 (the kidney, alimentary system).
9	Specific target organs/systemic toxicity following repeated exposure	Category 1 (kidneys, respiratory organs, nervous system)	Health hazard	Danger	Causes damage to organs (kidneys, respiratory organs, nervous system) through prolonged or repeated exposure	Although no data of this product is confirmed, there is a description of effects on a kidney, nasal septum perforation, ulcers, etc. as chronic toxicity of hexavalent chromium compounds (ACGIH (7th, 2001), IRIS (1998), DHP (13th, 2002)). Moreover, encephalopathy and nephropathy are mentioned as principals virulence of bismuth. Especially, because there were descriptions that neurotoxicity was occurred by insoluble, inorganic bismuth compounds (PATTY (5th, 2001)), it was classified into Category 1 (kidney, respiratory system, nervous system).
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	-	-	-	No data available
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	No data available.