

## GHS Classification

**ID286**

**CAS 21908-53-2**

### Physical Hazards

**Mercury monoxide**

Date Classified: Jun. 20, 2006 (Environmental Hazards: Mar. 31, 2006)

Reference Manual: GHS Classification Manual (Feb. 10, 2006)

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Explosives	Not applicable	—	—	—	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "solid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "solid" according to GHS definition
6 Flammable liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
7 Flammable solids	Not classified	—	—	—	Non-flammable (ICSC, 2001)
8 Self-reactive substances and mixtures	Not applicable	—	—	—	Containing no chemical groups with explosive or self-reactive properties
9 Pyrophoric liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
10 Pyrophoric solids	Not classified	—	—	—	Non-combustible (ICSC, 2001)
11 Self-heating substances and mixtures	Not classified	—	—	—	Non-combustible (ICSC, 2001)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	—	—	—	Stable to water (insoluble, ICSC (2001))
13 Oxidizing liquids	Not applicable	—	—	—	Classified as "solid" according to GHS definition
14 Oxidizing solids	Not classified	—	—	—	No data available, though being inorganic compounds containing oxygen. The substance is "Non-combustible" but may intensify fire, according to ICSC (2001). Classified into Division 6.1 (UN#1641) (UN Recommendations on the Transport of Dangerous Goods)
15 Organic peroxides	Not applicable	—	—	—	Not organic compounds
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	—	—	—	Due to the fact that the substance is "solid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	Based on the description in ICSC (J) (2000): "reddening, irritation of the eye/skin/respiratory tract." The substance is thus considered to possess a skin irritation potential of unknown degree and could be placed in Category 2 or 3. It is classified as Category 2 from the viewpoint of safety.
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	Based on the description in ICSC (J) (2000): "reddening, irritation of the eye/skin/respiratory tract." The substance is thus considered to possess an eye irritation potential of unknown degree. Although classified as Category 2A-2B, it should be placed in Category 2A from the viewpoint of safety.
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Category 1	(Respiratory sensitization) – (Skin sensitization) Exclamation mark	(Respiratory sensitization) – (Skin sensitization) Warning	(Respiratory sensitization) – (Skin sensitization) May cause allergic skin reaction	Respiratory sensitization: No data available Skin sensitization: Mercury is classified into "Skin Sensitizing Substance" by the ad hoc committee of the Japanese Society of Occupational Allergy, and "Skin Sensitizing Substance: Group 1" by the Japan Society for Occupational Health. These classifications, though not specifying mercury oxide, seem to include mercury compounds. Mercury oxide, which is a mercury compound, should thus cause skin sensitization. * There is a provision to the effect that "the category refers to the substance concerned and its compounds, but does not identify all substances causing respiratory/skin sensitization."
5 Germ cell mutagenicity	Classification not possible	—	—	—	No data available As for the mutagenicity/genotoxicity of inorganic mercury, refer to "ID285, Mercury Chloride (II), CAS: 7487-94-7."
6 Carcinogenicity	Not classified	—	—	—	Based on the fact that the substance is classified as Category A4 (as metal mercury and inorganic mercury compounds) by ACGIH (2001) and Group 3 (as metal mercury and inorganic mercury compounds) by IARC (1993).
7 Toxic to reproduction	Category 1B	Health hazard	Danger	May damage fertility or the unborn child	Based on the evidence of malformation in offspring at non-maternally toxic doses, described in EHC 118 (1991). As for the reproductive toxicity of inorganic mercury, refer to "ID285, Mercury Chloride (II), CAS: 7487-94-7."
8 Specific target organs/systemic toxicity following single exposure	Category 1 (nervous system), Category 3 (respiratory tract irritation)	Health hazard and Exclamation mark	Danger Warning	Causes damage to organs (nervous system) (Respiratory tract irritation) May cause respiratory irritation	Based on the human evidence including "hemiparesis, generalized muscle rigidity, muscle tremor, sign of acrodynia, coma" following dermal exposure (though the study was limited to infants) (CICAD 50 (2003)), and "irritation of the eye, skin and respiratory tract" (ICSC (J) (2001)). Note: According to CICAD 50 (2003), "renal failure, cardiovascular collapse and severe digestive organ damage are considered to be the causes of death following oral exposure to inorganic mercury. Most common findings among these are gastrointestinal tract lesion and renal failure. Exposure to inorganic mercury appears to induce nephrotic syndrome in humans."

9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (kidneys)	Health hazard	Warning	May cause damage to organs through prolonged or repeated exposure (kidneys)	Based on the description in ICSC (J): "The substance may adversely affect the kidney and cause kidney damage" (ICSC (J) (2001)). Note: According to CICAL 50 (2003), "renal failure, cardiovascular collapse and severe digestive organ damage are considered to be the causes of death following oral exposure to inorganic mercury. Most common findings among these are gastrointestinal tract lesion and renal failure. Exposure to inorganic mercury appears to induce nephrotic syndrome in humans."
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	—	—	—	Classification not possible due to lack of data
11 Hazardous to the aquatic environment (chronic)	Classification not possible	—	—	—	Classification not possible due to lack of data