

GHS Classification

ID1054

mercury dithiocyanate

CAS 592-85-8

Date Classified: Apr. 20, 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 | - | - | - | ERG (Guide151, 2004) corresponding to the UNRTDG No. (1646) has a statement that it is "nonflammable", and it was classified as out of Category. |
| 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 | - | - | - | ERG (Guide151, 2004) corresponding to the UNRTDG No.(1646) indicates "nonflammable", and it was defined as "out of Category". |
| 11 Self-heating substances and mixtures | Not classified | - | - | - | Since ERG (Guide151, 2004) corresponding to the U.N. number (1646) peculiar to a substance has a "nonflammable" statement, it carried out the outside of Category. |
| 12 Substances and mixtures, which in contact with water, emit flammable gases | Not classified | - | - | - | Stable to water (the water solubility is obtained) |
| 13 Oxidizing liquids | Not applicable | - | - | - | Solid (GHS definition) |
| 14 Oxidizing solids | Not applicable | - | - | - | Inorganic compounds containing no oxygen and halogen. |
| 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) | Category 2 | Skull and crossbones | Danger | Fatal if swallowed | SPECIES: Rat; ENDPOINT: LD50;VALUE:46mg/kg; REFERENCE SOURCE: RTECS (2004) |
| 1 Acute toxicity (dermal) | Category 3 | Skull and crossbones | Danger | Toxic in contact with skin | It is based on rat dermal LD50= 685mg/kg (RTECS, 2004). |
| 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 3 | - | Warning | Causes mild skin irritation | From description with the possibility which indicates skin irritation in humans (DFGOT, vol.15, 2001[as inorganic mercury compounds]; STTIG, 4th, 2002;HSFS, 1993), mild irritation was considered to be a certain thing, and it was set to Category 3. |
| 3 Serious eye damage / eye irritation | Category 2B | - | Warning | Causes eye irritation | Due to the description that it may irritate to the eye (STTIG, 4th, 2002;HSFS, 1993), it was classified into Category 2B. |
| 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: since metallic mercury and inorganic mercury compound (as Hg) were made into those with skin sensitization (MAK/BAT, 2005; DFGOT, vol.15, 2001), they were set to Category 1. |
| 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) | In ATSDR (1999), since it estimated that mercury and mercury compounds induced chromosomal abnormality to the animal somatic cell in an in vivo, they were set to Category 2. |

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|----|--|--|---------------|---------|--|---|
| 6 | Carcinogenicity | Not classified | - | - | - | As inorganic mercury compounds, it was out of the Category. Since it is classified into IARC Group 3 (IARC, 58, 1993) and ACGIH A4 (ACGIH-TLV, 2004). |
| 7 | Toxic to reproduction | Category 2 | Health hazard | Warning | Suspected of damaging fertility or the unborn child | Since the effect on generating (California EPA, Proposition 65 List of Chemicals, 2005) and reproductive (ACGIH-TLV, 2004) was indicated as mercury and mercury compounds or inorganic mercuries, it was considered as Category 2. |
| 8 | Specific target organs/systemic toxicity following single exposure | Category 1 (kidneys) | Health hazard | Danger | Cause damage to organs (kidneys) | The substance was classified as Category 1 (kidneys) because there is a report concerning humans in a Priority 1 document (DFGOT, vol.15, 2001) that the target organs of the inorganic mercury compound are kidneys. |
| 9 | Specific target organs/systemic toxicity following repeated exposure | Category 1 (central nervous system, kidneys) | Health hazard | Danger | Causes damage to organs (central nervous system, kidneys) through prolonged or repeated exposure | Since the effect on the central nervous systems and the kidney of humans was described as inorganic mercury compounds in Priority 1 document (ACGIH-TLV, 2004:EHC, 118, 1991), it was classified into Category 1 (a central nervous systems, the 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 1 | Environment | Warning | Very toxic to aquatic life | It was classified into Category 1 from 96-hour LC50=0.09mg/L of Crustacea (glass shrimp) (ECETOC TR91, 2003). |
| 11 Hazardous to the aquatic environment (chronic) | Category 1 | Environment | Warning | Very toxic to aquatic life with long lasting effects | Classified into Category 1, since acute toxicity was Category 1, and it is a metallic compound, behavior in water and bioaccumulative potential are unknown. |