

GHS Classification

ID304

Lead diiodide

CAS 10101-63-0

Date Classified: Jul. 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 | — | — | — | 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 | Classification not possible | — | — | — | Classification not possible due to lack of data, though classified as "flammable but nonflammable" according to HSDB (2006). |
| 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 | Classification not possible | — | — | — | No data available |
| 11 Self-heating substances and mixtures | Classification not possible | — | — | — | No data available |
| 12 Substances and mixtures, which in contact with water, emit flammable gases | Not classified | — | — | — | Stable to water (water solubility: 1g/1,350mL (cold water), Merck (13th, 2001)) |
| 13 Oxidizing liquids | Not applicable | — | — | — | Classified as "solid" according to GHS definition |
| 14 Oxidizing solids | Classification not possible | — | — | — | Classification not possible due to lack of data, though being inorganic compounds containing iodine |
| 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 | Classification not possible | — | — | — | No data available |
| 3 Serious eye damage / eye irritation | Classification not possible | — | — | — | No data available |
| 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: No data available Skin sensitization: No data available |
| 5 Germ cell mutagenicity | Classification not possible | — | — | — | No data available As for the health hazards, refer to "ID168, Lead, CAS: 7439-92-1," "ID48, Lead Oxide (II); Litharge, CAS: 1317-36-8," and "ID47, Lead Acetate (II), CAS: 301-04-2." |
| 6 Carcinogenicity | Category 2 | Health hazard | Warning | Suspected of causing cancer | Due to the fact that the substance is classified as Category R by NTP (2005), Group 2B by IARC (1987), Category A3 by ACGIH (2001) and Category 2B by Japan Society for Occupational Health. |
| 7 Toxic to reproduction | Category 1A | Health hazard | Danger | May damage fertility or the unborn child | Based on expert judgment, given the fact that lead has been known to possess developmental neurotoxic and reproductive toxic potentials in humans. As for the health hazards, refer to "ID168, Lead, CAS: 7439-92-1," "ID48, Lead Oxide (II); Litharge, CAS: 1317-36-8," and "ID47, Lead Acetate (II). |

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|----|--|--|---------------|--------|--|--|
| 8 | Specific target organs/systemic toxicity following single exposure | Category 1 (blood system, kidneys, nervous system) | Health hazard | Danger | Causes damage to organs (blood system, kidneys, nervous system) | Based on toxicity of inorganic lead compounds. Based on the human evidence: "The effects observed in acute and chronic studies are very similar for inorganic lead compounds. Inhalation or oral ingestion of inorganic lead has been reported to induce oral contraction and thirst, along with nausea, vomiting, upper abdominal discomfort, loss of appetite, abdominal pain and constipation suggesting gastrointestinal toxicity. The effects on hematopoietic function such as hemoglobin synthesis inhibition due to delta-aminolevulinic acid/heme synthetic enzyme inhibition and anemia caused by shortened survival of red blood cells are considered representative of toxic actions of inorganic lead. Kidney effects are evidenced by interstitial nephropathy and decreased urinary output along with proximal renal tubular damage showing Fanconi's syndrome represented by proteinuria, hematuria, urinary cast, glycosuria and aminoaciduria. Inorganic lead adversely affects the central and peripheral nervous systems, displaying in particular weakening of the muscle of the limbs, pain and spasm. There have been rare reports of adults exhibiting ataxia, headache, paresthesia, depression and coma indicative of toxic effects on the central nervous system when exposing to extremely high doses (details not shown). However, children are most sensitive to toxicity of lead, and neurodevelopmental toxicity manifested as restlessness, aggression, concentration difficulties and memory lapse has become serious problem in the |
| 9 | Specific target organs/systemic toxicity following repeated exposure | Category 1 (blood system, kidneys, nervous system) | Health hazard | Danger | Causes damage to organs through prolonged or repeated exposure (blood system, kidneys, nervous system) | Based on toxicity of inorganic lead compounds. Based on the human evidence: "The effects observed in acute and chronic studies are very similar for inorganic lead compounds. Inhalation or oral ingestion of inorganic lead has been reported to induce oral contraction and thirst, along with nausea, vomiting, upper abdominal discomfort, loss of appetite, abdominal pain and constipation suggesting gastrointestinal toxicity. The effects on hematopoietic function such as hemoglobin synthesis inhibition due to delta-aminolevulinic acid/heme synthetic enzyme inhibition and anemia caused by shortened survival of red blood cells are considered representative of toxic actions of inorganic lead. Kidney effects are evidenced by interstitial nephropathy and decreased urinary output along with proximal renal tubular damage showing Fanconi's syndrome represented by proteinuria, hematuria, urinary cast, glycosuria and aminoaciduria. Inorganic lead adversely affects the central and peripheral nervous systems, displaying in particular weakening of the muscle of the limbs, pain and spasm. There have been rare reports of adults exhibiting ataxia, headache, paresthesia, depression and coma indicative of toxic effects on the central nervous system when exposing to extremely high doses (details not shown). However, children are most sensitive to toxicity of lead, and neurodevelopmental toxicity manifested as restlessness, aggression, concentration difficulties and memory lapse has become serious problem in the |
| 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 |