1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Lead(II) chloride
Product Number: 203572
Brand: Aldrich
Supplier: Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO  63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052
Emergency Phone #: (314) 776-6555
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Carcinogen, Target Organ Effect, Toxic by inhalation., Harmful by ingestion., Teratogen, Reproductive hazard

Target Organs
Blood, Kidney, Nerves., Female reproductive system., Male reproductive system.

GHS Classification
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Oral (Category 4)
Reproductive toxicity (Category 1A)
Specific target organ toxicity - repeated exposure (Category 2)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)
H302 + H332 Harmful if swallowed or if inhaled
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P201 Obtain special instructions before use.
P273 Avoid release to the environment.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification
Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0

NFPA Rating
  Health hazard: 2
  Fire: 0
  Reactivity Hazard: 0

Potential Health Effects
  Inhalation Toxic if inhaled. May cause respiratory tract irritation.
  Skin Harmful if absorbed through skin. May cause skin irritation.
  Eyes May cause eye irritation.
  Ingestion Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula: Cl₂Pb
Molecular Weight: 278.11 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead dichloride</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7758-95-4</td>
</tr>
<tr>
<td>EC-No.</td>
<td>231-845-5</td>
</tr>
<tr>
<td>Index-No.</td>
<td>082-001-00-6</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self-contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Lead oxides

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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### 7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place. Keep in a dry place.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remarks</td>
<td>See 1910.1025</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead dichloride</td>
<td>7758-95-4</td>
<td>TWA</td>
<td>0.05 mg/m³</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>Central Nervous System impairment</td>
<td>Hematologic effects</td>
<td>Peripheral Nervous System impairment</td>
<td>Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Confirmed animal carcinogen with unknown relevance to humans varies</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>0.05 mg/m³</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
<td>See Appendix C</td>
<td></td>
</tr>
</tbody>
</table>

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection**
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- Form: Powder with lumps
- Colour: beige

**Safety data**
- pH: no data available
- Melting point/freezing point: Melting point/range: 501 °C (934 °F) - lit.
- Boiling point: 950 °C (1,742 °F) - lit.
- Flash point: not applicable
- Ignition temperature: no data available
- Autoignition temperature: no data available
- Lower explosion limit: no data available
- Upper explosion limit: no data available
- Vapour pressure: 1 hPa (1 mmHg) at 547 °C (1,017 °F)
- Density: 5.85 g/mL at 25 °C (77 °F)
- Water solubility: no data available
- Partition coefficient: n-octanol/water: no data available
- Relative vapour density: no data available
- Odour: no data available
- Odour Threshold: no data available
- Evaporation rate: no data available

10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
no data available

**Conditions to avoid**
no data available

**Materials to avoid**
Strong oxidizing agents, Strong acids

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Lead oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
- Oral LD50
  LD50 Oral - rat - > 1,947 mg/kg
- Inhalation LC50
- Dermal LD50
no data available
Other information on acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
IARC: 2A - Group 2A: Probably carcinogenic to humans (Lead dichloride)
NTP: Reasonably anticipated to be a human carcinogen (Lead dichloride)
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Known human reproductive toxicant

Teratogenicity
Possible risk of congenital malformation in the fetus.

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard
no data available

Potential health effects

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>Toxic if inhaled. May cause respiratory tract irritation.</th>
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<td>Ingestion</td>
<td>Harmful if swallowed.</td>
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<td>Skin</td>
<td>Harmful if absorbed through skin. May cause skin irritation.</td>
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<td>Eyes</td>
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Signs and Symptoms of Exposure
Lead salts have been reported to cross the placenta and to induce embryo- and feto- mortality. They also have teratogenic effect in some animal species. No teratogenic effects have been reported with exposure to organometallic lead compounds. Adverse effects of lead on human reproduction, embryonic and fetal development, and postnatal (e.g., mental) development have been reported. Excessive exposure can affect blood, nervous, and digestive systems. The synthesis of hemoglobin is inhibited and results in anemia. If left untreated, neuromuscular dysfunction, possible paralysis, and encephalopathy can result. Additional symptoms of overexposure include: joint and muscle pain, weakness of the extensor muscles (frequently the hand and wrist), headache, dizziness, abdominal pain, diarrhea, constipation, nausea, vomiting, blue line on the gums, insomnia, and metallic taste. High body levels produce increased cerebrospinal pressure, brain damage, and stupor leading to coma and often death.

Synergistic effects
no data available

Additional Information
RTECS: OF9450000
Toxicity
Toxicity to fish
LC50 - Pimephales promelas (fathead minnow) - 0.81 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 0.45 mg/l - 48 h
Toxicity to algae
EC50 - Skeletonema costatum - 0.019 mg/l - 72 h

Persistence and degradability
Biodegradability Result: - Not readily biodegradable.

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 2291 Class: 6.1 Packing group: III
Proper shipping name: Lead compounds, soluble, n.o.s. (Lead dichloride)
Reportable Quantity (RQ): 10 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 2291 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: LEAD COMPOUND, SOLUBLE, N.O.S. (Lead dichloride)
Marine pollutant: Marine pollutant

IATA
UN number: 2291 Class: 6.1 Packing group: III
Proper shipping name: Lead compound, soluble, n.o.s. (Lead dichloride)

15. REGULATORY INFORMATION

OSHA Hazards
Carcinogen, Target Organ Effect, Toxic by inhalation., Harmful by ingestion., Teratogen, Reproductive hazard

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

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<td>1993-04-24</td>
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Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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California Prop. 65 Components

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WARNING! This product contains a chemical known to the State of California to cause cancer.

16. OTHER INFORMATION

Further information
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