1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Lead(II) chloride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>268690</td>
</tr>
<tr>
<td>Brand</td>
<td>Aldrich</td>
</tr>
<tr>
<td>Supplier</td>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td></td>
<td>3050 Spruce Street</td>
</tr>
<tr>
<td></td>
<td>SAINT LOUIS MO   63103</td>
</tr>
<tr>
<td></td>
<td>USA</td>
</tr>
<tr>
<td>Telephone</td>
<td>+1 800-325-5832</td>
</tr>
<tr>
<td>Fax</td>
<td>+1 800-325-5052</td>
</tr>
<tr>
<td>Emergency Phone #</td>
<td>(314) 776-6555</td>
</tr>
<tr>
<td>Preparation Information</td>
<td>Sigma-Aldrich Corporation</td>
</tr>
<tr>
<td></td>
<td>Product Safety - Americas Region</td>
</tr>
<tr>
<td></td>
<td>1-800-521-8956</td>
</tr>
</tbody>
</table>

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
![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**: Cl\(_2\)Pb
**Molecular Weight**: 278.11 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lead dichloride</strong></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.

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.

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>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></td>
<td></td>
<td></td>
<td></td>
<td>Central Nervous System impairment Hematologic effects Peripheral Nervous System impairment Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Confirmed animal carcinogen with unknown relevance to humans varies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TWA 0.05 mg/m³ USA. NIOSH Recommended Exposure Limits</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.

Immersion protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 480 min
Material tested:Dermatril® (Aldrich Z677272, Size M)

Splash protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 30 min
Material tested:Dermatril® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374

Remarks See 1910.1025
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**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
- **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

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### 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 carcinogenThe reference note has been added by TD based on the background information of the NTP. (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>Route</th>
<th>Description</th>
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<tbody>
<tr>
<td>Inhalation</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

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### 12. ECOLOGICAL INFORMATION

**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.

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### 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.

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### 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

<table>
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<tr>
<td>Lead dichloride</td>
<td>7758-95-4</td>
<td>1993-04-24</td>
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Pennsylvania Right To Know Components

<table>
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New Jersey Right To Know Components

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California Prop. 65 Components

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

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16. OTHER INFORMATION

Further information
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