Section 1 - Product and Company Information

Product Name                 LEAD(II) ACETATE TRIHYDRATE, 99+, A.C.S. REAGENT
Product Number               215902
Brand                        SIAL
Company                      Sigma-Aldrich
Address                      3050 Spruce Street
                              SAINT LOUIS MO 63103 US
Technical Phone:             800-325-5832
Fax:                         800-325-5052
Emergency Phone:             314-776-6555

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
</tr>
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<tbody>
<tr>
<td>LEAD ACETATE TRIHYDRATE ACS REAGENT</td>
<td>6080-56-4</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formula</th>
<th>Synonyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pb(C2H3O2)2 · 3H2O</td>
<td>Acetic acid, lead(+2) salt trihydrate *</td>
</tr>
<tr>
<td></td>
<td>Bis(acetato)trihydroxytrilead * Bleiazetat (German) * Lead diacetate trihydrate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RTECS Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>OF8050000</td>
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</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Toxic.

May cause cancer. May impair fertility. May cause heritable genetic damage. Danger of cumulative effects. Toxic by inhalation, in contact with skin and if swallowed.

Target organ(s): Nerves. Blood.

**HMIS RATING**

HEALTH: 4
FLAMMABILITY: 0
REACTIVITY: 1

**NFPA RATING**

HEALTH: 4
FLAMMABILITY: 0
REACTIVITY: 1

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

**ORAL EXPOSURE**

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

**INHALATION EXPOSURE**
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE
In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Incompatible Materials: Absorbs carbon dioxide from air.

SPECIAL REQUIREMENTS
Light sensitive. Air sensitive.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS
<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Type</th>
<th>Value</th>
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<tbody>
<tr>
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<td>USA</td>
<td>NIOSH</td>
<td>TWA TWA</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;0.1 MG(PB)/M3 &lt;0.1 MG(PB)/M3</td>
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Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
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<tbody>
<tr>
<td>Appearance</td>
<td>Physical State: Solid</td>
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<tr>
<td>Color</td>
<td>White</td>
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<tr>
<td>Form</td>
<td>Fine crystals</td>
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<tr>
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<tr>
<td>MP/MP Range</td>
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<td>Freezing Point</td>
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<tr>
<td>Vapor Pressure</td>
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<tr>
<td>Vapor Density</td>
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<td>Saturated Vapor Conc.</td>
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<td>Bulk Density</td>
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<td>Volatile%</td>
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<tr>
<td>VOC Content</td>
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<tr>
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<td>Solvent Content</td>
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<tr>
<td>Solubility</td>
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</table>

N/A = not available

Section 10 - Stability and Reactivity
STABILITY
Conditions of Instability: May decompose on exposure to light.
Absorbs carbon dioxide from air.
Materials to Avoid: Strong oxidizing agents, Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide,
Lead/lead oxides.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: Harmful if absorbed through skin.
Eye Contact: May cause eye irritation.
Inhalation: Harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

SIGNS AND SYMPTOMS OF EXPOSURE
May cause convulsions. 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.

TOXICITY DATA

Oral Oral
Rat Rat
4665 mg/kg 4665 mg/kg
LD50 LD50

Intraperitoneal Intraperitoneal
Mouse Mouse
174 MG/KG 174 MG/KG
LD50 LD50

CHRONIC EXPOSURE - CARCINOGEN
Result: This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.
Species: Rat Rat  
Route of Application: Oral Oral  
Dose: 8524 MG/KG 8524 MG/KG  
Exposure Time: 78W 78W  
Frequency: C C  

CHRONIC EXPOSURE - MUTAGEN  
Result: May alter genetic material.

Species: Mouse Mouse  
Route: Intraperitoneal Intraperitoneal  
Dose: 20 GM/KG 20 GM/KG  
Mutation test: DNA inhibition DNA inhibition

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD  
Result: May cause reproductive disorders.

Species: Rat Rat  
Dose: 2219 MG/KG 2219 MG/KG  
Route of Application: Oral Oral  
Exposure Time: (18D POST) (18D POST)  

Species: Rat Rat  
Dose: 1611 MG/KG 1611 MG/KG  
Route of Application: Oral Oral  
Exposure Time: (1-22D PREG/17D POST) (1-22D PREG/17D POST)  

Species: Rat Rat  
Dose: 49780 MG/KG 49780 MG/KG  
Route of Application: Oral Oral  
Exposure Time: (1-22D PREG/17D POST) (1-22D PREG/17D POST)  
Result: Effects on Newborn: Delayed effects. Effects on Newborn: Delayed effects.

Species: Rat Rat  
Dose: 1593 MG/KG 1593 MG/KG  
Route of Application: Oral Oral  
Exposure Time: (6W PRE-21D POST) (6W PRE-21D POST)  

Species: Rat Rat  
Dose: 1763 MG/KG 1763 MG/KG  
Route of Application: Oral Oral  
Exposure Time: (1-22D PREG/1-21D POST) (1-22D PREG/1-21D POST)  

Species: Mouse Mouse  
Dose: 1155 MG/KG 1155 MG/KG
Route of Application: Oral Oral
Exposure Time: (21D POST) (21D POST)
Result: Effects on Newborn: Growth statistics (e.g., reduced
weight gain). Effects on Newborn: Other postnatal measures or
effects. Effects on Newborn: Other postnatal measures or
effects. Effects on Newborn: Growth statistics (e.g., reduced
weight gain).

Species: Mouse
Dose: 56 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (9D PREG)
Result: Maternal Effects: Other effects. Effects on Embryo or
Fetus: Extra embryonic structures (e.g., placenta, umbilical
cord).

Section 12 - Ecological Information
No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of
this material. Observe all federal, state, and local
environmental regulations. (DN)Requires special label: "Contains a
substance which is regulated by Dannish work environmental law due
to the risk of carcinogenic properties."

Section 14 - Transport Information

DOT
Proper Shipping Name: Lead acetate
UN#: 1616
Class: 6.1
Packing Group: Packing Group III
Hazard Label: Toxic Substance
PIH: Not PIH

IATA
Proper Shipping Name: Lead acetate
IATA UN Number: 1616
Hazard Class: 6.1
Packing Group: III

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION
Symbol of Danger: T-N
Indication of Danger: Toxic. Dangerous for the environment.
R: 61-33-48/22-50/53-62
Risk Statements: May cause harm to the unborn child. Danger of
cumulative effects. Also harmful: danger of serious damage to
health by prolonged exposure if swallowed. Very toxic to aquatic
organisms, may cause long-term adverse effects in the aquatic
environment. Possible risk of impaired fertility.
S: 53-45-60-61
Safety Statements: Restricted to professional users. Attention -
Avoid exposure - obtain special instructions before use. In case of
accident or if you feel unwell, seek medical advice
immediately (show the label where possible). This material and
its container must be disposed of as hazardous waste. Avoid
release to the environment. Refer to special instructions/safety data sheets.

**US CLASSIFICATION AND LABEL TEXT**

**Indication of Danger:** Toxic.

**Risk Statements:** May cause cancer. May impair fertility. May cause heritable genetic damage. Danger of cumulative effects. Toxic by inhalation, in contact with skin and if swallowed.

**Safety Statements:** In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wear suitable protective clothing, gloves, and eye/face protection. Do not breathe dust.

**US Statements:** Target organ(s): Nerves. Blood.

**UNITED STATES REGULATORY INFORMATION**

- **SARA LISTED:** Yes
- **DEMINIMIS:** 1 %
- **NOTES:** This product is subject to SARA section 313 reporting requirements - lead compounds.

**CANADA REGULATORY INFORMATION**

- **WHMIS Classification:** This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
- **DSL:** No
- **NDSL:** No

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**Section 16 - Other Information**

**DISCLAIMER**

For R&D use only. Not for drug, household or other uses.

**WARRANTY**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.