

MATERIAL SAFETY DATA SHEET

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Version 1.4

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

Substance Name	CAS #	SARA 313
LEAD ACETATE TRIHYDRATE ACS REAGENT	6080-56-4	Yes
Formula	Pb(C ₂ H ₃ O ₂) ₂ · 3H ₂ O	
Synonyms	Acetic acid, lead(+2) salt trihydrate * Bis(acetato)trihydroxytrilead * Bleiazetat (German) * Lead diacetate trihydrate	
RTECS Number:	OF8050000	

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

Use only in a chemical fume hood. Safety shower and eye bath.

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

Country	Source	Type	Value
USA USA	NIOSH NIOSH	TWA TWA	<0.1 MG(PB)/M3 <0.1 MG(PB)/M3

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid Color: White Form: Fine crystals	
Property	Value	At Temperature or Pressure
Molecular Weight	379.33 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	75 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	2.55 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

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)

Central nervous system. Peripheral nervous system. G.I. System.

Skeletal muscle. Kidneys. Female reproductive system. Male reproductive system. Blood.

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
Result: Tumorigenic Effects: Testicular tumors. Kidney, Ureter, Bladder:Kidney tumors. Tumorigenic:Carcinogenic by RTECS criteria. Tumorigenic Effects: Testicular tumors. Kidney, Ureter, Bladder:Kidney tumors. Tumorigenic:Carcinogenic by RTECS criteria.

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)
Result: Effects on Newborn: Behavioral. Effects on Newborn: Behavioral.

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)
Result: Effects on Newborn: Behavioral. Effects on Newborn: Behavioral.

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)
Result: Effects on Newborn: Behavioral. Effects on Newborn: Physical. Effects on Newborn: Physical. Effects on Newborn: Behavioral.

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)
Result: Effects on Newborn: Biochemical and metabolic. Effects on Newborn: Behavioral. Effects on Newborn: Biochemical and metabolic. Effects on Newborn: Behavioral.

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

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.