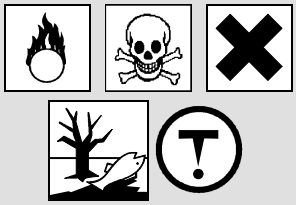
TCI AMERICA

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Oxidizer.** **Toxic compound, do not ingest or inhale. Avoid all contact with this material.** **Irritating to skin, eyes, and the respiratory system.** **Environmental hazard.** **This material is very toxic to aquatic organisms and may cause long term adverse effects to the aquatic environment.** **CARCINOGEN. MINIMIZE EXPOSURE.** **Air sensitive material.** **Moisture sensitive material.** **Freeze.** **Store under nitrogen.**	

Section I. Chemical Product and Company Identification

Chemical Name: **Lead Tetraacetate,**
(contains Acetic Acid)

Catalog Number: L0021

Synonym: Lead (IV) Acetate

Chemical Formula: $(CH_3COO)_4Pb$

CAS Number: 546-67-8 (Lead Tetraacetate)
64-19-7 (Acetic Acid)

Supplier: TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

In case of Emergency Call: **Chemtrec®**
(800) 424-9300 (U.S.)
(703) 527-3887
(International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Lead Tetraacetate, (contains Acetic Acid)	546-67-8 (Lead Tetraacetate) 64-19-7 (Acetic Acid)	Min. 95.0 (Tit) (Lead Tetraacetate) up to 5.0 (Tit) (Acetic Acid)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.	(Acetic Acid) Rat LD_{50} (oral) 3310 mg/kg Rabbit LD_{50} (dermal) 1060 uL/kg Mouse LC_{50} (inhalation) 5620 ppm/1H

Section III. Hazards Identification

Acute Health Effects

Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death.
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Chronic Health Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Tumorigenic Effects. (Lead Tetraacetate)
Mouse TDLo Oral 291.2 gm/kg/104 weeks continuous.
TOXIC Effects:
Tumorigenic - Carcinogenic by RTECS criteria.
Kidney, Ureter, and Bladder - Other changes.
Mouse TDLo Oral 582.4 gm/kg/104 weeks continuous.
TOXIC Effects:
Tumorigenic - Equivocal tumorigenic agent by RTECS criteria.
Kidney, Ureter, and Bladder - Other changes.
DEVELOPMENTAL TOXICITY : Reproductive Effects. (Acetic Acid)
Rat TDLo Intratesticular 400 mg/kg male 1 day prior to mating.
TOXIC Effects:
Effects on Fertility - Male fertility index.
Rat TDLo Oral 700 mg/kg female 18 days after birth.
TOXIC Effects:
Effects on Newborn - Behavioral.
Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

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Section IV. First Aid Measures

Eye Contact
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation
If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.

Ingestion
DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

Section V. Fire and Explosion Data

Flammability
May be combustible at high temperature.

Auto-Ignition
427°C (800.6°F) (Acetic Acid)

Flash Points
40°C (104°F) . (Acetic Acid)

Flammable Limits
LOWER: 4% UPPER: 19.9% (Acetic Acid)

Combustion Products
These products are toxic carbon oxides (CO, CO_2), metallic oxides.

Fire Hazards
Not available.

Explosion Hazards
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions
Oxidizing material.
DO NOT use water jet. Use flooding quantities of water. Avoid contact with organic materials.
Consult with local fire authorities before attempting large scale fire-fighting operations.

Section VI. Accidental Release Measures

Spill Cleanup Instructions
Oxidizing material. Toxic material. Irritating material. Environmentally hazardous material. Carcinogenic material. Air sensitive material. Moisture sensitive material.
Stop leak if without risk. DO NOT get water inside container. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. DO NOT touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section VII. Handling and Storage

Handling and Storage Information
OXIDIZER. TOXIC. IRRITANT. ENVIRONMENTAL HAZARD. CARCINOGEN. AIR SENSITIVE. MOISTURE SENSITIVE. FREEZE. STORE UNDER NITROGEN. Keep locked up. Keep away from heat. Mechanical exhaust required. Keep away from combustible material.. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively.
Always store away from incompatible compounds such as oxidizing agents, reducing agents, acids.

Section VIII. Exposure Controls/Personal Protection

Engineering Controls
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection
Splash goggles. Lab coat. Dust respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits
This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Solid. (White-Light Reddish-White Crystal-Crystalline Powder)	Solubility	Soluble in alcohol, benzene, chloroform, hot acetic acid, carbon tetrachloride, nitrobenzene, glycerol, tetrachloroethane.
Specific Gravity	2.23 (water=1) @ 17°C		
Molecular Weight	443.38	Partition Coefficient	Not available.
Boiling Point	Not available.	Vapor Pressure	Not available.
Melting Point	175°C (347°F) (Dec.)	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Acetic acid.
Viscosity	Not available.	Taste	Not available.

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Section X. Stability and Reactivity Data

Stability

This material is stable if stored under proper conditions. (See Section VII for instructions)

Conditions of Instability

Avoid excessive heat and light.

Incompatibilities

Reactive with oxidizing agents, strong reducing agents, strong acids, combustibles, organic materials, alcohols.

Section XI. Toxicological Information

RTECS Number

AI5300000 (Lead Tetraacetate)
AF1225000 (Acetic Acid)

Routes of Exposure

Eye Contact. Ingestion. Inhalation.

Toxicity Data

(Acetic Acid)
Rat LD_{50} (oral) 3310 mg/kg
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Chronic Toxic Effects

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Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death.
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity

Not available.

Environmental Fate

Acetic acid's production and use in the manufacture of various chemicals, explosives, lacquers, starch, sugars, wines and vinegar and from wood distillation plants and textile mills may result in its release to the environment through various waste streams. Atmospheric emissions occur from combustion of biomass, plastics and refuse and in exhaust from gasoline and diesel engines. Acetic acid was reported as a reaction product from the biodegradation of petroleum compounds in groundwater. Formation of acetic acid can occur via the reaction of olefins with ozone in the atmosphere. Decomposition of solid biological wastes produces acetic acid which is readily metabolized by living organisms; acetic acid occurs as a normal metabolite in both plants and animals. If released to air, a vapor pressure of 15.7 mm Hg at 25 deg C indicates acetic acid will exist solely as a vapor in the ambient atmosphere. Vapor-phase acetic acid will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 22 days. Acetic acid does not absorb light with wavelengths >290 nm, and is not expected to be susceptible to direct photolysis by sunlight. If released to soil, acetic acid is expected to have very high to moderate mobility based upon Koc values ranging from 6.5 to 228. Volatilization from moist soil surfaces is not expected to be an important fate process, since the pKa of acetic acid is 4.74, indicating that it will primarily exist in the dissociated form in the environment. Acetic acid may volatilize from dry soil surfaces based upon its vapor pressure. The major environmental fate process for acetic acid is biodegradation. A large number of biological screening studies have determined that acetic acid biodegrades readily under both aerobic and anaerobic conditions. If released into water, acetic acid is not expected to adsorb to suspended solids and sediment based upon the Koc values. Acetic acid is expected to exist in the dissociated form in the environment and therefore volatilization from water surfaces is not expected to be an important fate process. An estimated BCF of 3.2 suggests the potential for bioconcentration in aquatic organisms is low. Hydrolysis is not expected to be an important environmental fate process since this compound lacks functional groups that hydrolyze under environmental conditions. Occupational exposure to acetic acid may occur through inhalation and dermal contact with this compound at workplaces where acetic acid is produced or used. Acetic acid occurs ubiquitously and is a normal metabolite in animals; therefore, the general population is continually exposed to the compound. Primary routes of exposure to the general population are through consumption of foods and inhalation of air.

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Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

Section XIV. Transport Information

DOT Classification	DOT Class 5.1: Oxidizing material. DOT Class 6.1: Toxic material.
PIN Number	UN3087
Proper Shipping Name	Oxidizing solid, toxic, n.o.s.
Packing Group (PG)	III
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	CLASS C: Oxidizing material. CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). On DSL.
EINECS Number (EEC)	208-908-0 (Lead Tetraacetate) 200-580-7 (Acetic Acid)
EEC Risk Statements	R5- Heating may cause an explosion. R8- Contact with combustible material may cause fire. R18- In use, may form flammable/explosive vapor-air mixture. R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R50- Very toxic to aquatic organisms. R53- May cause long-term adverse effects in the aquatic environment.
Japanese Regulatory Data	ENCS No. (2)-636 (Lead Tetraacetate) ENCS No. (2)-688 (Acetic Acid)

Section XVI. Other Information

Version 1.0
Validated on 12/6/2006.
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Notice to Reader

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.