



Lead

SECTION I MATERIAL IDENTIFICATION

Chemical Name Lead	CAS# 7439-92-1	Chemical Formula Pb	
Synonyms	Possible Occupational Exposures		
White Lead	Inorganic Lead	Petroleum refiners	Pipe manufacturers Welders
C.I. Pigment Metal 4	Plumbum	Ceramic workers	Paint manufacturers Tetraethyl lead
Manufacturer: available from several sources		Radiation protection	Battery manufacturers

SECTION II INGREDIENTS AND HAZARDS

Permissible Exposure Limit

50 ug/m³ — OSHA 8-hour TWA
 30 ug/m³ — OSHA 8-hour TWA Action Level (If an employee is exposed to lead for more than 8 hours per day the following OSHA formula is used: maximum permissible limit (in ug/m³) = 400 divided by hours worked in the day.)
 0.15 mg/m³ — ACGIH TWA (Inorganic dusts and fumes)
 Less than 0.10 mg/m³ — NIOSH-recommended 10-hour TWA
 CERCLA Hazard Rating: Health 3 - Fire 0 - Reactivity 0 - Persistence 3
Immediately Dangerous to Life and Health Concentration — none specified

SECTION III PHYSICAL DESCRIPTION

Bluish-white, soft, silvery gray metal
 Boiling Point: 3164° F
 Specific Gravity: 11.3
 Solubility in Water: Insoluble
 Solvent Solubility: Nitric Acid, hot concentrated Sulfuric Acid
 Melting Point: 622° F
 Vapor Pressure: 1.3 mm Hg at 970° C
 Atomic Weight: 207.2

SECTION IV INCOMPATIBILITIES AND STORAGE

Strong Oxidizers Active Metals Peroxide Potassium Sodium
 Store in cool, dry place, away from oxidizing agents.

SECTION V HEALTH HAZARD AND PROTECTION DATA

Target Organs			Route of Entry Into Body	
Central Nervous System	Gastrointestinal System	Gingival Tissue	Inhalation	Ingestion
Cardiovascular System	Reproductive System	Kidneys		
Symptoms				
Anemia	Insomnia	Delirium	Malnutrition	Reproductive Effects
Anorexia	Ataxia	Diarrhea	Abdominal Pain	Visual Disturbance
Tremors	Vomiting	Lassitude	Optic Neuritis	Muscular Atrophy
Headache	Fatigue	Weight Loss	Constipation	Peripheral Neuropathy
Stupor	Comatose	Wrist Drop	Incoordination	Muscular Ache

Protective Equipment Requirements

Provide local exhaust or process-enclosure ventilation to meet the published exposure limits. Ventilation equipment must be explosion-proof. Employers shall provide and ensure that employees use appropriate protective clothing and equipment necessary to prevent repeated or prolonged skin contact with this substance.
 Employers shall ensure that clothing contaminated with this substance is placed in closed containers for storage until it can be discarded or until the contaminant is removed from the clothing. If the clothing is to be laundered or otherwise cleaned to remove the contaminant, the person performing the cleaning of the clothing shall be informed of the hazardous properties of the substance.
 Employers shall provide and ensure that employees use dust-resistant safety goggles where this solid may contact the eyes.
 Employers shall ensure that all employees subject to skin contact with this substance wash with soap and water — at the end of each workday — all areas of the body which may have contacted the substance.
 Employers shall ensure that employees whose clothing may have become contaminated with this substance change into uncontaminated clothing before leaving the work premises.
 NOTE: Health hazard information may apply to many inorganic lead compounds.

**Respirator Selection
Airborne
concentration of lead
or condition of use**

Not in excess of 0.5
mg/m³ (10 x PEL)
Not in excess of 2.5
mg/m³ (50 x PEL)
Not in excess of 50
mg/m³ (1,000 x PEL)
Not in excess of 100
mg/m³ (2,000 x PEL)
Greater than 100 mg/m³,
unknown concentration or
firefighting

Required respirator¹

Half-mask, air-purifying respirator equipped with high efficiency filters.^{2 3}

Full face-piece, air-purifying respirator with high efficiency filters.³
(1) Any powered, air-purifying respirator with high efficiency filters³; or (2)
half-mask, supplied-air respirator operated in positive-pressure mode.²
Supplied-air respirator with full face-piece, hood, helmet, or suit, operated in
positive-pressure mode.

Full face-piece, self-contained breathing apparatus operated in positive-
pressure mode.

¹Respirator specified for high concentrations can be used at lower concentrations of lead.

²Full face-piece is required if the lead aerosols cause eye or skin irritation at the use concentrations.

³A high efficiency particulate filter means 99.97 percent efficient against 0.3 micron-size particles.

The employer shall provide a powered, air-purifying respirator in lieu of the respirators specified in Table II whenever:

- (a) An employee chooses to use this type of respirator; and
- (b) This respirator will provide adequate protection to the employee.

First Aid

Skin Contact: If this chemical gets on the skin, immediately wash contaminated skin with soap and water. Get medical attention at once.

Eye Contact: If this substance gets into eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention at once.

Inhalation: If a person breathes in large amounts of this substance, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the person warm and at rest. Get medical attention at once.

Ingestion: Do not induce vomiting. Qualified personnel should remove substance by gastric lavage or catharsis. Activated charcoal is useful. Get medical attention at once.

SECTION VI REGULATIONS/OSHA

OSHA Standard 29CFR1910.1025	Lead
OSHA Standard 29CFR1910.1200	Hazard Communication
OSHA Standard 29CFR1910.94	Ventilation
OSHA Standard 29CFR1910.134	Respiratory Protection
OSHA Standard 29CFR1910.20	Access to Employee Exposure and Medical Records
OSHA Standard 29CFR1910.132	Personal Protective Equipment
OSHA Standard 29CFR1910.141	Sanitation
OSHA Standard 29CFR1910.151	Medical Services and First Aid
OSHA Standard 29CFR1910.133	Eye and Face Protection

SECTION VII EMERGENCY HANDLING OF HAZARDOUS MATERIALS

Personal Danger Situation Protection:

No acute hazard. Move containers from fire area if possible. Avoid breathing hazardous air contaminants. Keep upwind.

SECTION VIII SPILL, LEAK AND DISPOSAL PROCEDURES

Do not touch spilled material. Stop leak if you can do it without risk. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For small dry spills, with a clean shovel place material into clean, dry container and cover. Move containers from spill area. For larger spills, dike far ahead of spill for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry. Residue should be cleaned up using a high-efficiency particulate-filter vacuum.

Contact the Ohio EPA for Emergency Spill Information: 1-800-282-9378.

Effective 6/87. For further chemical information contact the Resource Center at 1-800-282-3045, Ext. 7388.