Safety Data Sheet

Section 01 - Identification

Product Identifier	Lead Washers, large outside Lead Washers, small inside
Other Means of Identification	Lead, Pb, Plumbum, Metallic Lead, Inorganic Lead, ASTM B29, TADANAC Lead, Low-Alpha Lead.
Product Use and Restrictions on Use	Raw material used in manufacture of chlorine cylinder washers.
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
24-Hour Emergency Phone	Phone: 1 (306) 664 – 2522

Section 02 - Hazard Identification

GHS-Classification

Acute Toxicity-Oral	Category 4
Acute Toxicity-Inhalation	Category 4
Carcinogenicity	Category 2
Reproductive Toxicity	Category 1A
STOT-Repeated Exposure	Category 1

Physical Hazards

No known physical hazards.

Danger

Hazards Statements

H302 – Harmful if swallowed.
H332 – Harmful if inhaled.
H351 – Suspected of causing cancer.
H360 – May damage fertility or the unborn child.
H372 – Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure by inhalation or ingestion.

Pictograms

Precautionary Statements
P405 – Store locked up.
P201 – Obtain special instructions before use.
P202 – Do not handle until all safety precautions have been read and understood.
P280 – Wear protective gloves, protective clothing, eye protection, and face protection.
P308 + P313 – IF exposed or concerned: Get medical advice/attention.
P264 – Wash hands thoroughly after handling.
P270 – Do not eat, drink or smoke when using this product.
P301 + P312 – IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 – Rinse mouth.
P260 – Do not breathe dust.
P271 – Use only outdoors or in a well-ventilated area.
P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Lead	7439-92-1	>99%	

Section 04 - First Aid Measures

Inhalation
Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.

Skin Contact / Absorption
Dust: Remove contaminated clothing. Brush away excess dust and wash affected area with soap and water. Seek medical attention if irritation occurs or persists.
Molten Metal: Flush contact area to solidify and cool but do not attempt to remove encrusted material or clothing. Cover burns and seek medical attention.

Eye Contact
Flush immediately with lukewarm, running water for at least 30 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek medical attention if irritation persists.

Ingestion
Have victim rinse mouth thoroughly with water. Obtain medical advice.

Additional Information
Lead can accumulate in the body and cause significant long-term health effects. Medical advice should be sought following any exposure.

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media
Lead metal is not combustible. Use extinguishing media appropriate for surrounding fire. Finely divided lead may ignite and burn. To extinguish fire, smother, inert or cool the surrounding area to lower the temperature of the mass below its ignition point. Smother fire with dry sand, clay, ground limestone, a mixture of sodium chloride, tricalcium phosphate powder, approved Class D dry powder, or an inert gas such as argon, helium or neon.

Unsuitable Extinguishing Media
Not Available.

Specific Hazards Arising From the Chemical
Highly toxic lead oxide fumes may be formed.

Special Protective Equipment and Precautions for Fire-Fighters
Wear NIOSH-approved self-contained breathing apparatus and protective clothing. Fire fighters must be fully trained and wear full protective clothing.

Further Information
Not Available.

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures	Wear appropriate personal protective equipment. Ventilate area and stop or reduce leak if safe to do so.
Environmental Precautions	Prevent material from entering sewers.
Methods and Materials for Containment and Cleaning Up	Molten metal should be allowed to solidify before cleanup. If solid metal is spilled, wear gloves to pick up and return to process. If dust metal is spilled, use methods which will minimize dust generation (ie:vacuum solids). Return uncontaminated spilled material to the process if possible. Place contaminated material in suitable labeled containers for recovery or disposal. Treat or dispose of waste material in accordance with all local, regional, and national requirements.

Section 07 - Handling and Storage

Precautions for Safe Handling	This material is a VERY TOXIC solid. Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure. Solid metal suspected of containing moisture should be thoroughly dried before being added to a molten bath. Otherwise, entrained moisture could expand explosively and spatter molten metal out of the bath. Where molten metal is involved, wear heat-resistant gloves and suitable clothing for protection from hot-metal splash as well as a respirator to protect against inhalation of lead fume. Workers should wash and change clothing following cleanup of a lead spill to prevent personal contamination with lead dust.
Conditions for Safe Storage	Store in a dry, covered area away from incompatible materials, strong acids and food or feedstuffs. No special packaging materials are required.
Incompatibilities	Strong acids, hydrogen peroxide, trioxane, sodium azide, ammonium nitrate, sodium acetylide, sodium carbide, chlorine, trifuoride, zirconium.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Lead	ACGIH	TLV-TWA	0.05mg/m^3
	OSHA	PEL-TWA	0.05mg/m^3

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
Other	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face	Chemical goggles, full-face shield, or a full-face respirator should be worn at all times when product is handled. Contact lenses should not be worn as they may contribute to severe eye injury.
Hand Protection	Impervious gloves of chemically resistant material should be worn at all times. Where hot or molten metal is handled, heat resistant gloves should be worn to protect from hot metal splashes. Wash contaminated clothing and dry thoroughly before reuse.

Skin and Body Protection	Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Respiratory Protection	Where lead dust or fumes are generated and cannot be controlled to within acceptable levels by engineering means, use appropriate NIOSH-approved respiratory protection equipment. When exposure levels are unknown, a self-contained breathing apparatus should be worn.
Thermal Hazards	Not Available.

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Solid
Colour	Silver-grey metal
Odour	Odourless
Odour Threshold	Not Applicable

Property

pH	Not Applicable
Melting Point/Freezing Point	327°C
Initial Boiling Point and Boiling Range	1740°C
Flash Point	Not Applicable
Evaporation Rate	Not Applicable
Flammability	Finely divided material can form explosive dust-air mixture.
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Vapour Pressure (mm Hg, 20°C)	1mm Hg @ 980°C (negligible @ 20°C)
Vapour Density (Air=1)	Not Applicable
Relative Density	Not Available
Solubility(ies)	Insoluble in water. Soluble in nitric acid and hot concentrated sulfuric acid; insoluble in organic solvents.
Partition Coefficient: n-octanol/water	Not Applicable
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	Not Available
Viscosity	3.2cP @ 327.4°C; 2.32cP @ 400°C; 1.54cP @ 600°C; 1.23cP @ 800°C
Explosive Properties	Explosions may occur upon contact with certain incompatible materials.

Specific Gravity (Water=1)	11.34
% Volatiles by Volume	Not Available
Formula	Pb
Molecular Weight	207.2

Section 10 - Stability and Reactivity

Reactivity	Extremely finely divided lead, which is produced by very specific methods such as the reduction of the oxide with furfural vapour at 290°C or by the thermal decomposition of lead citrate in vacuum, is pyrophoric and chemically reactive.
Stability	Normally stable. Fresh cut or cast lead surfaces undergo oxidation and tarnish rapidly to form an insoluble protective layer of basic lead carbonate.
Possibility of Hazardous Reactions	None known.
Conditions to Avoid	LEAD POWDER: Generation of dust, sparks, flames or other sources of ignition.
Incompatible Materials	Strong acids, hydrogen peroxide, trioxane, sodium azide, ammonium nitrate, sodium acetylide, sodium carbide, chlorine, trifuoride, zirconium.
Hazardous Decomposition Products	When heated in air or during a fire, lead forms highly toxic lead oxide fumes.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Lead	Not Available	Not Available	Not Available

Chronic Toxicity – Carcinogenicity

Component	IARC
Lead	Group 2B: Possibly carcinogenic to humans.

Skin Corrosion/Irritation	Contact with dust or fume may cause local irritation but would not cause tissue damage.
Ingestion	Very large doses over a short time period may result in headache, fatigue, nausea, abdominal cramps, joint pain, metallic taste in mouth, vomiting, and constipation or bloody diarrhea.
Inhalation	High dust concentrations may cause coughing and mild, temporary irritation.
Serious Eye Damage/Irritation	Lead dust may cause some tearing, blinking, and mild, temporary pain.
Respiratory or Skin Sensitization	Not known to be a skin or respiratory sensitizer.
Germ Cell Mutagenicity	Inorganic lead compounds are considered mutagenic, based on positive results observed for lead acetate in both non-reproductive cells and reproductive cells of animals.
Reproductive Toxicity	Chronic over-exposure to lead has been implicated as a causative agency for the impairment of male and female reproductive capacity. Pregnant women should be protected from excessive exposure.
STOT-Single Exposure	Not Available

STOT-Repeated Exposure	Prolonged exposure to lead dust and fume may cause central nervous system damage, gastrointestinal disturbances, anemia, and, rarely, wrist drop. Reduced hemoglobin production has been associated with low lead exposure. Symptoms of central nervous system damage due to moderate lead exposure include fatigue, headaches, tremors, and hypertension. Very high lead exposure can result in lead encephalopathy with symptoms of hallucinations, convulsions and delirium. Kidney dysfunction and possible injury has also been associated with chronic lead poisoning.
Aspiration Hazard	Not Available
Synergistic Materials	Nutritional status and exposure to other metals such as calcium, phosphorous, iron, zinc, and copper may influence lead absorption and toxicity.

Section 12 – Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Lead	EC_{50}(Diatom, 96hr): 5mg/L	LC_{50}(Oncorhynchus mykiss, 96hr): 59.43mg/L	LC_{50}(Ceriodaphnia reticulate, 48hr): 0.53mg/L

Biodegradability	While lead metal is insoluble, its processing or extended exposure in the aquatic and terriestrial environments may lead to the release of lead in bioavailable forms.
Bioaccumulation	Not Available
Mobility	Mobile in soil.
Other Adverse Effects	Lead compounds are not particularly mobile in the aquatic environment but can be toxic to organisms, especially fish at low concentrations. Water hardness, pH and dissolved organic carbon content are factor which regulate the degree of toxicity.

Section 13 – Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 – Transport Information

UN Number	Not Regulated
UN Proper Shipping Name	Not Regulated
Transport Hazard Class(es)	Not Regulated
Packaging Group	Not Regulated
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.
Special Precautions	Not Available
Transport in Bulk	Not Available

TDG

Other	Secure containers (full and/or empty) with suitable hold down devises during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 – Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 – Other Information

Preparation Date September 9, 2015

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

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If you have any questions or concerns please call our customer service center.

References:

1) CHEMINFO
2) eChemPortal
3) TOXNET
4) Transportation of Dangerous Goods Canada
5) HSDB
6) ECHA
7) PAN

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