


SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Trade name	Lead
Product code	None
Product list	ASTM B29 (Chemical Lead, Copper-Bearing Lead ; Corroding Grade, Common Grade) Came-lead ; Stripping lead ; Scrap lead ; Alloy : E, 60% C-Pb. CSA HP2 Lead (Type 2) ; QQ-L-201 Lead (Grade C)
Supplier	Xstrata Zinc, General Smelting Company of Canada, 1400 Norman Street, Lachine (Québec), Canada H8S 1A8
Information contact	Gino De Nobile, Chemist
Phone number (Business hours)	(514) 637-3591
Phone number (Emergency)	CANUTEC : (613) 996-6666
Synonym	Plomb (French)
Name / Chemical formula	Not applicable
Chemical family	Metal
Utilisation	Tanks (Chemical plants) ; Shields (Acoustic, radiation), shield sound attenuation ; Radiographic purposes Roof flanges and flashings, cable spacers ; Other industrial applications.

SECTION 2. HAZARDS IDENTIFICATION

WHMIS (Canada)	CLASS D-2A : Very toxic material causing other toxic effects	
Hazard classes (categories)/Hazard statements	None	
Hazards words	None	
Precautionary statements	None	
Other hazards	Reactive with : Acids, oxidants. Possibility of toxic lead vapours formation. Possibility of skin irritation (Particules). Ingestion will nearly always cause acute gastro-intestinal irritation.	
Environmental hazards	Toxic for aquatic life.	

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No	Percentage (%)	EC No	Hazard Statements
Lead	7439-92-1	98-100	231-100-4	None
Tin	7440-31-5	0-2	231-141-8	none

SECTION 4. FIRST-AID MEASURES

Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Consult a physician.
Skin contact	Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation	Remove the person from exposure. Bring to fresh air. If breathing is difficult, give oxygen. Get immediate medical attention.
Ingestion	Induce vomiting. UNCONSCIOUS person : DO NOT induce vomiting or give any liquid. Consult a physician.

SECTION 5. FIRE-FIGHTING MEASURES

Flash point	Not available
Flammable limits	Not available
Auto-ignition temperature	Not available
Products of combustion	Metal oxides (Lead, tin).
Fire hazard	Solid form : No fire hazard. Avoid melting moist metal. Dust : Flammable when exposed to heat or flames. Lead : In contact with fire or heat source, it may melt, and then if in contact with water, will cause a violent reaction. Possibility of toxic lead vapours formation.
Explosion hazard	Not explosive (Mechanical impact ; Static discharge). Dust : Slightly explosive to explosive in presence of open flames and sparks.
Extinguishing media	NON-FLAMMABLE. Use fire fighting materials and procedures adapted to the immediate environment.
Protective equipment	Firefighters must wear full protective clothing and self-contained breathing apparatus (SCBA).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Measures	Collect spillage.
Methods	Use appropriate tools to place spilled materials in suitable containers for reclamation or disposal.
Protective equipment	Dust and fumes on melting can cause health effects. Be sure to use NIOSH approved respirators equipped with HEPA filtration (for toxic dust or mists). Gloves. Coveralls.

SECTION 7. HANDLING AND STORAGE

Handling	DO NOT ingest or inhale dust. Wear adequate protective clothing. Wear approved respirators if adequate ventilation cannot be provided. Ingestion or inhalation : Seek medical advice immediately and provide medical personnel with a copy of this SDS.
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Conditions for storage Away from : Moisture, ignition sources ; Incompatible substances (Acids).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	CAS No	Percentage (%)	Control parameters		
			ACGIH (U.S.) 2011 TLV-TWA (mg/m ³)	OSHA (U.S.) PEL-TWA (mg/m ³)	QUEBEC (CA) TWAEV (mg/m ³)
Lead	7439-92-1	98-100	0.05 (Pb, inorganic compds Pb)	0.05 (Pb, Pb compds)	0.05 (Pb, inorganic compds)
Tin	7440-31-5	0-2	2 (Sn)	2 (metal, compounds)	2 (metal)

Note : **Lead :** NIOSH REL-TWA (≤ 10 hours) : 0.05 mg/m³ ; REL also applies to other lead compounds (as Pb) ; IDLH : 100 mg/m³ (Metal ; Compounds). OSHA PEL-TWA : PEL also applies to other lead compounds (as Pb).

Tin : ACGIH TLV TWA : Metal, oxide, inorganic compounds (Sn) except SnH₄. OSHA PEL-TWA : Metal, inorganic compounds (Sn) except oxides. NIOSH REL-TWA (≤ 10 hours) : 2 mg/m³ (Except oxides) ; IDLH : 100 mg/m³.

Consult local authorities for acceptable exposure limits

Engineering controls Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.

Individual protection Safety goggles. Coveralls. Work gloves and boots. Dust respirator. Be sure to use a NIOSH approved respirator or equivalent when concentrations exceed occupational exposure limits.



SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance	Solid (Ingot, wire, sheet, bar, brick, pipe)	Odour	Odourless
Molecular weight	Not applicable	Taste	Not applicable
pH (1% soln/water)	Not applicable	Colour	Blue grey
Boiling point	Not available	Volatility	Not available
Melting point	325-327°C (618-621°F)	% Moisture	Not available
Critical temperature	Not available	Odour threshold	Not available
Specific gravity	Not available	Water/Oil dist. coeff.	Not available
Vapour pressure	Not available	Ionicity (in water)	Not available
Vapour density	Not available	Dispersion	No (Water)
Solubility	No (Water)		

SECTION 10. STABILITY AND REACTIVITY

Stability Yes (Under normal conditions of ambient temperature)

Reactivity Reactive or incompatible with : Acids.

Dangerous decomposition Metallic oxides

Conditions to avoid Acids

Dangerous polymerization No

Materials to avoid

Lead : Violent reaction on ignition with : Chlorine trifluoride, concentrated hydrogen peroxide, ammonium nitrate, sodium acetylide. Other incompatibilities : Sodium nitrate, zirconium, disodium acetylide, oxidants.

Tin : Reacts violently under certain conditions with : Chlorine, bromine, trifluoride (Chlorine, bromine), acids, oxidants. Can react with some extinguishing agents (Bicarbonate powder, carbon dioxide).

NOTE : This list of products is not exhaustive. Verify technical documents to determine any incompatibilities with your process.

Corrosivity No

SECTION 11. TOXICOLOGICAL INFORMATION

Routes of entry Ingestion. Inhalation. Eyes and skin contact.

Carcinogenicity **Lead :** POSSIBLE (Group 2B, IARC) (EPA) ; CARCINOGEN (Animal, A3, ACGIH).

Tin : NOT A CARCINOGEN (IARC, OSHA, NTP) ; NOT LISTED (ACGIH).

Mutagenicity **Lead :** Cytogenetic analysis ; DNA. (RTECS).

Teratogenicity **Lead :** SUSPECTED (OSHA). Effects on embryo, foetus, fertility (RTECS).

Acute toxicity **Lead :** ORAL acute (LoLD) : 155 mg/kg (Human) ; 0.2 mg/kg (Rat). INHALATION acute (LoTC) : 10 µg/m³ (Human). INTRAPERITONEAL acute (LoLD) : 1 g/kg (Rat). (RTECS).

Tin : UNREPORTED ROUTE acute (LoTD) : 250 mg/kg (Human). (RTECS).

Acute effects Solid form : No health hazards. Conditions and work practices which generate dust or fumes should be avoided or controlled. Other forms : Dangerous (Ingestion, inhalation). Possibility of eye and skin irritation.

Lead : Absorption is easier by inhalation and the symptoms develop more quickly than by ingestion. Symptoms : Loss of appetite, anemia, insomnia, headache, muscle and joint pain. Toxicity by ingestion, compared to those by inhalation, requires greater concentrations before symptom onset.

Chronic effects	<p>Non-controlled repeated or prolonged exposure : Possibility of target organ damages (Blood, kidneys, liver, lungs ; nervous and reproductive systems).</p> <p>Lead : Target organs for acute and chronic overexposure (NIOSH 90-117) : Blood, gingival tissues ; gastrointestinal, central nervous, renal systems. Symptoms of acute overexposure often develop abruptly and resemble those of chronic overexposure : Anaemia, lassitude, weakness, nausea, vomiting, abdominal cramps, constipation, confusion, convulsions, muscular weakness, muscular and joint pains. Target organs (Chronic overexposure) : Blood, kidneys, digestive, nervous and reproductive systems.</p> <p>Tin : Low toxicity for humans. Chronic inhalation of oxide (Dust, fume) may cause stannosis (Benign pneumoconiosis) without any pulmonary functional impairment. Other sensitive organs : Kidneys, central nervous system.</p>
Toxicity	<p>Persons with the following pre-existing conditions warrant particular attention :</p> <p>Lead : Anaemia, pregnant or breast feeding women and women of child bearing age. Preferred method for biological monitoring : Blood lead levels (Pb blood) measurement (BEI 30 µg/100 ml) ; Sampling time : Not critical.</p> <p>Tin : Respiratory system (Inorganic compounds).</p> <p><i>Eating, drinking and smoking must be prohibited in areas where this material is handled and processed.</i></p> <p><i>Wash hands and face before eating, drinking and smoking.</i></p>

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	Heavy metals : Harmful to aquatic life.
Toxicity to animals	Lead : ORAL acute (LoLD) : 155 mg/kg (Human) ; 0.2 mg/kg (Rat). INHALATION acute (LoTC) : 10 µg/m ³ (Human). INTRAPERITONEAL acute (LoLD) : 1 g/kg (Rat). (RTECS). Tin : UNREPORTED ROUTE acute (LoTD) : 250 mg/kg (Human). (RTECS).
Mobility (Soil)	Metals : Soluble compounds produced by acidic conditions, becomes mobile in water and in soil (as zinc, lead).
Persistence and degradability	Not applicable
Bioaccumulation	Not applicable
Biodegradation products	Not biodegradable
Biodegradation products (Toxicity)	Not applicable
Remarks on environment	Due to the product's composition, particular attention must be taken.
BOD5 and COD	Not available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods	Recycle to process, if possible. P501-Dispose of contents/container in full compliance with Federal, Provincial and local regulations.
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SECTION 14. TRANSPORT INFORMATION

TDG (Pictograms)	Not regulated (Canada)
PIN	Not applicable
Special provisions (Transport)	Not applicable

SECTION 15. REGULATORY INFORMATION

Labelling (GHS)	Regulation (EC) No 1272/2008 CLP : Not listed.
Labelling (DSD)	<p>EU (Regulation 67/548/EEC) : Not listed.</p> <p>EU: Consolidated Inventories : Listed</p> <p>Lead : EU Consolidated Inventories : EC Number 231-100-4</p> <p>Tin : EU Consolidated Inventories : EC Number 231-141-8</p> <p>Not classified in the Annex I of Directive 67/548/EEC</p> <p>Not listed in the Annex I of Council Regulation No (EC) 304/2003</p> <p>Not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93</p>
Risk phrases (DSD)	None
Safety phrases (DSD)	None
CEPA DSL (CANADA)	CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) : on the Domestic Substances List (DSL) ; acceptable for use under the provisions of CEPA.
Regulation (U.S.A.)	<p>CERCLA Section 103 Hazardous substances (40 CFR 302.4) ; SARA 110 ATSDR CERCLA Priority List : Listed ; SARA Section 313, Toxic Chemicals (40 CFR 372.65) : Listed.</p> <p>Lead (RQ) : *10 pounds (4.54 kg)</p> <p>TSCA (EPA, Toxic Substance Control Act) Chemical Inventory (40 CFR710) : Listed.</p> <p>Lead ; Tin.</p> <p>* No declaration required if the diameter of the piece of solid metal released is equal to or exceeds 100 micrometers (0.004 inches).</p>
Classifications HCS (U.S.A.)	Toxic

NFPA (National Fire Protection Association) (U.S.A.)
Fire Hazard 0 **Reactivity** 0 **Health** 2 **Special Hazard**
SECTION 16. OTHER INFORMATION

- References**
- TLVs and BEIs (2011). Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices. ACGIH, Cincinnati, OH – <http://www.acgih.org>
 - CCOHS (2011) - Canadian Centre for Occupational Health and Safety - <http://www.ccohs.ca/>
 - CSST (2011) - Commission de la Santé et de la Sécurité du Travail (Québec). Service du répertoire toxicologique <http://www.reptox.csst.qc.ca/>
 - ESIS : C&L (Classification and Labelling), substances ou préparations selon la Directive 67/548/EEC (substances) et 1999/45/EC (préparations).
 - ESIS : EINECS (European Inventory of Existing Commercial chemical Substances) O.J. C 146A, 15.6.1990
 - ESIS : EINECS corrections publiées dans O.J. C 54/13 01.03.2002, 2002/C54/08.
 - Guidance on the Application of the CLP Criteria. Guidance to Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging (CLP) of substances and mixtures. 25/08/2009. ECHA Reference : ECHA-09-G-02-EN. © European Chemicals Agency, 2009.
 - ERG (2008). Emergency Response Guidebook, U.S. Department of Transportation, Transport Canada, et le Secretariat of Communications and Transportation of Mexico
 - Guidance on the Application of the CLP Criteria. Guidance to Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging (CLP) of substances and mixtures. 25/08/2009. ECHA Reference : ECHA-09-G-02-EN. © European Chemicals Agency, 2009.
 - HSDB (2011) - Hazardous Substances Data Bank. TOXNET® Network of databases on toxicology, hazardous chemicals, and environmental health. NLM Databases & Electronic Resources, U.S. National Library of Medicine, NHI, 8600 Rockville Pike, Bethesda, MD 20894 <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>
 - IARC - Monographs on the Evaluation of Carcinogenic Risks to Humans (collection) - <http://www-cie.iarc.fr/>
 - Merck Index (1999). Merck & CO., Inc, 12th edition
 - NIOSH U.S. (2011) - Pocket Guide to Chemical Hazards - <http://www.cdc.gov/niosh/npg/>
 - Patty's Industrial Hygiene and Toxicology, 3rd Revised Edition
 - Règlement sur les produits contrôlés (Canada)
 - REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. (Text with EEA relevance). Official Journal of the European Union. L353 p1-1355, 1.12.2008.
 - RTECS (2011). Registry of Toxic Effects of Chemical Substances, NIOSH, CDC
 - Toxicologie industrielle & intoxication professionnelle, 3e édition, Lauwerys
 - TSCA (2011) - U.S. EPA Toxic Substance Control Act, Chemical Inventory. System of Registries (SoR), Substance Registry Services, http://iaspub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do

- Glossary**
- CSST : Commission de la Santé et de la Sécurité du Travail (Québec).
 - HSDB : Hazardous Substances Data Bank.
 - IARC : International Agency for Research on Cancer.
 - NIOSH : National Institute of Occupational Safety and Health.
 - NTP : U.S. National Toxicology Program.
 - RTECS : Registry of Toxic Effects of Chemical Substances
 - STOT : Specific target organ toxicity

Note No specific studies have been performed on this mixture. For your protection, we suggest that you test it before using in your process.

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