

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

Trade name	Refined Lead
Product code	None
Supplier	BRUNSWICK SMELTER , 692 Main Street, Belledune, Nouveau-Brunswick, Canada E8G 2M1
Email	Janice.Vienneau@Glencore-ca.com
Information contact	Janice Vienneau, Environmental Advisor
Phone Number (Business hours)	(506) 522-7442
Phone Number (Emergency)	(506) 522-7344
Synonyms	Lead metal ; Plumbum Plomb affiné (French)
Name / Chemical Formula	Lead/Pb
Chemical Family	Metal
Utilisation	Battery industries.

SECTION 2. HAZARDS IDENTIFICATION

WHMIS (Classification) CLASS D-2A : Very toxic material causing other toxic effects



Hazard classes (categories)/Hazard statements None

Hazards words None

Precautionary statements None

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No	Percentage (%)	Index number	EC No	Hazard classes
Lead metal	7439-92-1	99.9	082-001-00-6	231-100-4	None

SECTION 4. FIRST-AID MEASURES

Eye contact Remove contact lenses, if present. Immediately flush eyes with plenty of water, holding eyelids open for at least 15 minutes. Consult a physician.

Skin contact Wash skin with water and soap.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. IF exposed or concerned: Get medical advice/attention.

Ingestion Induce vomiting. Rinse mouth. **UNCONSCIOUS** person : **DO NOT** induce vomiting or give any liquid.

SECTION 5. FIRE-FIGHTING MEASURES

Flash point Not applicable

Flammable limits Not applicable

Auto-ignition temperature Not applicable

Products of combustion Lead oxides

Fire Hazard Solid form : No fire hazard. Avoid melting moist metal. Dust : Flammable or explosive 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). Fine dust : Slightly explosive to slightly explosive in presence of open flames and sparks.

Extinguishing media **NON-FLAMMABLE.** Use fire fighting materials and procedures adapted to the immediate environment

SECTION 6. ACCIDENTAL RELEASE MEASURES

Measures Collect spillage.

Méthods Pigs and jumbos : recover and recycle (Standard cleaning procedures).

Protective equipment High concentrations of fumes or dust : Use a self-contained breathing apparatus (SCBA) to avoid inhalation of material. Low concentrations : Use a NIOSH/OSHA approved full face cartridge respirator equipped with P100 filters or the equivalent.

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.

Conditions for storage Dry and covered area : Pigs and jumbos

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	CAS No	Pourcentage (%)	Control parameters	
			ACGIH (U.S.A.) 2011 TLV-TWA (mg/m ³)	OSHA (U.S.A.) PEL-TWA (mg/m ³)
Lead	7439-92-1	99.9	0.05 (Pb, inorganic comp. Pb)	0.05 (Pb, compounds Pb)

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).

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 glasses. Coveralls. Work gloves and boots. Dust respirator. Be sure to use a NIOSH approved respirator equipped with P100 filters or equivalent when occupational exposure limits are exceeded.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES****Physical state and appearance**

Molecular weight	207.19
pH (1% soln/water)	Not applicable
Boiling point	1 744°C (3 171.2°F)
Melting point	327.43°C (621.4°F)
Critical temperature	Not available
Gravity specific	11.34 (eau = 1)
Vapour pressure	1 mm Hg at 973°C
Vapour density	Not available
Solubility	Very slight (Water)

Solid (Soft, dense)

Taste

Colour

Volatility

% Moisture

Odour threshold

Water/Oil dist. coeff.

Ionicity (in water)

Dispersion

Odour Odourless

Not applicable

Blue-grey

Not available

Not applicable

Not available

Not available

Not available

No (Water)

SECTION 10. STABILITY AND REACTIVITY

Stability	Yes
Reactivity	None
Dangerous decomposition	Metallic oxides
Conditions to avoid	None
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.
Corrosivity	No

SECTION 11. TOXICOLOGICAL INFORMATION

Routes of Entry	Ingestion. Inhalation.
Carcinogenicity	Lead: POSSIBLE (Group 2B, IARC) (EPA) ; CARCINOGEN (Animal, A3, ACGIH).
Mutagenicity	Lead : Cytogenetic analysis : 23 $\mu\text{g}/\text{m}^3/16$ week (Inhalation, Rat) ; DNA damage : 4.2 ng/l/6 year-intermittent (Inhalation, Human). (RTECS).
Teratogenicity	Lead : ORAL (LoTD) : 0.2 ppb (Multigeneration) Specific developmental abnormalities : Urogenital system ; 24 $\mu\text{g}/\text{kg}$ (Multigeneration) Effects on newborn : Physical (Mouse). (RTECS).
Acute toxicity	Lead : ORAL acute (LoLD) : 155 mg/kg (Human) ; 0.2 mg/kg (Rat). INHALATION acute (LoTC) : 10 $\mu\text{g}/\text{m}^3$ (Human). INTRAPERITONEAL acute (LoLD) : 1 g/kg (Rat). (RTECS).
Acute effects	Conditions and work practices which generate dust or fumes should be avoided or controlled. Possibility of eyes 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	Possibility of toxic effects to : Liver, lungs, kidneys, blood ; Nervous and reproductive systems. Non-controlled repeated or prolonged exposure : Possibility of target organs damages. Lead : Target organs for acute and chronic overexposure (NIOSH 90-117) : Blood, gingival tissues ; gastro-intestinal, 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.
Toxicity	Persons with the following pre-existing conditions warrant particular attention :

BRUNSWICK SMELTER

A GLENCORE COMPANY

REFINED LEAD

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.

*Eating, drinking and smoking must be prohibited in areas where this material is handled and processed.
Wash hands and face before eating, drinking and smoking.*

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to animals

Mobility (Soil)

Persistence and degradability

Biodegradation products

Biodegradation products (Toxicity)

Bioaccumulation

Remarks on environment

BOD5 and COD

Heavy metals : Harmful to aquatic life.

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).

Metals : Soluble compounds produced by acidic conditions, becomes mobile in water and in soil.

Not applicable

Not applicable

Not applicable

Not applicable

Due to the product's composition, particular attention must be taken.

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.

SECTION 14. TRANSPORT INFORMATION

TDG

Proper Shipping Name	Not Regulated
UN Number	-
Class	-
Packing Group	-

IMDG

Proper Shipping Name	Not Regulated
UN Number	-
Class	-
Packing Group	-

IATA

Proper Shipping Name	Not Regulated
UN Number	-
Class	-
Packing Group	-

SECTION 15 REGULATORY INFORMATION

Labelling (GHS)

Regulation (EC) No 1272/2008 CLP : Not listed.

Labelling (DSD)

EU (Regulation 67/548/EEC) : Not listed.

EU: Consolidated Inventories : Listed

Lead : EU Consolidated Inventories : EC Number 231-100-4

Not classified in the Annex I of Directive 67/548/EEC

Not listed in the Annex I of Council Regulation No (EC) 304/2003

Not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93

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.)

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.

Lead (RQ) : *10 pounds (4.54 kg)

TSCA (EPA, Toxic Substance Control Act) Chemical Inventory (40 CFR710) : Listed.

Lead

*No declaration required if the diameter of the piece of solid metal released is equal to or exceeds 100 micrometers (0.004 inches).

BRUNSWICK SMELTER

A GLENCORE COMPANY

REFINED LEAD

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/>
 - 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 - <http://esis.jrc.ec.europa.eu/>
 - 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 (2011) - Monographs on the Evaluation of Carcinogenic Risks to Humans (collection) – [IARC Publications](http://www.iarc.fr/en/websites/databases.php)
 - 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. [NIOSH RTECS](http://www.cdc.gov/niosh-rtecs/EU958940.html) (<http://www.cdc.gov/niosh-rtecs/EU958940.html>)
 - 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), http://iaspub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do

Glossary

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.

Written by : BRUNSWICK SMELTER

Complete revision : 2019-12-9

Partial review : 2010-05-11

Previous complete revision : 2016-10-20

Request to : Janice Vienneau

Tel. : (506) 522-7442

Fax : (506) 522-7089

BRUNSWICK SMELTER, 692 Main Street, Belledune, Nouveau-Brunswick, Canada E8G 2M1

Notice to reader

Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. Glencore Canada extends no warranty and assumes no responsibility for the accuracy of the content and expressly disclaims all liability for reliance thereon. This material safety data sheet provides guidelines for the safe handling and processing of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.