

Classified as hazardous in accordance with the criteria of EPA New Zealand

Section 1 - Identification

Product Identifier

| | |
|-----------------------------|-------------------------------|
| Product Name | <u>Lead metal shot</u> |
| CAS No | 7439-92-1 |
| Synonyms | Lead metal |
| Molecular Formula | Pb |
| Molecular Weight | 207.19 |
| Recommended Use | Laboratory chemicals. |
| Uses advised against | No Information available |

| | |
|--------------------------------|---|
| Product Code | L/0800/53, L/0800/60 |
| Address | Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand |
| Emergency Tel. | CHEMTREC® 09 980 6780 or +64 9 980 6780 |
| Telephone / Fax Numbers | Tel: 09 980 6700 Fax: 09 980 6788 |
| E-mail address | ANZinfo@thermofisher.com |

Section 2 - Hazard(s) Identification

Classification under Work Safe New Zealand

Classified as hazardous in accordance with the criteria of EPA New Zealand

HSNO Approval Number HSR002809

GHS Classification

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

| | |
|--|-------------|
| Acute Oral Toxicity | Category 3 |
| Germ Cell Mutagenicity | Category 2 |
| Carcinogenicity | Category 2 |
| Reproductive Toxicity | Category 1A |
| /; Effects on or via lactation | |
| Specific target organ toxicity - (repeated exposure) | Category 1 |

Environmental hazards

Acute aquatic toxicity
Chronic aquatic toxicity

Category 1
Category 1

Label Elements



Signal Word

Danger

Hazard Statements

H360 - May damage fertility or the unborn child
H362 - May cause harm to breast-fed children
H372 - Causes damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects
H301 - Toxic if swallowed
H341 - Suspected of causing genetic defects if inhaled
H351 - Suspected of causing cancer

Precautionary Statements

Prevention

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P263 - Avoid contact during pregnancy and while nursing
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P308 + P313 - IF exposed or concerned: Get medical advice/attention

Storage

P405 - Store locked up

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards which do not result in classification

Toxic to terrestrial vertebrates
This product does not contain any known or suspected endocrine disruptors

Section 3 - Composition and Information on Ingredients

| Component | CAS No | Weight % |
|-----------|-----------|----------|
| Lead | 7439-92-1 | <=100 |

Section 4 - First Aid Measures

Description of first aid measures

General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

New Zealand Emergency Tel.

CHEMTREC®
09 980 6780 or +64 9 980 6780

| | |
|--|--|
| Inhalation | Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required. |
| Ingestion | Do NOT induce vomiting. Call a physician or poison control center immediately. |
| Self-Protection of the First Aider | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |
| First Aid Facilities | Eyewash, safety shower and washroom. |
| Most important symptoms and effects | None reasonably foreseeable. |
| Notes to Physician | Treat symptomatically. |

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Non-combustible. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

Lead, lead oxides.

Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

Section 6 - Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental Precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Advice on safe handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions

Keep in a dry, cool and well-ventilated place. Keep container tightly closed.

Incompatible Materials

Strong acids. Ammonium nitrate: fertilizers capable of self-sustaining decomposition. Peroxides.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Control parameters

Exposure limits

NZ - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]

Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

ACGIH - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

| Component | New Zealand WEL | Australia | ACGIH TLV | The United Kingdom |
|-----------|-----------------------------|-----------------------------|-----------------------------|---|
| Lead | TWA: 0.05 mg/m ³ | TWA: 0.05 mg/m ³ | TWA: 0.05 mg/m ³ | STEL: 0.45 mg/m ³ 15 min TWA: 0.15 mg/m ³ 8 hr |

Biological limit values

NZ - Substances assigned Biological Exposure Indices in the New Zealand Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

ACGIH - American Conference of Governmental Industrial Hygienists (ACGIH) TLVs® and BEIs®- Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices. 2022 Edition

| Component | New Zealand | Australia | ACGIH - Biological Exposure Indices | United Kingdom |
|-----------|---|-----------|--|----------------|
| Lead | 3 µg/dL (blood) not critical (Lead) 0.14 µmol/L (blood) not critical (Lead) 0.48 µmol/L (blood) not critical (Lead) 10 µg/dL (blood) not critical (Lead) | | 200 µg/L Medium: blood Time: not critical Determinant: Lead | |

Appropriate engineering controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Individual protection measures, such as personal protective equipment

| | |
|------------------------|--|
| Eye Protection | Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications) |
| Hand Protection | Protective gloves |

| Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments |
|--|-----------------------------------|-----------------|-----------------|-----------------------|
| Natural rubber, Nitrile rubber, Neoprene, PVC. | See manufacturers recommendations | - | AS/NZS 2161 | (minimum requirement) |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

| | |
|---------------------------------|---|
| Skin and body protection | Long sleeved clothing |
| Respiratory Protection | Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices |
| Recommended Filter type: | Particulates filter conforming to EN 143 (or AUS/NZ equivalent) |
| Recommended half mask:- | Particle filtering: EN149:2001 (or AUS/NZ equivalent) When RPE is used a face piece Fit Test should be conducted |

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

| | | |
|--|--------------------------|--|
| Physical State | Solid | |
| Appearance | Grey | |
| Odor | Odorless | |
| Odor Threshold | No data available | |
| pH | No information available | |
| Melting Point/Range | 327.4 °C / 621.3 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | 1740 °C / 3164 °F | @ 760 mmHg |
| Flammability (liquid) | Not applicable | Solid |
| Flammability (solid,gas) | No information available | |
| Explosion Limits | No data available | |
| Flash Point | No information available | Method - No information available |
| Autoignition Temperature | No data available | |
| Decomposition Temperature | No data available | |
| Viscosity | Not applicable | Solid |
| Water Solubility | Insoluble | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |

| | | |
|----------------------------|---------------------|-------|
| Vapor Pressure | 1.77 mmHg @ 1000 °C | |
| Density / Specific Gravity | | |
| Bulk Density | No data available | |
| Vapor Density | Not applicable | Solid |
| Particle characteristics | No data available | |

Other information

| | |
|-------------------|------------------------|
| Molecular Formula | Pb |
| Molecular Weight | 207.19 |
| Evaporation Rate | Not applicable - Solid |

Section 10 - Stability and Reactivity

| | |
|----------------------------------|--|
| Reactivity | None known, based on information available |
| Stability | Stable under normal conditions. |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |
| Conditions to Avoid | Exposure to air, Incompatible products. |
| Incompatible Materials | Strong acids, Ammonium nitrate: fertilizers capable of self-sustaining decomposition, Peroxides. |

Hazardous Decomposition Products Lead. lead oxides.

Section 11 - Toxicological Information

Acute Effects**Information on likely routes of exposure****Product Information**

| | |
|------------|------------------------------------|
| Inhalation | Not an expected route of exposure. |
| Eyes | Avoid contact with eyes. |
| Skin | Avoid contact with skin. |
| Ingestion | May be harmful if swallowed. |

Numerical measures of toxicity

| | |
|------------------------------------|-------------------|
| (a) acute toxicity; | |
| Oral | No data available |
| Dermal | No data available |
| Inhalation | No data available |
| (b) skin corrosion/irritation; | No data available |
| (c) serious eye damage/irritation; | No data available |

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

Sensitization No information available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component | New Zealand | Australia | New South Wales | Western Australia | IARC | EU | UK | Germany |
|-----------|----------------------|-----------|-----------------|-------------------|----------|----|----|---------|
| Lead | Suspected carcinogen | | | | Group 2A | | | |

**(g) reproductive toxicity;
Reproductive Effects**

Category 1A
 May cause harm to the unborn child Possible risk of impaired fertility

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure;

Category 1

Target Organs

Kidney, Central nervous system (CNS), Blood.

(j) aspiration hazard;

Not applicable
 Solid

Symptoms / effects, both acute and delayed

No information available.

Section 12 - Ecological Information

Ecotoxicity**Aquatic ecotoxicity**

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|-----------|--|------------------------------------|------------------|----------|
| Lead | LC50: = 1.32 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 1.17 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 0.44 mg/L, 96h semi-static (Cyprinus carpio) | EC50: = 600 µg/L, 48h (water flea) | | |

Terrestrial ecotoxicity

There is no data for this product

Persistence and Degradability

Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary

| | |
|---|---|
| Persistence | Insoluble in water, May persist. |
| Degradability Degradation in sewage treatment plant | Not relevant for inorganic substances. Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants. |
| Bioaccumulative Potential | May have some potential to bioaccumulate Product has a high potential to bioconcentrate |
| Mobility | Spillage unlikely to penetrate soil. Is not likely mobile in the environment due its low water solubility. |
| <u>Other adverse effects</u> | |
| Endocrine Disruptor Information Persistent Organic Pollutant Ozone Depletion Potential | This product does not contain any known or suspected endocrine disruptors This product does not contain any known or suspected substance This product does not contain any known or suspected substance |

Section 13 - Disposal Considerations

Waste treatment methods

| | |
|--|--|
| Waste from Residues/Unused Products | Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations. |
| Contaminated Packaging | Dispose of this container to hazardous or special waste collection point. |
| Other Information | Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations . Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment. |

Section 14 - Transport Information

NZS 5433:2020

| | |
|--------------------------------|--|
| UN-No | UN3077 |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Technical Shipping Name | Lead |
| Hazard Class | 9 |
| Packing Group | III |

IATA

| | |
|--------------------------------|--|
| UN-No | UN3077 |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Technical Shipping Name | Lead |
| Hazard Class | 9 |
| Packing Group | III |

IMDG/IMO

| | |
|--------------------------------|--|
| UN-No | UN3077 |
| Proper Shipping Name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Technical Shipping Name | Lead |

| | |
|---|---|
| Hazard Class | 9 |
| Packing Group | III |
| Environmental hazards | Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable, packaged goods |
| Special Precautions | No special precautions required. Please refer to the applicable dangerous goods regulations for additional information. |
| Additional information | None known |

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

| | |
|-----------------------------|-----------|
| HSNO Approval Number | HSR002809 |
|-----------------------------|-----------|

National Regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

| Component | New Zealand |
|-----------|----------------------|
| Lead | Suspected carcinogen |

International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

Authorisation/Restrictions according to EU REACH

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-----------|---|--|---|
| Lead | - | Use restricted. See entry 72. (see link for restriction details) Use restricted. See entry 30. (see link for restriction details) Use restricted. See entry 63. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details) | SVHC Candidate list - 231-100-4 - Toxic for reproduction (Article 57c) |

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in

scientific research and development which includes routine analytics or use as intermediate.

<https://echa.europa.eu/authorisation-list>

<https://echa.europa.eu/substances-restricted-under-reach>

<https://echa.europa.eu/candidate-list-table>

International Inventories

New Zealand (NZIoC), Australia (AICS), Europe (EINECS/ELINCS/NLP), Korea (KECL), China (IECSC), Taiwan (TCSI), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component | CAS No | NZIoC | AICS | EINECS | ELINCS | NLP | KECL | IECSC | TCSI |
|-----------|-----------|-------|------|-----------|--------|-----|----------|-------|------|
| Lead | 7439-92-1 | X | X | 231-100-4 | - | - | KE-21887 | X | X |

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | PICCS | ISHL | ENCS |
|-----------|-----------|------|---|-----|------|-------|------|------|
| Lead | 7439-92-1 | X | ACTIVE | X | - | X | - | X |

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

Section 16 - Other Information

This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations

Legend

NZIoC - New Zealand Inventory of Chemicals

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

NZS 5433:2020 - Transport of Dangerous Goods on Land

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

WEL - Workplace Exposure Limit

DNEL - Derived No Effect Level

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

VOC - (Volatile Organic Compound)

AICS - Australian Inventory of Chemical Substances

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

ACGIH - American Conference of Governmental Industrial Hygienists

PNEC - Predicted No Effect Concentration

OECD - Organisation for Economic Co-operation and Development

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

LC50 - Lethal Concentration 50%

ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment

NOEC - No Observed Effect Concentration

BCF - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data

HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID).

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadviser - LOLI, Merck index, RTECS

EPA Guide to classifying hazardous substances in New Zealand

EPA - Assigning a product to an existing HSNO approval guide

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

| | |
|------------------|----------------------|
| Revision Date | 16-Jul-2025 |
| Revision Summary | SDS sections updated |

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet