

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Lead, lump, Pb, max. lump size 10mm,
weight 500 g, high purity 99.99+%

Product Number : GF17553966
Brand : Aldrich

1.2 Other means of identification

No data available

1.3 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses.

1.4 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Pty. Ltd.
Suite 1, Level 1, Building B
11 Talavera Road
MACQUARIE PARK NSW 2113
AUSTRALIA

Telephone : +61 1800 800 097

1.5 Emergency telephone

Emergency Phone # : Free call (24/7): 1800 448 465
Int'l (24/7): +61 2 9037 2994
(CHEMTREC)

SECTION 2: Hazards identification

2.1 GHS Classification

Reproductive toxicity (Category 1A), H360
Effects on or via lactation, H362
Specific target organ toxicity - repeated exposure, Oral (Category 1), Central nervous system, Blood, Immune system, Kidney, H372

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)
H360 : May damage fertility or the unborn child.
H362 : May cause harm to breast-fed children.
H372 : Causes damage to organs (Central nervous system, Blood,



Immune system, Kidney) through prolonged or repeated exposure if swallowed.

Precautionary statement(s)

Prevention

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
 P263 Avoid contact during pregnancy/ while nursing.
 P264 Wash 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.

Reduced Labeling (<= 125 ml)

Pictogram



Signal word none

Hazard statement(s) none

Precautionary statement(s) none

Refer to the Safety Data Sheet before use.

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

Substance / Mixture : Substance

3.1 Substances

Molecular weight : 207.2 g/mol

Hazardous ingredients

Component	Classification	Concentration
Lead	Repr. 1A; Lact. ; STOT RE 1; H360, H362, H372 Concentration limits: >= 2.5 %: Repr. 2, H361f; >= 0.5 %: STOT RE 2, H373; >= 0.03 %: Repr. 1A, H360;	<= 100 %



SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Nature of decomposition products not known.
Not combustible.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.



6.2 Environmental precautions

No special precautionary measures necessary.

6.3 Methods and materials for containment and cleaning up

Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage class

Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.3 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Lead	7439-92-1	PEL (long term)	0.15 mg/m ³	Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Lead	7439-92-1	Lead	50micro grams per 100 milliliters	Blood	Singapore. Biological Threshold Limit Values



		Lead	30micro grams per 100 milliliters	Blood	Singapore. Biological Threshold Limit Values
		Lead	11g/dl	Hb	Singapore. Biological Threshold Limit Values
		Lead	10g/dl	Hb	Singapore. Biological Threshold Limit Values

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.



Control of environmental exposure
No special precautionary measures necessary.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: solid
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point: 326 °C at ca.1,013 hPa - OECD Test Guideline 102
f) Initial boiling point and boiling range	1,740 °C
g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Density	11.45 g/cm ³ at 23.8 °C at 1,013 hPa - OECD Test Guideline 109
Relative density	11.45 at 23.8 °C - OECD Test Guideline 109
n) Water solubility	0.185 g/l at 20 °C at 1,013 hPa - OECD Test Guideline 105- partly soluble
o) Partition coefficient: n-octanol/water	Not applicable for inorganic substances
p) Autoignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
s) Explosive properties	No data available
t) Oxidizing properties	none
u) Particle characteristics	

9.2 Other safety information

No data available

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SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 423)

LC50 Inhalation - Rat - male and female - 4 h - > 5.05 mg/l

(OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 72 h

(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Micronucleus test

Species: Rat

Cell type: Red blood cells (erythrocytes)

Application Route: Oral

Result: positive

Remarks: (ECHA)



Test Type: comet assay
Species: Mouse
Cell type: Liver cells
Application Route: Inhalation

Result: negative
Remarks: (ECHA)

Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Oral

Result: Positive results were obtained in some in vivo tests.
Remarks: (ECHA)

Test Type: Chromosome aberration test in vitro
Species: Monkey
Cell type: lymphocyte
Application Route: Oral

Result: Positive results were obtained in some in vivo tests.
Remarks: (ECHA)

Carcinogenicity

No data available

Reproductive toxicity

May damage the unborn child. Positive evidence from human epidemiological studies. May damage fertility. Positive evidence from human epidemiological studies. Studies indicating a hazard to babies during the lactation period

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Oral - Causes damage to organs through prolonged or repeated exposure. - Central nervous system, Blood, Immune system, Kidney

Aspiration hazard

No data available

11.2 Additional Information

anemia

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

On the basis of the morphology of the product, no hazardous properties are to be expected when it is handled and used with appropriate care.

The following applies to lead compounds in general: Due to the poor absorbability via the gastrointestinal tract, only very high doses lead to acute cases of intoxication. After a latency period of several hours, metallic taste, nausea, vomiting, and colics occur, in many instances followed by shock. Chronic uptake causes peripheral muscular weakness ("drop-wrist"), anaemia, and central-nervous disorders. Women of child-bearing age should not be exposed to the substance over longer periods of time (observe critical threshold).



Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

Biodegradability Result: - According to the results of tests of biodegradability this product is not readily biodegradable.
Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Bioaccumulation Oncorhynchus kisutch - 2 Weeks
- 150 µg/l(Lead)

Bioconcentration factor (BCF): 12

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 UN number

ADR/RID:

IMDG:

IATA-DGR:

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14.2 UN proper shipping name

ADR/RID:

IMDG:

IATA-DGR:

14.3 Transport hazard class(es)

ADR/RID:

IMDG:

IATA-DGR:

14.4 Packaging group

ADR/RID:

IMDG:

IATA-DGR:

14.5 Environmental hazards

ADR/RID:

IMDG Marine pollutant:

IATA-DGR:

14.6 Special precautions for user

None

14.7 Incompatible materials

Strong oxidizing agents

SECTION 15: Regulatory information

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

Notification status

AICS: On the inventory, or in compliance with the inventory

DSL: All components of this product are on the Canadian DSL

ENCS: Not in compliance with the inventory - Lead

ISHL: Not in compliance with the inventory - Lead

KECI: On the inventory, or in compliance with the inventory

NZIoC: On the inventory, or in compliance with the inventory

PICCS: On the inventory, or in compliance with the inventory

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H360 May damage fertility or the unborn child.

H361f Suspected of damaging fertility.

H362 May cause harm to breast-fed children.

H372 Causes damage to organs through prolonged or repeated exposure if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure.



Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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