

1 Identification

Product identifier

Product name: Lead(II) telluride

Stock number: 36317

CAS Number:
1314-91-6

EC number:
215-247-1

Index number:
082-001-00-6

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

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS08 Health hazard

Repr. 1A H360 May damage fertility or the unborn child.

STOT RE 2 H373 May cause damage to the reproductive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS07 GHS08

Signal word

Danger

Hazard statements

H302+H332 Harmful if swallowed or if inhaled.

H360 May damage fertility or the unborn child.

H373 May cause damage to the reproductive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P281 Use personal protective equipment as required.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

D1B - Toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects



Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH **2** Health (acute effects) = 2

FIRE **0** Flammability = 0

REACTIVITY **1** Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

1314-91-6 Lead(II) telluride

Product name: Lead(II) telluride																																			
Identification number(s): EC number: 215-247-1 Index number: 082-001-00-6	(Contd. of page 1)																																		
4 First-aid measures Description of first aid measures After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice. After skin contact Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice. After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor. After swallowing Seek medical treatment. Information for doctor Most important symptoms and effects, both acute and delayed No further relevant information available. Indication of any immediate medical attention and special treatment needed No further relevant information available.																																			
5 Fire-fighting measures Extinguishing media Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire. Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Lead oxide fume Metal oxide fume Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.																																			
6 Accidental release measures Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Environmental precautions: Do not allow material to be released to the environment without proper governmental permits. Methods and material for containment and cleaning up: Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation. Prevention of secondary hazards: No special measures required. Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information.																																			
7 Handling and storage Handling Precautions for safe handling Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Open and handle container with care. Information about protection against explosions and fires: The product is not flammable Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Store away from oxidizing agents. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Specific end use(s) No further relevant information available.																																			
8 Exposure controls/personal protection Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Control parameters Components with limit values that require monitoring at the workplace: Tellurium and tellurium compounds (as Te) mg(Te)/m3 <table><tr><td>ACGIH TLV</td><td>0.1</td></tr><tr><td>Austria MAK</td><td>0.1</td></tr><tr><td>Belgium TWA</td><td>0.1</td></tr><tr><td>Denmark TWA</td><td>0.1</td></tr><tr><td>Finland TWA</td><td>0.1; 0.3-STEL</td></tr><tr><td>France VME</td><td>0.1</td></tr><tr><td>Germany MAK</td><td>0.1</td></tr><tr><td>Korea TLV</td><td>0.1</td></tr><tr><td>Netherlands MAC-TGG</td><td>0.1</td></tr><tr><td>Norway TWA</td><td>0.1</td></tr><tr><td>Poland TWA</td><td>0.01; 0.03-STEL</td></tr><tr><td>Sweden NGV</td><td>0.1</td></tr><tr><td>Switzerland MAK-W</td><td>0.1; 0.5-KZG-W</td></tr><tr><td>United Kingdom TWA</td><td>0.1</td></tr><tr><td>USA PEL</td><td>0.1</td></tr></table> Lead, elemental, and inorganic compounds (as Pb) mg(Pb)/m3 <table><tr><td>ACGIH TLV</td><td>0.05 Confirmed animal carcinogen</td></tr><tr><td>Austria MAK</td><td>0.1</td></tr></table>		ACGIH TLV	0.1	Austria MAK	0.1	Belgium TWA	0.1	Denmark TWA	0.1	Finland TWA	0.1; 0.3-STEL	France VME	0.1	Germany MAK	0.1	Korea TLV	0.1	Netherlands MAC-TGG	0.1	Norway TWA	0.1	Poland TWA	0.01; 0.03-STEL	Sweden NGV	0.1	Switzerland MAK-W	0.1; 0.5-KZG-W	United Kingdom TWA	0.1	USA PEL	0.1	ACGIH TLV	0.05 Confirmed animal carcinogen	Austria MAK	0.1
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(Contd. on page 3)																																			

Product name: **Lead(II) telluride**

(Contd. of page 2)

Belgium TWA	0.15
Denmark TWA	0.1
Germany MAK	0.1
Japan OEL	0.1
Netherlands TWA	0.15
Norway TWA	0.05
Poland TWA	0.05
Switzerland MAK-W	0.1
United Kingdom TWA	0.1
Finland TWA	0.1
France TWA	0.15
Hungary STEL	0.04
Sweden TWA	0.1 (total dust)
	0.05 (resp. dust)
USA PEL	0.05

1314-91-6 Lead(II) telluride (100.0%)

PEL (USA)	Long-term value: 0.1 mg/m ³ as Te
REL (USA)	Long-term value: 0.1 mg/m ³ as Te
TLV (USA)	Long-term value: 0.1 mg/m ³ as Te
EL (Canada)	Long-term value: 0.1 mg/m ³ as Te

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Maintain an ergonomically appropriate working environment.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Refer to 29CFR1910.1025 for regulations on respiratory protection required during exposure to lead and lead compounds.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Penetration time of glove material (in minutes) Not determined

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Powder
Color:	Grey
Odor:	Not determined
Odor threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined

Flash point:	Not applicable
Flammability (solid, gaseous)	Not determined.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Not determined.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not applicable.
Density at 20 °C (68 °F):	8.164 g/cm ³ (68.129 lbs/gal)
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Insoluble
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity No information known.

Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions No dangerous reactions known

Conditions to avoid No further relevant information available.

Incompatible materials: Oxidizing agents

(Contd. on page 4)
USA

Product name: **Lead(II) telluride**

Hazardous decomposition products:
Lead oxide fume
Metal oxide fume

(Contd. of page 3)

11 Toxicological information

Information on toxicological effects
Acute toxicity:
Harmful if inhaled.
Harmful if swallowed.
LD/LC50 values that are relevant for classification: No data
Skin irritation or corrosion: Irritant to skin and mucous membranes.
Eye irritation or corrosion: Irritating effect.
Sensitization: No sensitizing effects known.
Germ cell mutagenicity: No effects known.
Carcinogenicity:
EPA-B2: Probable human carcinogen, sufficient evidence from animal studies; inadequate evidence or no data from epidemiologic studies.
NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.
ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.
IARC-2A: Probably carcinogenic to humans: limited human evidence; sufficient evidence in experimental animals
Reproductive toxicity: May damage fertility or the unborn child.
Specific target organ system toxicity - repeated exposure:
May cause damage to the reproductive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Subacute to chronic toxicity:
Tellurium is converted in the body to dimethyl telluride which imparts a garlic-like odor to the breath and sweat. Heavy exposure may result in headache, drowsiness, metallic taste, loss of appetite, nausea, tremors, convulsions, and respiratory arrest.
Lead and lead compounds may cause abdominal pain, diarrhea, loss of appetite, metallic taste, nausea, vomiting, lassitude, insomnia, muscle weakness, joint and muscle pain, irritability, headache and dizziness. Red blood cells may be damaged resulting in anemia. Gastritis and injury to the kidneys, liver, male gonads, and central nervous system may also occur.
Subacute to chronic toxicity: No effects known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Ecotoxicological effects:
Remark: Very toxic for aquatic organisms
Additional ecological information:
General notes:
Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Very toxic for aquatic organisms
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation Consult state, local or national regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number DOT, IMDG, IATA	UN3284
UN proper shipping name DOT IMDG, IATA	Tellurium compound, n.o.s. (Lead(II) telluride) TELLURIUM COMPOUND, N.O.S. (Lead(II) telluride)
Transport hazard class(es) DOT	
	
Class Label Class Label IMDG, IATA	6.1 Toxic substances. 6.1 6.1 (T5) Toxic substances 6.1
	
Class Label	6.1 Toxic substances. 6.1

(Contd. on page 5)
USA

Product name: Lead(II) telluride	
(Contd. of page 4)	
Packing group DOT, IMDG, IATA	III
Environmental hazards:	Environmentally hazardous substance, solid
Special precautions for user	Warning: Toxic substances
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.	
Transport/Additional information:	
DOT Marine Pollutant (DOT):	No
UN "Model Regulation":	UN3284, Tellurium compound, n.o.s. (Lead(II) telluride), 6.1, III

15 Regulatory information	
Safety, health and environmental regulations/legislation specific for the substance or mixture	
GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)	
Hazard pictograms	
 	
GHS07 GHS08	
Signal word Danger	
Hazard statements	
H302+H332 Harmful if swallowed or if inhaled.	
H360 May damage fertility or the unborn child.	
H373 May cause damage to the reproductive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.	
Precautionary statements	
P260 Do not breathe dust/fume/gas/mist/vapours/spray.	
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.	
P281 Use personal protective equipment as required.	
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.	
P405 Store locked up.	
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.	
National regulations	
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.	
All components of this product are listed on the Canadian Domestic Substances List (DSL).	
This product contains a chemical known to the state of California to cause cancer and/or reproductive toxicity.	
SARA Section 313 (specific toxic chemical listings)	
1314-91-6 Lead(II) telluride	
California Proposition 65	
Prop 65 - Chemicals known to cause cancer	
1314-91-6 Lead(II) telluride	
Prop 65 - Developmental toxicity Substance is not listed.	
Prop 65 - Developmental toxicity, female Substance is not listed.	
Prop 65 - Developmental toxicity, male Substance is not listed.	
Information about limitation of use:	
For use only by technically qualified individuals.	
This product contains lead and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.	
Other regulations, limitations and prohibitive regulations Refer to 29CFR1910.1025 for regulations concerning lead and lead compounds.	
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.	
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.	
Substance is not listed.	
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.	
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.	

16 Other information	
Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.	
Department issuing SDS: Global Marketing Department	
Date of preparation / last revision 11/23/2015 / -	
Abbreviations and acronyms:	
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)	
IMDG: International Maritime Code for Dangerous Goods	
DOT: US Department of Transportation	
IATA: International Air Transport Association	
EINECS: European Inventory of Existing Commercial Chemical Substances	
CAS: Chemical Abstracts Service (division of the American Chemical Society)	
HMIS: Hazardous Materials Identification System (USA)	
WHMIS: Workplace Hazardous Materials Information System (Canada)	
LC50: Lethal concentration, 50 percent	
LD50: Lethal dose, 50 percent	
vPvB: very Persistent and very Bioaccumulative	
ACGIH: American Conference of Governmental Industrial Hygienists (USA)	
OSHA: Occupational Safety and Health Administration (USA)	
NTP: National Toxicology Program (USA)	
IARC: International Agency for Research on Cancer	
EPA: Environmental Protection Agency (USA)	