

ALFAA39397

## Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**产品说明:**  
**Product Description:** 双(2,2,6,6,-四甲基-3,5-庚二酮)铅(II)  
 Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)

**Cat No. :** 39397  
**CAS No** 21319-43-7  
**Molecular Formula** C22 H38 O4 Pb

**Supplier** Alfa Aesar  
 Avocado Research Chemicals, Ltd.  
 Shore Road  
 Port of Heysham Industrial Park  
 Heysham, Lancashire LA3 2XY  
 United Kingdom  
 Office Tel: +44 (0) 1524 850506  
 Office Fax: +44 (0) 1524 850608

**Emergency Telephone Number** Call Carechem 24 at  
 +44 (0) 1865 407333 (English only);  
 +44 (0) 1235 239670 (Multi-language)

**E-mail address** uktech@alfa.com  
 www.alfa.com  
 Product Safety Department

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

### SECTION 2. HAZARD IDENTIFICATION

**Physical State**  
Powder Solid

**Appearance**  
White

**Odor**  
No information available

#### Emergency Overview

Harmful if swallowed. Harmful if inhaled. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

#### Classification of the substance or mixture

Acute Oral Toxicity	Category 4
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Reproductive Toxicity	Category 1A
Specific target organ toxicity - (repeated exposure)	Category 2
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

#### Label Elements

# SAFETY DATA SHEET

## Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)

**Signal Word****Danger****Hazard Statements**

H373 - May cause damage to organs through prolonged or repeated exposure  
H410 - Very toxic to aquatic life with long lasting effects  
H302 + H332 - Harmful if swallowed or if inhaled  
H360 - May damage fertility or the unborn child

**Precautionary Statements****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  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response**

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
P308 + P313 - IF exposed or concerned: Get medical advice/attention  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P330 - Rinse mouth

**Storage**

P403 - Store in a well-ventilated place

**Disposal**

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

**Physical and Chemical Hazards**

None identified.

**Health Hazards**

Harmful if swallowed. Harmful if inhaled. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

**Environmental hazards**

Very toxic to aquatic life with long lasting effects.

This product does not contain any known or suspected endocrine disruptors.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight %
Lead bis(2,2,6,6-tetramethyl-3,5-heptanedionate)	21319-43-7	> 99

**Note**

Note 1: The concentration stated or, in the absence of such concentrations, the generic concentrations of this Regulation (Table 3.1) or the generic concentrations of Directive 1999/45/EC (Table 3.2), are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture

**SECTION 4. FIRST AID MEASURES****Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

**Skin Contact**

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## Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation**

Remove to fresh air. 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. If not breathing, give artificial respiration.

**Ingestion**

Do NOT induce vomiting. Call a physician or poison control center immediately.

**Most important symptoms and effects**

No information available.

**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.

**Notes to Physician**

Treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Do not touch damaged packages or spilled material.

**Environmental Precautions**

See Section 12 for additional Ecological Information. Should not be released into the environment. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system. Avoid release to the environment. Collect spillage.

**Methods for Containment and Clean Up**

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

Refer to protective measures listed in Sections 8 and 13.

### SECTION 7. HANDLING AND STORAGE

**Handling**

Ensure adequate ventilation. Wear personal protective equipment/face protection. Handle product only in closed system or provide appropriate exhaust ventilation. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Do not eat, drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors/spray.

# SAFETY DATA SHEET

## Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)

**Storage**

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

**Specific Use(s)**

Use in laboratories

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Control Parameters**

Component	China	Taiwan	Hong Kong	The United Kingdom
Lead bis(2,2,6,6-tetramethyl-3,5-heptanedionato)	-	-	-	STEL: 0.45 mg/m <sup>3</sup> 15 min TWA: 0.15 mg/m <sup>3</sup> 8 hr

Component	ACGIH TLV	OSHA PEL	NIOSH	European Union
Lead bis(2,2,6,6-tetramethyl-3,5-heptanedionato)			IDLH: 100 mg/m <sup>3</sup> TWA: 0.050 mg/m <sup>3</sup>	

**Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust MDHS6/3 Lead and inorganic compounds of lead in air Laboratory method using flame or electrothermal atomic absorption spectrometry

**Exposure Controls****Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. 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.

**Personal protective equipment**

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber	See manufacturers	-	EN 374	(minimum requirement)
Nitrile rubber	recommendations			
Neoprene				
PVC				

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 compatibility, 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** Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

## Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)

**Recommended Filter type:** Particulates filter conforming to EN 143**Small scale/Laboratory use**

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended half mask:-** Particle filtering: EN149:2001  
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**

No information available.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	White	
<b>Physical State</b>	Powder Solid	
<b>Odor</b>	No information available	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	No information available	
<b>Melting Point/Range</b>	128 - 131 °C / 262.4 - 267.8 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	No information available	
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Evaporation Rate</b>	Not applicable	Solid
<b>Flammability (solid,gas)</b>	No information available	
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	No data available	
<b>Vapor Density</b>	Not applicable	Solid
<b>Specific Gravity / Density</b>	No data available	
<b>Bulk Density</b>	No data available	
<b>Water Solubility</b>	No information available	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	Not applicable	Solid
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	
<b>Molecular Formula</b>	C22 H38 O4 Pb	
<b>Molecular Weight</b>	573.74	

**SECTION 10. STABILITY AND REACTIVITY**

<b>Stability</b>	Stable under normal conditions.
<b>Hazardous Reactions</b>	No information available.
<b>Hazardous Polymerization</b>	No information available.
<b>Conditions to Avoid</b>	Incompatible products.
<b>Materials to avoid</b>	Strong acids.

**Hazardous Decomposition Products** Lead, lead oxides.**SECTION 11. TOXICOLOGICAL INFORMATION**

# SAFETY DATA SHEET

## Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)

### Product Information

#### (a) acute toxicity;

Toxicology data for the components

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

#### (d) respiratory or skin sensitization;

Respiratory No data available

Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

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

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

Category 1A

Product is or contains a chemical which is a known or suspected reproductive hazard.

#### (h) STOT-single exposure;

Category 3

Results / Target organs

Respiratory system

#### (i) STOT-repeated exposure;

Category 2

Target Organs

Central nervous system (CNS), Blood, Kidney.

#### (j) aspiration hazard;

Not applicable  
Solid

#### Other Adverse Effects

The toxicological properties have not been fully investigated. The hazards associated with lead may be seen in this product. May be harmful if absorbed through skin.

#### Symptoms / effects, both acute and delayed

No information available

## SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity effects

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not flush into surface water or sanitary sewer system. Do not empty into drains. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

#### Persistence and Degradability

Persistence

Degradability

Degradation in sewage

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

May persist.

Not relevant for inorganic substances.

Contains substances known to be hazardous to the environment or not degradable in waste

# SAFETY DATA SHEET

## Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)

<b>treatment plant</b>	water treatment plants.
<b>Bioaccumulative Potential</b>	Product has a high potential to bioconcentrate
<b>Mobility in soil</b>	No information available

<b>Endocrine Disruptor Information</b>	This product does not contain any known or suspected endocrine disruptors
<b>Persistent Organic Pollutant</b>	This product does not contain any known or suspected substance
<b>Ozone Depletion Potential</b>	This product does not contain any known or suspected substance

### SECTION 13. DISPOSAL CONSIDERATIONS

<b>Waste from Residues/Unused Products</b>	Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
<b>Contaminated Packaging</b>	Dispose of this container to hazardous or special waste collection point.
<b>Other Information</b>	Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

### SECTION 14. TRANSPORT INFORMATION

#### Road and Rail Transport

<b>UN-No</b>	UN2291
<b>Proper Shipping Name</b>	LEAD COMPOUND, SOLUBLE, N.O.S.
<b>Technical Shipping Name</b>	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	III

#### IMDG/IMO

<b>UN-No</b>	UN2291
<b>Proper Shipping Name</b>	LEAD COMPOUND, SOLUBLE, N.O.S.
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<b>Packing Group</b>	III

#### IATA

<b>UN-No</b>	UN2291
<b>Proper Shipping Name</b>	LEAD COMPOUND, SOLUBLE, N.O.S.
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<b>Special Precautions for User</b>	No special precautions required
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### SECTION 15. REGULATORY INFORMATION

#### **International Inventories**

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of	List of dangerous	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
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## Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)

	Hazardous Chemicals (2015 Edition)	goods GB 12268 - 2012										
Lead bis(2,2,6,6-tetramethyl-3,5-heptanedionato)	-	-	X	-	-	-	-	-	-	-	-	-

**Note**

Note 1: The concentration stated or, in the absence of such concentrations, the generic concentrations of this Regulation (Table 3.1) or the generic concentrations of Directive 1999/45/EC (Table 3.2), are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture

**National Regulations****SECTION 16. OTHER INFORMATION**

**Prepared By** Health, Safety and Environmental Department  
**Creation Date** 22-Sep-2009  
**Revision Date** 11-Aug-2023  
**Revision Summary** Not applicable.

**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.

**Legend**

**CAS** - Chemical Abstracts Service

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

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

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

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

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

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

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

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

**Key literature references and sources for data**

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

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

**Physical hazards**

On basis of test data



**Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)lead (II)****Health Hazards**

Calculation method

**Environmental hazards**

Calculation method

**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**