

SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

Product Identifier

SRM Number: 2584
SRM Name: Trace Elements in Indoor Dust
 (Nominal Mass Fraction of 1 % Lead)
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is intended for use in the evaluation of methods and for the calibration of apparatus used to determine lead and other trace elements in dust. SRM 2584 is composed of dust collected from vacuum cleaner bags used in the cleaning of interior dwelling spaces. A unit consists of 8 g of particulate material, 99+ % of which passes a 100 µm (No. 145) sieve.

Company Information

National Institute of Standards and Technology
 Standard Reference Materials Program
 100 Bureau Drive, Stop 2300
 Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
 E-mail: SRMMSDS@nist.gov
 Website: <https://www.nist.gov/srm>

Emergency Telephone ChemTrec:
 1-800-424-9300 (North America)
 +1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Classification

Physical Hazard: Not classified.
Health Hazard: Carcinogenicity – Category 1B
 Reproductive Toxicity – Category 1A
 STOT, Repeated Exposure – Category 2

Label Elements

Symbol:



Signal Word: DANGER

Hazard Statement(s):

H350 May cause cancer.
 H360 May damage fertility or the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust.
 P280 Wear protective gloves, protective clothing, and eye protection.
 P308 + P313 If exposed or concerned: Get medical attention.
 P405 Store locked up.
 P501 Dispose of contents and container in accordance with local regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Substance: Contaminated House Dust

Other Designations: Not applicable.

Note: This material is a complex mixture that contains trace amounts of various elements. Components are listed in compliance with OSHA, 29 CFR 1910.1200 for SDS information. For actual concentrations, see the Certificate of Analysis.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Contaminated house dust	not applicable	not applicable	100
<i>Individual Component in SRM 2584</i>			
Lead	7439-92-1	231-100-4	1

4. FIRST AID MEASURES

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash skin with soap and water for at least 15 minutes. If necessary, seek medical attention.

Eye Contact: Flush eyes with water for at least 15 minutes. If necessary, seek medical attention.

Ingestion: If a large amount is swallowed, seek medical attention.

Most Important Symptoms/Effects, Acute and Delayed: Nausea, vomiting, metallic taste, thirst, a burning sensation in the mouth and throat, salivation, and abdominal pain with severe colic. Delayed effects include cancer, birth defects, and reproductive effects.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek medical attention if needed.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Negligible fire hazard. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:

Suitable: Use extinguishing media appropriate for the surrounding area.

Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Keep unnecessary personnel away. Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Notify safety personnel of spills. Collect spilled material in appropriate container for disposal. Isolate hazard area and deny entry.

7. HANDLING AND STORAGE

Safe Handling Precautions: Use methods to minimize dust. See Section 8, "Exposure Controls and Personal Protection".

Storage: Store and handle in accordance with all current regulations and standards.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

Component: Lead

NIOSH REL (TWA): 0.050 mg/m³

NIOSH REL (IDLH): 100 mg/m³

ACGIH TLV (TWA): 0.05 mg/m³

OSHA PEL (TWA): 50 µg/m³

OSHA PEL (Action Level): 30 µg/m³ (See 29 CFR 1910.1025)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear chemical resistant safety goggles. An eyewash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties:

Appearance (physical state, color, etc.):

Molecular Formula:

Molar Mass (g/mol):

Odor:

Odor threshold:

pH:

Evaporation rate:

Melting point/freezing point (°C):

Relative Density (g/L):

Vapor Pressure (mmHg):

Vapor Density (air = 1):

Viscosity (cP):

Solubility(ies):

Partition coefficient (n-octanol/water):

Particle Size:

Thermal Stability Properties:

Autoignition Temperature (°C):

Thermal Decomposition (°C):

Initial boiling point and boiling range (°C):

Explosive Limits, LEL (Volume %):

Explosive Limits, UEL (Volume %):

Flash Point (°C):

Flammability (solid, gas):

Dust

amorphous powder

not applicable

not applicable

not available

not available

not available

not applicable

not applicable

not available

not applicable

not applicable

not applicable

not available

not available

<100 µm

not available

not available

not available

not available

not available

not available

not available

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable Unstable

Possible Hazardous Reactions: No data available.

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: Oxidizing materials, halogens, combustible materials, peroxides, metals, metal carbide, and acids.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Oxides of lead.

Hazardous Polymerization: Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation Skin X Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Fatigue, weakness, anorexia, anemia, jaundice, encephalopathy.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Exposure to dust may result in respiratory tract irritation. Short term inhalation of lead may cause irritation, nausea, vomiting, kidney damage, and liver damage. Prolonged exposure to lead may result in an accumulation in body tissues and exert adverse effects on the blood, nervous system, heart, endocrine and immune systems, kidneys, and reproduction.

Skin Contact: Skin exposure to dust may result in mechanical irritation. Prolonged or repeated exposure to lead may cause irritation; exposure to lead powder may cause dermatitis.

Eye Contact: Contact with this material may cause mechanical eye irritation.

Ingestion: Ingestion of lead may cause kidney damage or liver damage; chronic ingestion may result in accumulation in body tissues and may also cause cancer.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified.

Pure lead is classified as Category 4 – Oral and Category 4 – Inhalation.

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye Damage/Irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Category 1B

Listed as a Carcinogen/Potential Carcinogen X Yes No

Lead is listed as reasonably anticipated to be a human carcinogen per NTP.

IARC lists inorganic lead in Group 2A (probably carcinogenic to humans).

Reproductive Toxicity: Category 1A; lead crosses the placenta and may affect the fetus causing birth defects, mental retardation, behavioral disorders, and death during the first year of childhood.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Category 2; lead can accumulate in body tissues.

Aspiration Hazard: Not applicable.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data:

Lead Fish Toxicity:

Carp (*Cyprinus carpio*), LC50: 0.44 mg/L (96 hours, semi-static)

Trout (*Oncorhynchus mykiss*), LC50: 1.17 mg/L (96 hours, flow-through)

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations. Lead Hazardous Waste Number(s): D008. Lead subject to U.S. EPA 40 CFR 262 for concentrations at or above the regulatory level of 5.0 mg/L.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Lead, 10 lbs final RQ (4.54 kg final RQ).

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): 0.1 % Supplier notification limit.

OSHA Process Safety (29 CFR 1910.119): Not regulated for this SRM.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH: Yes.

CHRONIC HEALTH: Yes.

FIRE: No.

REACTIVE: No.

PRESSURE: No.

State Regulations:

California Proposition 65:

WARNING! This product contains chemicals (lead) known to the state of California to cause cancer.

WARNING! This product contains a chemical (lead) known to the state of California to cause reproductive/developmental effects.

U.S. TSCA Inventory: Lead listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations:

WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 13 October 2023

Sources: ChemAdvisor, Inc., SDS *Lead*, 09 December 2015.

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transport Association	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration	STEL	Short Term Exposure Limit
LD50	Median Lethal Dose or Lethal Dose, 50 %	STOT	Specific Target Organ Toxicity
LEL	Lower Explosive Limit	TLV	Threshold Limit Value
MSDS	Material Safety Data Sheet	TPQ	Threshold Planning Quantity
NIOSH	National Institute for Occupational Safety and Health	TSCA	Toxic Substances Control Act
NIST	National Institute of Standards and Technology	TWA	Time Weighted Average
n.o.s.	Not Otherwise Specified	UEL	Upper Explosive Limit
		WHMIS	Workplace Hazardous Materials Information System

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Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; e-mail srmmsds@nist.gov; or via the Internet at <https://www.nist.gov/srm>.