

**SAFETY DATA SHEET**

**1. SUBSTANCE AND SOURCE IDENTIFICATION**

**Product Identifier**

**SRM Number:** 2589  
**SRM Name:** Powdered Paint (Nominal Mass Fraction of 10 % 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 in paint. A unit of SRM 2589 consists of 35 g of powdered paint 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  
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 1-800-424-9300 (North America)  
 +1-703-527-3887 (International)

**2. HAZARDS IDENTIFICATION**

**Classification**

**Physical Hazard:** Not classified.  
**Health Hazard:** Carcinogen – Category 1B  
 Reproductive Toxicity – Category 1A  
 Specific Target Organ Toxicity, 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 causes damage to organs (nervous system, kidneys, liver, blood) through prolonged or repeated exposure.

**Precautionary Statement(s):**

P201 Obtain special instructions before use (see Certificate of Analysis).  
 P202 Do not handle until all safety precautions have been read and understood.  
 P260 Do not breathe dust.  
 P264 Wash hands thoroughly after handling.  
 P270 + P271 Do not eat, drink or smoke when using this product. Use only in a well-ventilated area.  
 P280 Wear protective gloves, protective clothing, and eye protection.

P308 + 313 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.

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### 3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

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**Substance:** Powdered paint

**Other Designations:** Not applicable.

Components are listed in compliance with OSHA's 29 CFR 1910.1200; for the actual values see the NIST Certificate of Analysis. Lead carbonate is the main source of lead contained in this material. The hazard information in this Safety Data Sheet is for basic lead carbonate.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Powdered Paint	Not available	Not available	100
<b>Individual Constituent(s)</b>			
Basic lead carbonate	1319-46-6	215-290-6	12.5

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### 4. FIRST AID MEASURES

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**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:** Cancer, birth defects, reproductive effects.

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

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### 5. FIRE FIGHTING MEASURES

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**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:** Oxides of lead and carbon.

**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).

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### 6. ACCIDENTAL RELEASE MEASURES

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**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.

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### 7. HANDLING AND STORAGE

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**Safe Handling Precautions:** Avoid generating dust. See Section 8, "Exposure Controls and Personal Protection".

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

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## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

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### Exposure Limits:

- OSHA (PEL): 15 mg/m<sup>3</sup> TWA (total particulates, PNOR)  
5 mg/m<sup>3</sup> TWA (respirable particulates, PNOR)
- NIOSH (REL): 0.05 mg/m<sup>3</sup> TWA (as Pb, related Lead compounds)
- NIOSH (REL): 100 mg/m<sup>3</sup> IDLH (as Pb, related Lead compounds)

**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 29 CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

**Eye/Face Protection:** Wear splash resistant safety goggles with a face shield. 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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Descriptive Properties:

<b>Appearance</b> (physical state, color, etc.):	white powder
<b>Molecular Formula:</b>	not applicable
<b>Molar Mass (g/mol):</b>	not applicable
<b>Odor:</b>	not available
<b>Odor threshold:</b>	not available
<b>pH:</b>	not available
<b>Evaporation rate:</b>	not available
<b>Melting point/freezing point (°C):</b>	not available
<b>Relative Density (g/L):</b>	not available
<b>Vapor Pressure (mmHg):</b>	not available
<b>Vapor Density (air = 1):</b>	not available
<b>Viscosity (cP):</b>	not available
<b>Solubility(ies):</b>	not available
<b>Partition coefficient (n-octanol/water):</b>	not available
<b>Particle Size</b>	≤ 100 μm

### Thermal Stability Properties:

<b>Autoignition Temperature (°C):</b>	not applicable
<b>Thermal Decomposition (°C):</b>	not applicable
<b>Initial boiling point and boiling range (°C):</b>	not applicable
<b>Explosive Limits, LEL (Volume %):</b>	not applicable
<b>Explosive Limits, UEL (Volume %):</b>	not applicable
<b>Flash Point (°C)</b>	not applicable
<b>Flammability (solid, gas):</b>	not applicable

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** Stable at normal temperatures and pressure.

**Stability:**  Stable  Unstable

**Possible Hazardous Reactions:** No data available.

**Conditions to Avoid:** Generating dust.

**Incompatible Materials:** Acids, fluorine, aluminum, sodium, hydrogen peroxide, oxidizing materials, sodium and titanium are incompatible with basic lead carbonate.

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

**Hazardous Decomposition:** Oxides of lead and carbon.

**Hazardous Polymerization:**  Will Occur  Will Not Occur

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## 11. TOXICOLOGICAL INFORMATION

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**Route of Exposure:**  Inhalation  Skin  Ingestion

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

**Potential Health Effects (Acute, Chronic and Delayed):**

**Inhalation:** Acute health effects resulting from exposure to the lead carbonate in this material are unlikely. Chronic exposure to lead compounds may result in accumulation in body tissues resulting in adverse effects on the blood, nervous system, heart, kidneys, endocrine and reproductive systems. Lead has been shown to cause cancer and birth defects.

**Skin Contact:** No toxicity data available; dust may result in mechanical irritation.

**Eye Contact:** No toxicity data available; dust may cause mechanical irritation.

**Ingestion:** Ingestion of this material is unlikely under normal conditions of use. Lead is a cumulative toxin and repeated exposures can cause high levels to build up. Over exposure to lead, or lead compounds either through acute or chronic exposure, can result in severe damage to the nervous system, urinary system, and reproductive system. Lead has been shown to cause cancer and birth defects.

**Numerical Measures of Toxicity:**

**Acute Toxicity:** Not classified.

**Skin Corrosion/Irritation:** Not classified.

**Serious Eye damage/ Eye irritation:** Not classified.

**Respiratory Sensitization:** Not classified.

**Skin Sensitization:** Not classified.

**Germ Cell Mutagenicity:** Not classified.

**Carcinogenicity:** Category 1B

**Listed as a Carcinogen/Potential Carcinogen**  Yes  No

NTP lists lead compounds as "reasonably anticipated to be human carcinogens".

IARC lists inorganic lead compounds in Group 2A (probably carcinogenic to humans). Lead is not listed by OSHA.

**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.

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

**Aspiration Hazard:** Not applicable.

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## 12. ECOLOGICAL INFORMATION

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**Ecotoxicity Data:** No data available.

**Persistence and Degradability:** No data available.

**Bioaccumulative Potential:** No data available.

**Mobility in Soil:** No data available.

**Other Adverse effects:** No data available.

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## 13. DISPOSAL CONSIDERATIONS

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**Waste Disposal:** Dispose of waste in accordance with all applicable federal, state, and local regulations.

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## 14. TRANSPORTATION INFORMATION

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

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## 15. REGULATORY INFORMATION

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### U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

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): Not regulated.

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

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

ACUTE HEALTH: No.

CHRONIC HEALTH: Yes.

FIRE: No.

REACTIVE: No.

PRESSURE: No.

### State Regulations:

California Proposition 65:

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

**U.S. TSCA Inventory:** Basic lead carbonate is listed.

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

### Canadian Regulations:

WHMIS Information: Not provided for this material.

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## 16. OTHER INFORMATION

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**Issue Date:** 23 August 2022

**Sources:** ChemAdvisor, Inc., MSDS *Basic Lead Carbonate*, 23 December 2013.

CDC; NIOSH; *NIOSH Pocket Guide to Chemical Hazards*; Department of Health and Human Services (DHHS), Centers for Disease Control and Prevention (CDC), National Institute for Safety and Health; *Particulates Not Otherwise Regulated*, 30 October 2019; available at <https://www.cdc.gov/niosh/npg/npgd0480.html> (accessed Aug 2022).

United States National Library of Medicine, PubChem Database, , *Basic Lead Carbonate*; available at <https://pubchem.ncbi.nlm.nih.gov/compound/14834> (accessed Aug 2022).

### Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	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	PNOR	Particulates Not Otherwise Regulated
DOT	Department of Transportation	RCRA	Resource Conservation and Recovery Act
EC50	Effective Concentration, 50 %	REL	Recommended Exposure Limit
EINECS	European Inventory of Existing Commercial Chemical Substances	RM	Reference Material
EPCRA	Emergency Planning and Community Right-to-Know Act	RQ	Reportable Quantity
IARC	International Agency for Research on Cancer	RTECS	Registry of Toxic Effects of Chemical Substances
IATA	International Air Transport Association	SARA	Superfund Amendments and Reauthorization Act
IDLH	Immediately Dangerous to Life and Health	SCBA	Self-Contained Breathing Apparatus
LC50	Lethal Concentration, 50 %	SRM	Standard Reference Material
LD50	Lethal Dose, 50 %	STEL	Short Term Exposure Limit
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	TWA	Time Weighted Average
NIST	National Institute of Standards and Technology	UEL	Upper Explosive Limit
		WHMIS	Workplace Hazardous Materials Information System

**Disclaimer:** The NIST SDS information is specific to the NIST product and is believed to be correct, based upon our current knowledge. The SDS may not necessarily be all inclusive and should be used only as a guide. NIST does not guarantee the accuracy or completeness of this information. The only official source for specific values and uncertainties is the certificate or report.

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](mailto:srmmsds@nist.gov); or via the Internet at <https://www.nist.gov/srm>.