



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

<b>Product identifier</b>	<b>Lead Oxide (Pb3O4)</b>	
<b>Other means of identification</b>		
SDS number	L-MSDS0056	
Materion Code	L-MSDS0056	
CAS number	1314-41-6	
Synonyms	Lead Tetroxide	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	Materion Advanced Chemicals Inc.	
<b>Address</b>	407 N 13th Street 1316 W. St. Paul Avenue Milwaukee, WI 53233 United States	
<b>Telephone</b>	414.212.0257	
<b>E-mail</b>	advancedmaterials@materion.com	
<b>Contact person</b>	Noreen Atkinson	
<b>Emergency phone number</b>	Chemtrec	800.424.9300

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Carcinogenicity	Category 1B
	Reproductive toxicity (fertility, the unborn child)	Category 1A
	Specific target organ toxicity, repeated exposure	Category 2
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Danger
<b>Hazard statement</b>	Harmful if swallowed. Harmful if inhaled. Suspected of causing genetic defects. Suspected of causing cancer. May damage the unborn child. May damage fertility. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

## Precautionary statement

### Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

### Response

If swallowed: Call a poison center/doctor if you feel unwell. If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Rinse mouth. Collect spillage.

### Storage

Store locked up.

### Disposal

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

### Hazard(s) not otherwise classified (HNOC)

None known.

### Supplemental information

Not applicable.

## 3. Composition/information on ingredients

### Substances

Chemical name	Common name and synonyms	CAS number	%
Lead Oxide (Pb3O4)	Lead Tetroxide	1314-41-6	100

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

### Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.

### Skin contact

Rinse with water. Get medical attention if irritation develops and persists.

### Eye contact

Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.

### Ingestion

Rinse mouth. Get medical advice/attention if you feel unwell. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

### Most important symptoms/effects, acute and delayed

Prolonged exposure may cause chronic effects.

### Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

### General information

IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

### Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

### Unsuitable extinguishing media

None known.

### Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

### Special protective equipment and precautions for firefighters

Wear suitable protective equipment.

### Fire fighting equipment/instructions

Use water spray to cool unopened containers. Water runoff can cause environmental damage.

### Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

### General fire hazards

No unusual fire or explosion hazards noted.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

### Methods and materials for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Collect spillage.

Large Spills: Wet down with water and dike for later disposal. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

### Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not taste or swallow. Avoid breathing dust. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Material	Type	Value
Lead Oxide (Pb3O4) (CAS 1314-41-6)	TWA	0.05 mg/m3

#### US. ACGIH Threshold Limit Values

Material	Type	Value
Lead Oxide (Pb3O4) (CAS 1314-41-6)	TWA	0.05 mg/m3

#### US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
Lead Oxide (Pb3O4) (CAS 1314-41-6)	TWA	0.05 mg/m3

#### US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

Material	Type	Value	Form
Lead Oxide (Pb3O4) (CAS 1314-41-6)	PEL	0.05 mg/m3	Dust and fume.
	TWA	0.03 mg/m3	Dust and fume.

## Biological limit values

### ACGIH Biological Exposure Indices

Material	Value	Determinant	Specimen	Sampling Time
Lead Oxide (Pb3O4) (CAS 1314-41-6)	200 µg/l	Lead	Blood	*

\* - For sampling details, please see the source document.

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** If contact is likely, safety glasses with side shields are recommended.

#### Skin protection

**Hand protection** For prolonged or repeated skin contact use suitable protective gloves.

**Other** Use personal protective equipment as required.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.

## 9. Physical and chemical properties

### Appearance

**Physical state** Solid.

**Form** Solid.

**Color** Not available.

**Odor** Not available.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** Not available.

**Flash point** Not available.

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not available.

### Upper/lower flammability or explosive limits

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** Not available.

**Vapor density** Not available.

**Relative density** Not available.

### Solubility(ies)

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Other information**

**Density** 9.10 g/cm<sup>3</sup>

**Molecular formula** O<sub>4</sub>-Pb<sub>3</sub>

**Molecular weight** 685.6 g/mol

**Specific gravity** 9.1

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability** Material is stable under normal conditions.

**Possibility of hazardous reactions** Hazardous polymerization does not occur.

**Conditions to avoid** Contact with incompatible materials.

**Incompatible materials** None known.

**Hazardous decomposition products** No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** Harmful if inhaled.

**Skin contact** Due to lack of data the classification is not possible.

**Eye contact** Due to lack of data the classification is not possible.

**Ingestion** Harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation.

### Information on toxicological effects

**Acute toxicity** Harmful if inhaled. Harmful if swallowed.

**Skin corrosion/irritation** Due to lack of data the classification is not possible.

**Serious eye damage/eye irritation** Due to lack of data the classification is not possible.

### Respiratory or skin sensitization

**Respiratory sensitization** Due to lack of data the classification is not possible.

**Skin sensitization** Due to lack of data the classification is not possible.

**Germ cell mutagenicity** Suspected of causing genetic defects.

**Carcinogenicity** Suspected of causing cancer.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Lead Oxide (Pb<sub>3</sub>O<sub>4</sub>) (CAS 1314-41-6) 2A Probably carcinogenic to humans.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

### US. National Toxicology Program (NTP) Report on Carcinogens

Lead Oxide (Pb<sub>3</sub>O<sub>4</sub>) (CAS 1314-41-6) Reasonably Anticipated to be a Human Carcinogen.

**Reproductive toxicity** May damage the unborn child. May damage fertility.

**Specific target organ toxicity - single exposure** Due to lack of data the classification is not possible.

**Specific target organ toxicity - repeated exposure** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard** Due to lack of data the classification is not possible.

**Chronic effects**

Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. May cause damage to organs through prolonged or repeated exposure.

**12. Ecological information****Ecotoxicity**

Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

**Persistence and degradability**

No data is available on the degradability of this product.

**Bioaccumulative potential**

No data available.

**Mobility in soil**

No data available.

**Other adverse effects**

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

**13. Disposal considerations****Disposal instructions**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**

Dispose in accordance with all applicable regulations.

**Hazardous waste code**

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

**14. Transport information****DOT**

Not regulated as dangerous goods.

**IATA**

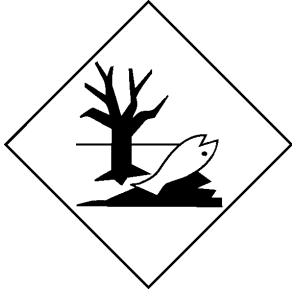
Not regulated as dangerous goods.

**IMDG**

<b>UN number</b>	UN2291
<b>UN proper shipping name</b>	LEAD COMPOUND, SOLUBLE, N.O.S., MARINE POLLUTANT
<b>Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGIII)
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-A, S-A
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**IMDG**

Marine pollutant



## 15. Regulatory information

### US federal regulations

All components are on the U.S. EPA TSCA Inventory List.  
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

#### SARA 304 Emergency release notification

Not regulated.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Lead Oxide (Pb3O4) (CAS 1314-41-6)	Reproductive toxicity
	Central nervous system
	Kidney
	Blood
	Acute toxicity

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

<b>Hazard categories</b>	Immediate Hazard - Yes
	Delayed Hazard - Yes
	Fire Hazard - No
	Pressure Hazard - No
	Reactivity Hazard - No

#### SARA 302 Extremely hazardous substance

Not listed.

<b>SARA 311/312 Hazardous chemical</b>	Yes
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#### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Lead Oxide (Pb3O4) (CAS 1314-41-6)

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

<b>Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)</b>	Priority pollutant
	Toxic pollutant

<b>Safe Drinking Water Act (SDWA)</b>	0 mg/l
	0.015 mg/l

### US state regulations

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

#### US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Lead Oxide (Pb3O4) (CAS 1314-41-6)	Listed: October 1, 1992
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Lead Oxide (Pb3O4) (CAS 1314-41-6)

## 16. Other information, including date of preparation or last revision

**Issue date** 12-07-2017

**Version #** 01

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