



SAFETY DATA SHEET

MATERION

1. Identification

Product identifier	Lead tungstate (PbWO₄)
Other means of identification	LEAD TUNGSTATE * LEAD TUNGSTEN OXIDE * Lead Tungstate (IV) * Lead tungsten oxide (PbWO ₄) * Lead tungsten tetraoxide
Synonyms	
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	Materion Advanced Chemicals Inc.
Address	407 N 13th Street 1316 W. St. Paul Avenue Milwaukee, WI 53233 United States
Telephone	414.212.0257
E-mail	advancedmaterials@materion.com
Contact person	Noreen Atkinson
Emergency phone number	Chemtec 800.424.9300

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	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
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Harmful if swallowed. May cause cancer. Harmful if inhaled. May damage fertility. May damage the unborn child. 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. Do not breathe dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response	If swallowed: Call a poison center/doctor if you feel unwell. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor. 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	None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Lead tungstate	LEAD TUNGSTATE LEAD TUNGSTEN OXIDE Lead Tungstate (IV) Lead tungsten oxide (PbWO4) Lead tungsten tetraoxide	7759-01-5	100

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

4. First-aid measures

Inhalation	If dust from the material is inhaled, remove the affected person immediately to fresh air. 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	Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell. Rinse mouth.
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. Treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). IF exposed or concerned: Get medical advice/attention.

5. Fire-fighting measures

Suitable extinguishing media	Water.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Not applicable.
Special protective equipment and precautions for firefighters	Wear suitable protective equipment.
Fire fighting equipment/instructions	In the event of fire, cool tanks with water spray. Water runoff can cause environmental damage.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Local authorities should be advised if significant spillages cannot be contained. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust from the spilled material. Ventilate closed spaces before entering them.

Methods and materials for containment and cleaning up

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. Collect spillage. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid the generation of dusts during clean-up. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. 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. Prevent further leakage or spillage if safe to do so. 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. Avoid dust formation. Guard against dust accumulation of this material. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust from this material. Do not taste or swallow. Avoid contact with skin and eyes. Avoid contact during pregnancy/while nursing. Use only outdoors or in a well-ventilated area. Wear personal protective equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Practice good housekeeping. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Avoid dust formation. Guard against dust accumulation of this material. Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits

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

Material	Type	Value
Lead tungstate (CAS 7759-01-5)	TWA	0.05 mg/m ³

US. ACGIH Threshold Limit Values

Material	Type	Value
Lead tungstate (CAS 7759-01-5)	STEL	10 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
Lead tungstate (CAS 7759-01-5)	STEL	10 mg/m ³
	TWA	5 mg/m ³

Biological limit values

ACGIH Biological Exposure Indices

Material	Value	Determinant	Specimen	Sampling Time
Lead tungstate (CAS 7759-01-5)	300 µg/l	Lead	Blood	*

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

Individual protection measures, such as personal protective equipment

Eye/face protection	Use personal protective equipment as required. Use tight fitting goggles if dust is generated.
Skin protection	
Hand protection	Use personal protective equipment as required.
Other	Use personal protective equipment as required.
Respiratory protection	Wear respirator with dust filter. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.
Thermal hazards	Not available.
General hygiene considerations	When using, do not eat, drink or smoke. Do not breathe dust. Avoid contact with eyes. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Powder.
Physical state	Solid.
Form	Solid. Powder
Color	Not available.
Odor	Not applicable.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	2066 °F (1130 °C)
Initial boiling point and boiling range	Not applicable.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
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 applicable.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	8.23 g/cm ³ estimated
Molecular formula	H ₂ -O ₄ -W.Pb
Molecular weight	455.07 g/mol
Specific gravity	8.24

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid spread of dust.
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 Not available.

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	Dust in the eyes will cause irritation.
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	Due to lack of data the classification is not possible.
Carcinogenicity	May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Lead tungstate (CAS 7759-01-5) 2A Probably carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Lead tungstate (CAS 7759-01-5) Reasonably Anticipated to be a Human Carcinogen.

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

Not listed.

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 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	Not available.
Mobility in soil	Not available.

Other adverse effects Not available.

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. Incinerate the material under controlled conditions in an approved incinerator. 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.

Hazardous waste code D008: Waste Lead

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

UN number UN3288
UN proper shipping name Toxic solid, inorganic, n.o.s., MARINE POLLUTANT
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Label(s) 6.1
Packing group III
Environmental hazards
Marine pollutant Yes
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions IB8, IP3, T1, TP33
Packaging exceptions 153
Packaging non bulk 213
Packaging bulk 240

IATA

UN number UN3288
UN proper shipping name Toxic solid, inorganic, n.o.s.
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Packing group III
Environmental hazards No.
ERG Code 6L
Special precautions for user Not available.
Other information
Passenger and cargo aircraft Allowed.
Cargo aircraft only Allowed.

IMDG

UN number UN3288
UN proper shipping name TOXIC SOLID, INORGANIC, N.O.S.
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Packing group III

Environmental hazards

Marine pollutant

EmS

Special precautions for user

No.

F-A, S-A

Not available.

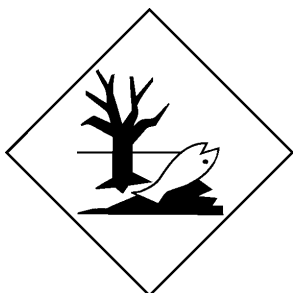
DOT



IATA; IMDG



Marine pollutant



General information

DOT Regulated Marine Pollutant.

15. Regulatory information

US federal regulations

All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

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

Lead tungstate (CAS 7759-01-5)

Reproductive toxicity
Central nervous system
Kidney
Blood
Acute toxicity

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Lead tungstate (CAS 7759-01-5)

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

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Priority pollutant
Toxic pollutant

Safe Drinking Water Act (SDWA) 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 - New Jersey RTK - Substances: Listed substance

Lead tungstate (CAS 7759-01-5)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Lead tungstate (CAS 7759-01-5)

US. Massachusetts RTK - Substance List

Lead tungstate (CAS 7759-01-5)

US. New Jersey Worker and Community Right-to-Know Act

Lead tungstate (CAS 7759-01-5)

US. Pennsylvania RTK - Hazardous Substances

Not regulated.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Lead tungstate (CAS 7759-01-5)

US. California Proposition 65

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

Lead tungstate (CAS 7759-01-5) Listed: October 1, 1992

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Lead tungstate (CAS 7759-01-5) Listed: February 27, 1987

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Lead tungstate (CAS 7759-01-5) Listed: February 27, 1987

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Lead tungstate (CAS 7759-01-5) Listed: February 27, 1987

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

Issue date 05-18-2015

Revision date 07-14-2015

Version # 02

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