



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

**Product identifier** Lithium Sputtering Target

**Other means of identification**

SDS number Q05

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** Materion Advanced Materials  
**Address** 6070 Parkland Boulevard  
Mayfield Heights, OH 44124  
United States

**Telephone** EH&S 1.216.383.4019

**Website** www.materion.com

**E-mail** ehs@materion.com

**Contact person** Theodore Knudson

**Emergency phone number** See Section 16.

## 2. Hazard(s) identification

**Physical hazards** Substances and mixtures which, in contact with water, emit flammable gases Category 1

**Health hazards** Skin corrosion/irritation Category 1B  
Serious eye damage/eye irritation Category 1

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Danger

**Hazard statement** In contact with water releases flammable gases which may ignite spontaneously. Causes severe skin burns and eye damage.

**Precautionary statement**

**Prevention** Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. Protect from moisture. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

**Response** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Immediately call a poison center/doctor. If inhaled: Remove person to fresh air and keep comfortable for breathing. If swallowed: Immediately call a poison center/doctor. In case of fire: Use appropriate media to extinguish.

**Storage** Store in a well-ventilated place. Keep container tightly closed. Store locked up.

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

**Hazard(s) not otherwise classified (HNOC)** None known.

### 3. Composition/information on ingredients

#### Substances

| Chemical name | Common name and synonyms | CAS number | %   |
|---------------|--------------------------|------------|-----|
| Lithium       |                          | 7439-93-2  | 100 |

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

### 4. First-aid measures

|   |   |
|---|---|
| <b>Inhalation</b>   | Provide fresh air, warmth and rest, preferably in comfortable upright sitting position. If not breathing, give artificial respiration. Get medical attention immediately.   |
| <b>Skin contact</b>   | Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.   |
| <b>Eye contact</b>  | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.   |
| <b>Ingestion</b>  | Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth thoroughly. Drink plenty of water. Do not induce vomiting. Call a physician or poison control center immediately.                               |
| <b>Most important symptoms/effects, acute and delayed</b>                     | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. |
| <b>Indication of immediate medical attention and special treatment needed</b> | Treat according to locally accepted protocols. For additional guidance, refer to the current prescribing information or to the local poison control information center. Keep victim warm.   |
| <b>General information</b>  | If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.   |

### 5. Fire-fighting measures

|  |  |
|--|--|
| <b>Suitable extinguishing media</b>                                  | DRY sand, sodium chloride powder, graphite powder or Met-L-X powder.   |
| <b>Unsuitable extinguishing media</b>                                | Water, CO2 or Foam   |
| <b>Specific hazards arising from the chemical</b>                    | Contact with water may cause an explosion or may produce a flammable gas. Fire may produce irritating, corrosive and/or toxic gases. |
| <b>Special protective equipment and precautions for firefighters</b> | Firefighters should wear full protective clothing including self contained breathing apparatus.                                      |
| <b>Fire fighting equipment/instructions</b>                          | Do not get water inside container.   |
| <b>Specific methods</b>  | Use standard firefighting procedures and consider the hazards of other involved materials.   |
| <b>General fire hazards</b>  | In contact with water releases flammable gases which may ignite spontaneously.   |

### 6. Accidental release measures

|  |  |
|--|--|
| <b>Personal precautions, protective equipment and emergency procedures</b> | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. 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**

Do not get water on spilled substance or inside containers.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

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

**Environmental precautions**

Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling**

Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Never allow product to get in contact with water during storage. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a dry place. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

**Occupational exposure limits**

This substance has no PEL, TLV, or other recommended exposure limit.

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Good general ventilation 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. Eye wash facilities and emergency shower must be available when handling this product.

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

**Eye/face protection**

Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.

**Skin protection**

**Hand protection**

Wear gloves to prevent metal cuts and skin abrasions during handling. Gloves also prevent skin moisture from reacting with the lithium.

**Other**

Wear suitable protective clothing.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

**Appearance**

**Physical state**

Solid.

**Form**

Solid.

**Color**

Silver-white.

**Odor**

None.

**Odor threshold**

Not applicable.

**pH**

Not applicable.

**Melting point/freezing point**

356.97 °F (180.54 °C) / Not applicable.

**Initial boiling point and boiling range**

Not applicable.

|   |   |
|---|---|
| Flash point   | Not applicable.                           |
| Evaporation rate                                    | Not applicable.                           |
| Flammability (solid, gas)                           | Not applicable.                           |
| <b>Upper/lower flammability or explosive limits</b> |   |
| Flammability limit - lower (%)                      | Not applicable.                           |
| Flammability limit - lower (%) temperature          | Not applicable.                           |
| Flammability limit - upper (%)                      | Not applicable.                           |
| Flammability limit - upper (%) temperature          | Not applicable.                           |
| Explosive limit - lower (%)                         | Not applicable.                           |
| Explosive limit - lower (%) temperature             | Not applicable.                           |
| Explosive limit - upper (%)                         | Not applicable.                           |
| Explosive limit - upper (%) temperature             | Not applicable.                           |
| Vapor pressure                                      | Not applicable.                           |
| Vapor density                                       | Not applicable.                           |
| Vapor density temp.                                 | Not applicable.                           |
| Relative density                                    | Not applicable.                           |
| <b>Solubility(ies)</b>                              |   |
| Solubility (water)                                  | Insoluble.                                |
| Partition coefficient (n-octanol/water)             | Not applicable.                           |
| Auto-ignition temperature                           | Not applicable.                           |
| Decomposition temperature                           | Not applicable.                           |
| Viscosity   | Not applicable.                           |
| <b>Other information</b>                            |   |
| Density   | 0.53 g/cm <sup>3</sup> estimated at 20 °C |
| Explosive properties                                | Not explosive.                            |
| Molecular formula                                   | Li  |
| Molecular weight                                    | 6.94 g/mol                                |
| Oxidizing properties                                | Not oxidizing.                            |
| Specific gravity                                    | 0.53 at 20 °C                             |
| Surface tension                                     | Not applicable.                           |

## 10. Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity                         | In contact with water releases flammable gas.   |
| Chemical stability                 | Material is stable under normal conditions.   |
| Possibility of hazardous reactions | Hazardous polymerization does not occur.  |
| Conditions to avoid                | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Exposure to moisture. Contact with incompatible materials. |
| Incompatible materials             | Water.  |
| Hazardous decomposition products   | No hazardous decomposition products are known.  |

## 11. Toxicological information

### Information on likely routes of exposure

|              |   |
|--------------|---|
| Inhalation   | May cause irritation to the respiratory system. |
| Skin contact | Causes severe skin burns.                       |
| Eye contact  | Causes serious eye damage.                      |
| Ingestion    | Causes digestive tract burns.                   |

**Symptoms related to the physical, chemical and toxicological characteristics** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

### Information on toxicological effects

|  |  |
|--|--|
| <b>Acute toxicity</b>                    | Not known.   |
| <b>Skin corrosion/irritation</b>         | Causes severe skin burns and eye damage.   |
| <b>Serious eye damage/eye irritation</b> | Causes serious eye damage.   |
| <b>Respiratory or skin sensitization</b> |  |
| <b>Respiratory sensitization</b>         | Not a respiratory sensitizer.  |
| <b>Skin sensitization</b>                | This product is not expected to cause skin sensitization.  |
| <b>Germ cell mutagenicity</b>            | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| <b>Carcinogenicity</b>                   | Not classifiable as to carcinogenicity to humans.  |

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

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

Not listed.

|   |  |
|---|--|
| <b>Reproductive toxicity</b>                              | This product is not expected to cause reproductive or developmental effects. |
| <b>Specific target organ toxicity - single exposure</b>   | May cause respiratory irritation.  |
| <b>Specific target organ toxicity - repeated exposure</b> | Not classified.  |
| <b>Aspiration hazard</b>                                  | Not an aspiration hazard.  |

## 12. Ecological information

|                                      |  |
|--------------------------------------|--|
| <b>Ecotoxicity</b>                   | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
| <b>Persistence and degradability</b> | No data is available on the degradability of this substance.   |
| <b>Bioaccumulative potential</b>     | No data available.   |
| <b>Mobility in soil</b>              | No data available.   |
| <b>Other adverse effects</b>         | 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

|                                   |  |
|-----------------------------------|--|
| <b>Disposal instructions</b>      | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| <b>Local disposal regulations</b> | Dispose in accordance with all applicable regulations.   |

|  |  |
|--|--|
| <b>Hazardous waste code</b>                  | D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]<br>The waste code should be assigned in discussion between the user, the producer and the waste disposal company.                       |
| <b>Waste from residues / unused products</b> | 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). |
| <b>Contaminated packaging</b>                | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.       |

## 14. Transport information

### DOT

|                                     |   |
|-------------------------------------|---|
| <b>UN number</b>                    | UN1415  |
| <b>UN proper shipping name</b>      | Lithium   |
| <b>Transport hazard class(es)</b>   |   |
| <b>Class</b>                        | 4.3   |
| <b>Subsidiary risk</b>              | -   |
| <b>Label(s)</b>                     | 4.3   |
| <b>Packing group</b>                | I   |
| <b>Special precautions for user</b> | Read safety instructions, SDS and emergency procedures before handling. |
| <b>Special provisions</b>           | A7, A19, IB4, IP1, N45  |
| <b>Packaging exceptions</b>         | None  |
| <b>Packaging non bulk</b>           | 211   |
| <b>Packaging bulk</b>               | 244   |

### IATA

|                                     |   |
|-------------------------------------|---|
| <b>UN number</b>                    | UN1415  |
| <b>UN proper shipping name</b>      | Lithium   |
| <b>Transport hazard class(es)</b>   |   |
| <b>Class</b>                        | 4.3   |
| <b>Subsidiary risk</b>              | -   |
| <b>Packing group</b>                | I   |
| <b>Environmental hazards</b>        | No.   |
| <b>ERG Code</b>                     | 4W  |
| <b>Special precautions for user</b> | Read safety instructions, SDS and emergency procedures before handling. |
| <b>Other information</b>            |   |
| <b>Passenger and cargo aircraft</b> | Forbidden   |
| <b>Cargo aircraft only</b>          | Allowed with restrictions.  |

### IMDG

|                                     |   |
|-------------------------------------|---|
| <b>UN number</b>                    | UN1415  |
| <b>UN proper shipping name</b>      | LITHIUM   |
| <b>Transport hazard class(es)</b>   |   |
| <b>Class</b>                        | 4.3   |
| <b>Subsidiary risk</b>              | -   |
| <b>Packing group</b>                | I   |
| <b>Environmental hazards</b>        |   |
| <b>Marine pollutant</b>             | No.   |
| <b>EmS</b>                          | F-G, S-N  |
| <b>Special precautions for user</b> | Read safety instructions, SDS and emergency procedures before handling. |

DOT



IATA; IMDG



## 15. Regulatory information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### Toxic Substances Control Act (TSCA)

##### 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 1910.1001-1053)

Not listed.

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

#### SARA 302 Extremely hazardous substance

Not listed.

#### SARA 311/312 Hazardous chemical

Yes

##### Classified hazard categories

In contact with water emits flammable gas  
Skin corrosion or irritation  
Serious eye damage or eye irritation

#### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

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

Not regulated.

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

Not regulated.

#### Safe Drinking Water Act (SDWA)

Not regulated.

## US state regulations

### California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

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

**Issue date** 05-05-2020

**Revision date** 09-27-2021

**Version #** 02

**Further information** Transportation Emergency  
Call Chemtrec at:  
International: 703.741.5970  
Spain: 900.868.538  
Switzerland: 0800.564.402  
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059

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