



# SAFETY DATA SHEET

**MATERION**

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Name of the substance** Thorium Nitrate  
**Identification number** 237-514-1 (EC number)  
**Synonyms** None.  
**Document number** 2CK  
**Materion Code** 2CK  
**Issue date** 21-May-2015  
**Version number** 05  
**Revision date** 15-January-2018  
**Supersedes date** 12-April-2017

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** Not available.  
**Uses advised against** None known.

### 1.3. Details of the supplier of the safety data sheet

#### Supplier

**Company name** Materion Advanced Chemicals Inc.  
**Address** 407 N. 13th Street  
1316 W. St. Paul Avenue  
Milwaukee, WI 53233  
United States  
**Division** Milwaukee  
**Telephone** 414.212.0257  
**e-mail** advancedmaterials@materion.com  
**Contact person** Noreen Atkinson

### 1.4. Emergency telephone number

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 as amended

##### Physical hazards

Oxidising solids Category 2

##### Health hazards

Acute toxicity, oral Category 4 H302 - Harmful if swallowed.  
Skin corrosion/irritation Category 2 H315 - Causes skin irritation.  
Serious eye damage/eye irritation Category 2 H319 - Causes serious eye irritation.  
Specific target organ toxicity - single exposure Category 2  
Specific target organ toxicity - repeated exposure Category 2 H373 - May cause damage to organs through prolonged or repeated exposure.

##### Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard Category 1  
Hazardous to the aquatic environment, long-term aquatic hazard Category 2

**Hazard summary** Not available.

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

**Contains:** Thorium Nitrate

## Hazard pictograms



## Signal word

Warning

## Hazard statements

|      |  |
|------|--|
| H315 | Causes skin irritation.  |
| H319 | Causes serious eye irritation.                                     |
| H335 | May cause respiratory irritation.                                  |
| H361 | Suspected of damaging fertility or the unborn child.               |
| H362 | May cause harm to breast-fed children.                             |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H272 | May intensify fire; oxidiser.                                      |
| H302 | Harmful if swallowed.  |

## Precautionary statements

### Prevention

|      |   |
|------|---|
| P202 | Do not handle until all safety precautions have been read and understood. |
| P201 | Obtain special instructions before use.                                   |
| P280 | Wear eye/face protection.   |
| P271 | Use only outdoors or in a well ventilated area.                           |
| P280 | Wear protective gloves.   |
| P271 | Use only outdoors or in a well-ventilated area.                           |
| P270 | Do not eat, drink or smoke when using this product.                       |
| P270 | Do not eat, drink, or smoke when using this product.                      |
| P264 | Wash thoroughly after handling.   |
| P263 | Avoid contact during pregnancy and while nursing.                         |
| P263 | Avoid contact during pregnancy/while nursing.                             |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking.        |

### Response

|             |   |
|-------------|---|
| P332 + P311 | Get medical attention if irritation develops or persists. |
| P362 + P364 | If skin irritation occurs, obtain medical attention.      |
| P337 + P313 | Take off contaminated clothing and wash it before reuse.  |
| P302 + P350 | If eye irritation persists: Get medical advice/attention. |
| P314        | IF ON SKIN: Gently wash with plenty of soap and water.    |
|             | Get medical advice/attention if you feel unwell.          |

### Storage

|             |   |
|-------------|---|
| P403 + P233 | Store away from incompatible materials.<br>Store in a well-ventilated place. Keep container tightly closed. |
|-------------|---|

### Disposal

|      |   |
|------|---|
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |
|------|---|

## Supplemental label information

None.

## 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### General information

| Chemical name          | %   | CAS-No. / EC No.        | REACH Registration No. | INDEX No. | Notes |
|------------------------|---|-------------------------|------------------------|-----------|-------|
| Thorium Nitrate        | 100   | 13823-29-5<br>237-514-1 | -                      | -         |       |
| <b>Classification:</b> | Ox. Sol. 3;H272, Acute Tox. 4;H302, Skin Irrit. 2;H315, Eye Irrit. 2;H319, STOT SE 3;H335, Repr. 2;H361, Lact.;H362, STOT RE 2;H373 |                         |                        |           |       |

## List of abbreviations and symbols that may be used above

DSD: Directive 67/548/EEC.

CLP: Regulation No. 1272/2008.

#: This substance has been assigned Union workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## SECTION 4: First aid measures

### General information

IF exposed or concerned: Get medical advice/attention. 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. Wash contaminated clothing before reuse.

### 4.1. Description of first aid measures

#### Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor/physician if you feel unwell.

#### Skin contact

Remove contaminated clothing. Wash off with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.

#### Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

#### Ingestion

Rinse mouth. Call a POISON CENTRE or doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Irritation of eyes and mucous membranes. Prolonged exposure may cause chronic effects.

### 4.3. Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

## SECTION 5: Firefighting measures

### General fire hazards

No unusual fire or explosion hazards noted.

### 5.1. Extinguishing media

#### Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

#### Unsuitable extinguishing media

None known.

### 5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

#### Special protective equipment for firefighters

Wear suitable protective equipment.

#### Special firefighting procedures

Use water spray to cool unopened containers.

### Specific methods

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

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Keep unnecessary personnel away. Wear appropriate personal protective equipment. Ensure adequate ventilation. For personal protection, see section 8 of the SDS.

#### For emergency responders

Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

### 6.2. Environmental precautions

Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

### 6.3. Methods and material for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

### 6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

## SECTION 7: Handling and storage

|  |  |
|--|--|
| <b>7.1. Precautions for safe handling</b>                                | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with eyes. Avoid contact with skin. Avoid contact during pregnancy/while nursing. When using, do not eat, drink or smoke. Use personal protective equipment as required. Wash hands thoroughly after handling. Avoid release to the environment. |
| <b>7.2. Conditions for safe storage, including any incompatibilities</b> | Store locked up. Store in a cool, dry place out of direct sunlight. Keep container tightly closed. Store in original tightly closed container. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).  |
| <b>7.3. Specific end use(s)</b>  | Not available.   |

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

|   |  |
|---|--|
| <b>Occupational exposure limits</b>               | No exposure limits noted for ingredient(s).                |
| <b>Biological limit values</b>                    | No biological exposure limits noted for the ingredient(s). |
| <b>Recommended monitoring procedures</b>          | Follow standard monitoring procedures.                     |
| <b>Derived no effect levels (DNELs)</b>           | Not available.   |
| <b>Predicted no effect concentrations (PNECs)</b> | Not available.   |

### 8.2. Exposure controls

|   |                          |
|---|--------------------------|
| <b>Appropriate engineering controls</b> | Provide eyewash station. |
|---|--------------------------|

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

|  |  |
|--|--|
| <b>General information</b>             | Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Eye wash fountain is recommended.                          |
| <b>Eye/face protection</b>             | Wear eye/face protection. Wear safety glasses with side shields (or goggles).  |
| <b>Skin protection</b>                 |  |
| - <b>Hand protection</b>               | Wear appropriate chemical resistant gloves.  |
| - <b>Other</b>                         | Wear suitable protective clothing. Wear protective gloves. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. |
| <b>Respiratory protection</b>          | In case of insufficient ventilation, wear suitable respiratory equipment.  |
| <b>Thermal hazards</b>                 | Wear appropriate thermal protective clothing, when necessary.  |
| <b>Hygiene measures</b>                | When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Wash hands before breaks and immediately after handling the product.   |
| <b>Environmental exposure controls</b> | Environmental manager must be informed of all major releases.  |

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

|  |                |
|--|----------------|
| <b>Physical state</b>                          | Solid.         |
| <b>Form</b>                                    | Solid.         |
| <b>Colour</b>                                  | Not available. |
| <b>Odour</b>                                   | Not available. |
| <b>Odour threshold</b>                         | Not available. |
| <b>pH</b>                                      | Not available. |
| <b>Melting point/freezing point</b>            | Not available. |
| <b>Initial boiling point and boiling range</b> | Not available. |
| <b>Flash point</b>                             | Not available. |
| <b>Evaporation rate</b>                        | Not available. |
| <b>Flammability (solid, gas)</b>               | Not available. |

#### Upper/lower flammability or explosive limits

|                                       |                |
|---------------------------------------|----------------|
| <b>Flammability limit - lower (%)</b> | Not available. |
|---------------------------------------|----------------|

|  |  |
|--|--|
| <b>Flammability limit - upper (%)</b>          | Not available.                                       |
| <b>Vapour pressure</b>                         | Not available.                                       |
| <b>Vapour density</b>                          | Not available.                                       |
| <b>Relative density</b>                        | Not available.                                       |
| <b>Solubility(ies)</b>                         |  |
| <b>Solubility (water)</b>                      | Not available.                                       |
| <b>Partition coefficient (n-octanol/water)</b> | Not available.                                       |
| <b>Auto-ignition temperature</b>               | Not available.                                       |
| <b>Decomposition temperature</b>               | Not available.                                       |
| <b>Viscosity</b>                               | Not available.                                       |
| <b>Explosive properties</b>                    | Not explosive.                                       |
| <b>Oxidising properties</b>                    | Not oxidising.                                       |
| <b>9.2. Other information</b>                  |  |
| <b>Molecular formula</b>                       | Th(NO <sub>3</sub> ) <sub>4</sub> ·xH <sub>2</sub> O |
| <b>Molecular weight</b>                        | 480,06 g/mol   |

## SECTION 10: Stability and reactivity

|   |   |
|---|---|
| <b>10.1. Reactivity</b>                         | Not available.  |
| <b>10.2. Chemical stability</b>                 | Material is stable under normal conditions.                 |
| <b>10.3. Possibility of hazardous reactions</b> | No dangerous reaction known under conditions of normal use. |
| <b>10.4. Conditions to avoid</b>                | Contact with incompatible materials.                        |
| <b>10.5. Incompatible materials</b>             | None known.   |
| <b>10.6. Hazardous decomposition products</b>   | No hazardous decomposition products are known.              |

## SECTION 11: Toxicological information

|  |  |
|--|--|
| <b>General information</b>   | Occupational exposure to the substance or mixture may cause adverse effects.             |
| <b>Information on likely routes of exposure</b>  |  |
| <b>Inhalation</b>  | May cause irritation to the respiratory system.  |
| <b>Skin contact</b>  | Causes skin irritation.  |
| <b>Eye contact</b>   | Causes serious eye irritation.   |
| <b>Ingestion</b>   | Due to lack of data the classification is not possible.                                  |
| <b>Symptoms</b>  | Irritant effects.  |
| <b>11.1. Information on toxicological effects</b>  |  |
| <b>Acute toxicity</b>  | May cause respiratory irritation. Not known.   |
| <b>Skin corrosion/irritation</b>   | Causes skin irritation.  |
| <b>Serious eye damage/eye irritation</b>   | Causes serious eye irritation.   |
| <b>Respiratory sensitisation</b>   | Due to partial or complete lack of data the classification is not possible.              |
| <b>Skin sensitisation</b>  | Due to partial or complete lack of data the classification is not possible.              |
| <b>Germ cell mutagenicity</b>  | Due to partial or complete lack of data the classification is not possible.              |
| <b>Carcinogenicity</b>   | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.          |
| <b>Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)</b> |  |
| Not listed.  |  |
| <b>Reproductive toxicity</b>   | May cause harm to breastfed babies. Suspected of damaging fertility or the unborn child. |
| <b>Specific target organ toxicity - single exposure</b>  | Respiratory tract irritation.  |
| <b>Specific target organ toxicity - repeated exposure</b>  | May cause damage to organs through prolonged or repeated exposure.                       |
| <b>Aspiration hazard</b>   | Due to partial or complete lack of data the classification is not possible.              |
| <b>Mixture versus substance information</b>  | No information available.  |

**Other information** This product has no known adverse effect on human health.

## SECTION 12: Ecological information

**12.1. Toxicity** Contains a substance which causes risk of hazardous effects to the environment. Due to partial or complete lack of data the classification for hazardous to the aquatic environment, is not possible.

**12.2. Persistence and degradability** No data is available on the degradability of this product.

**12.3. Bioaccumulative potential** No data available.

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

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** No data available.

**12.5. Results of PBT and vPvB assessment** Not available.

**12.6. 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.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Residual waste** 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** 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.

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

**Disposal methods/information** 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.

**Special precautions** Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

**14.1. UN number** UN2912

**14.2. UN proper shipping name** Radioactive material, low specific activity (LSA-I) non fissile or fissile-excepted

**14.3. Transport hazard class(es)**

**Class** 7

**Subsidiary risk** -

**Label(s)** 7

**Hazard No. (ADR)** Not available.

**Tunnel restriction code** Not available.

**14.4. Packing group** Not available.

**14.5. Environmental hazards** No.

**14.6. Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

### RID

**14.1. UN number** UN2912

**14.2. UN proper shipping name** Radioactive material, low specific activity (LSA-I) non fissile or fissile-excepted

**14.3. Transport hazard class(es)**

**Class** 7

**Subsidiary risk** -

**Label(s)** 7

**14.4. Packing group** Not available.

**14.5. Environmental hazards** No.

**14.6. Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

#### ADN

**14.1. UN number** UN2912  
**14.2. UN proper shipping name** Radioactive material, low specific activity (LSA-I) non fissile or fissile-excepted  
**14.3. Transport hazard class(es)**  
    **Class** 7  
    **Subsidiary risk** -  
    **Label(s)** 7  
**14.4. Packing group** Not available.  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

#### IATA

**14.1. UN number** UN2912  
**14.2. UN proper shipping name** Radioactive material, low specific activity (LSA-I) non fissile or fissile-excepted  
**14.3. Transport hazard class(es)**  
    **Class** 7  
    **Subsidiary risk** -  
    **Label(s)** 7  
**14.4. Packing group** Not available.  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

#### IMDG

**14.1. UN number** UN2912  
**14.2. UN proper shipping name** Radioactive material, low specific activity (LSA-I) non fissile or fissile-excepted  
**14.3. Transport hazard class(es)**  
    **Class** 7  
    **Subsidiary risk** -  
    **Label(s)** 7  
**14.4. Packing group** Not available.  
**14.5. Environmental hazards**  
    **Marine pollutant** No.  
**EmS** Not available.  
**14.6. Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

ADN; ADR; IATA; IMDG; RID



## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### **Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### **Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

#### **Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

#### **Other regulations**

The product does not need to be labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended. The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

#### **National regulations**

Follow national regulation for work with chemical agents.

#### **15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

### **SECTION 16: Other information**

#### **List of abbreviations**

Not available.

#### **Information on evaluation method leading to the classification of mixture**

Not applicable.



## Further information

### Emergency telephone numbers

Austria - VergiftungsInformationsZentrale, +431.406.43.43  
Belgium - Centre Antipoisons - +070.245.245  
Bulgaria - Телефон за спешни случаи / факс, +359.2.9154.409  
Cyprus - +357.22405611  
Czech Republic - Toxikologické informační středisko, +420.224.919.293  
Denmark - Akuthjælp ved forgiftning, +82.12.12.12  
Estonia - Mürgistusteabekeskuse, 16662  
Finland - Myrkytystietokeskus, +(0)9.471.977  
France - numéro ORFILA, +33.(0)1.45.42.59.59  
Germany - GIZ-Nord Poisons Centre, +49.(0)551.383.1876  
Greece - +30.210.64.79.286  
Hungary - Az Egészségügyi Toxikológiai Tájékoztató Szolgálat, +36 1 476 6464  
Iceland - +354.591.2000  
Ireland - National Poisons Information Centre - +353.01.8092566  
Italy - Istituto Superiore di Sanità, 064990.2423  
Latvia - Valsts Toksikoloģijas centra Saindēšanās un zāļu informācijas centrs, +371.67042473  
Liechtenstein - +423.236.61.95  
Lithuania - Neatidėliotina informacija apsinuodijus, +370 5 236 20 52  
Luxembourg - +352 42 59 91 600  
Malta - 2545 0000  
Netherlands - NVIC, 030-2748888  
Norway - Giftinformasjonen, 22.59.13.00  
Poland - Biuro ds. Substancji Chemicznych, +48 42 2538 424  
Portugal - 808.250.143  
Romania - Biroul RSI si Informare Toxicologica, 021.318.36.06  
Slovakia - NTIC, +421.2.5477.4166  
Slovenia - Kemična urad Republike Slovenije + 386.14.00.60.51  
Spain - Servicio de Información Toxicológica, + 34.91.562.04.20  
Sweden - 112

## Disclaimer

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