



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

**Product identifier** Thorium Nitrate (Th(NO<sub>3</sub>)<sub>4</sub>·4H<sub>2</sub>O)

### Other means of identification

**SDS number** 2CK  
**Materion Code** 2CK  
**CAS number** 13823-29-5

### Manufacturer/Importer/Supplier/Distributor information

#### Manufacturer

**Company name** Materion Electronic Materials  
**Address** 6070 Parkland Blvd  
Mayfield Heights, Ohio 44124  
United States  
**Telephone** 1.216.383.4019  
**E-mail** Materion-PS@materion.com  
**Contact person** Product Stewardship Director  
**Emergency phone number** See Section 16

## 2. Hazard(s) identification

<b>Physical hazards</b>	Oxidizing solids	Category 2
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 2
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



**Signal word** Danger

**Hazard statement** Harmful if swallowed. May intensify fire; oxidizer. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.

## Precautionary statement

### Prevention

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

### Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN: Gently wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists. If skin irritation occurs, obtain medical attention. Get medical advice/attention if you feel unwell. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

### Storage

Store in a well-ventilated place. Keep container tightly closed. Store away from incompatible materials.

### 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	%
Thorium Nitrate (Th(NO <sub>3</sub> ) <sub>4</sub> ·4H <sub>2</sub> O)		13823-29-5	100

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

## 4. First-aid measures

### Inhalation

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

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

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

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

Provide general supportive measures and treat symptomatically.

### 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.

## 5. Fire-fighting measures

### Suitable extinguishing media

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

### 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.

<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Wear appropriate personal protective equipment. Ensure adequate ventilation.
<b>Methods and materials for containment and cleaning up</b>	Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.
<b>Environmental precautions</b>	Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

<b>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>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.

## 8. Exposure controls/personal protection

<b>Occupational exposure limits</b>	This substance has no PEL, TLV, or other recommended exposure limit.
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Provide eyewash station.
<b>Individual protection measures, such as personal protective equipment</b>	
<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.
<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>General hygiene considerations</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.

## 9. Physical and chemical properties

<b>Appearance</b>	Liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Not available.
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Odor 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.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	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	
Explosive properties	Not explosive.
Molecular formula	Th(NO <sub>3</sub> ) <sub>4</sub> ·xH <sub>2</sub> O
Molecular weight	480.06 g/mol
Oxidizing properties	Not oxidizing.

## 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	No dangerous reaction known under conditions of normal use.
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	May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Due to lack of data the classification is not possible.

Symptoms related to the physical, chemical and toxicological characteristics  
Irritant effects.

### Information on toxicological effects

Acute toxicity	May cause respiratory irritation. Not known.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye 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	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Thorium Nitrate (Th(NO<sub>3</sub>)<sub>4</sub>·4H<sub>2</sub>O) (CAS 13823-29-5)      2A Probably carcinogenic to humans.

## 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>	Not available.
<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 lack of data the classification is not possible.
<b>Chronic effects</b>	May cause damage to organs through prolonged or repeated exposure.
<b>Further information</b>	This product has no known adverse effect on human health.

## 12. Ecological information

<b>Ecotoxicity</b>	Contains a substance which causes risk of hazardous effects to the environment.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<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. 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.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	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>	UN2912
<b>UN proper shipping name</b>	Radioactive material, low specific activity (LSA-I) non fissile or fissile-excepted
<b>Transport hazard class(es)</b>	
<b>Class</b>	7
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	7
<b>Packing group</b>	-
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>Special precautions for user</b>	Not assigned.
<b>Special provisions</b>	A56, T5, TP4, W7
<b>Packaging exceptions</b>	421, 422, 428
<b>Packaging non bulk</b>	427
<b>Packaging bulk</b>	427

## IATA

UN number	UN2912
UN proper shipping name	Radioactive material, low specific activity (LSA-I) non fissile or fissile-excepted
Transport hazard class(es)	
Class	7
Subsidiary risk	-
Label(s)	7
Packing group	-
Environmental hazards	No.
Special precautions for user	Not assigned.

## IMDG

UN number	UN2912
UN proper shipping name	Radioactive material, low specific activity (LSA-I) non fissile or fissile-excepted
Transport hazard class(es)	
Class	7
Subsidiary risk	-
Label(s)	7
Packing group	-
Environmental hazards	
Marine pollutant	No.
EmS	Not assigned.
Special precautions for user	Not assigned.

## DOT; IATA; IMDG



## 15. Regulatory information

**US federal regulations** CERCLA/SARA Hazardous Substances - Not applicable.

All components are on the U.S. EPA TSCA Inventory List.  
This product is not known to be 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**  
Oxidizer (liquid, solid, or gas)  
Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation  
Carcinogenicity  
Specific target organ toxicity (single or repeated exposure)

**SARA 313 (TRI reporting)**

<b>Chemical name</b>	<b>CAS number</b>	<b>% by wt.</b>
Thorium Nitrate (Th(NO <sub>3</sub> ) <sub>4</sub> ·4H <sub>2</sub> O)	13823-29-5	100

**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 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.

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

**Issue date** 04-04-2024

**Version #** 01

**Further information** Transportation Emergency  
Call Chemtrec at:  
US: 800.424.9300  
International: 703.741.5970  
Spain: 900.868.538  
Switzerland: 0800.564.402  
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059  
South Korea Toll-free Number – 080-880-0468

**References** ACGIH  
EPA: AQUIRE database  
NLM: Hazardous Substances Data Base  
US. IARC Monographs on Occupational Exposures to Chemical Agents

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**Revision information** Product and Company Identification: Physical States  
Physical & Chemical Properties: Multiple Properties  
Physical and chemical properties: Appearance  
Physical and chemical properties: Form  
Other information, including date of preparation or last revision: Further information  
Other information, including date of preparation or last revision: List of abbreviations