



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

Product identifier	Thorium Nitrate Solution	
Other means of identification		
SDS number	2ID	
Materion Code	2ID	
CAS number	13470-07-0	
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	Chemtrec	800.424.9300

## 2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Classification not possible
	Serious eye damage/eye irritation	Classification not possible
	Specific target organ toxicity, single exposure	Classification not possible
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger
Hazard statement	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.
Precautionary statement	
Prevention	Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.
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 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 Solution		13470-07-0	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>	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.
<b>Skin contact</b>	Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Seek medical attention.
<b>Most important symptoms/effects, acute and delayed</b>	Irritation of eyes. Skin irritation. May cause respiratory irritation. Prolonged exposure may cause chronic effects.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically.
<b>General information</b>	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

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	Not applicable.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	In case of fire: Stop leak if safe to do so.
<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 protective equipment and clothing during clean-up. Local authorities should be advised if significant spillages cannot be contained.
<b>Methods and materials for containment and cleaning up</b>	Stop the flow of material, if this is without risk. Block any potential routes to water systems. Wear appropriate protective equipment and clothing during clean-up.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

### 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Do not use in areas without adequate ventilation. Wash thoroughly after handling.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store in original tightly closed container.

### 8. Exposure controls/personal protection

<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>Exposure guidelines</b>	No exposure standards allocated.
<b>Appropriate engineering controls</b>	Ensure adequate ventilation, especially in confined areas.
<b>Control parameters</b>	Follow standard monitoring procedures.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles). Face shield is recommended.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.
<b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	Wear suitable respiratory protection.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Private clothes and working clothes should be kept separately. Do not get this material in your eyes, on your skin, or on your clothing. 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

<b>Appearance</b>	Liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Pale yellow
<b>Odor</b>	Slight nitric.
<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 applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor 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>Other information</b>	
<b>Explosive properties</b>	Not explosive.

<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
<b>Oxidizing properties</b>	Not oxidizing.

## 10. Stability and reactivity

<b>Reactivity</b>	This product may react with reducing agents. Reacts violently with strong alkaline substances.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Reducing agents. Metals. Combustible material.
<b>Hazardous decomposition products</b>	Nitrogen oxides (NO <sub>x</sub> ). Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

## 11. Toxicological information

### Information on likely routes of exposure

<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>	Harmful if swallowed.

<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Irritant effects.
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### Information on toxicological effects

<b>Acute toxicity</b>	Causes skin and eye irritation. May cause irritation to the respiratory system.
<b>Skin corrosion/irritation</b>	Corrosive to skin and eyes. Corrosive effects.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.

### Respiratory or skin sensitization

<b>Respiratory sensitization</b>	Due to lack of data the classification is not possible.
<b>Skin sensitization</b>	Irritating to skin.

<b>Germ cell mutagenicity</b>	Due to lack of data the classification is not possible.
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<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

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

Not regulated.

#### 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>	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

## 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>	Not available.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<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

<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>	Not available.
<b>Environmental hazards</b>	No.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### IMDG

<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

Packing group Not available.  
 Environmental hazards  
   Marine pollutant No.  
 EmS Not available.  
 Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

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.

### 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)

Not regulated.

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

**Hazard categories**  
 Immediate Hazard - No  
 Delayed Hazard - No  
 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)

Chemical name	CAS number	% by wt.
Thorium Nitrate Solution	13470-07-0	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

<b>Issue date</b>	05-07-2018
<b>Version #</b>	01
<b>Further information</b>	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 - Giftoinformasjonen, 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

<b>References</b>	ACGIH EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents
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<b>Disclaimer</b>	<p>Additional information is given in the Material Safety Data Sheet. Materion Advanced Chemicals Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.</p> <p>This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.</p>
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