





<a href="#">Thallium Nitrate</a>	<a href="#">Pricing &gt;</a>
<a href="#">Thallium Nitrate Nanoparticles</a>	<a href="#">Pricing &gt;</a>
<a href="#">Thallium Nitrate Solution</a>	<a href="#">Pricing &gt;</a>

<b>Linear Formula</b>	TlNO <sub>3</sub>
<b>Pubchem CID</b>	24937
<b>MDL Number</b>	MFCD00011280
<b>EC No.</b>	233-273-1
<b>IUPAC Name</b>	Thallium(+1) cation nitrate
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	[Tl+].[O-][N+](O)=O
<b>Inchl Identifier</b>	InChI=1S/NO3.Tl/c2-1(3)4;/q-1;+1
<b>Inchl Key</b>	FYWSTUCDSVYLPV-UHFFFAOYSA-N
<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H300-H330-H373-H411
<b>Hazard Codes</b>	O, T+, N
<b>Precautionary Statements</b>	P210-P260-P273-P301+P310+P330-P304+P340+P310-P403+P233
<b>Risk Codes</b>	26/28-33-51/53
<b>Safety Statements</b>	13-28-45-61
<b>RTECS Number</b>	XG5950000
<b>Transport Information</b>	UN 2727 6.1/PG 2
<b>WGK Germany</b>	2
<b>GHS Pictograms</b>	<a href="#">GHS03 Oxidizer</a>  <a href="#">GHS06 Skull and Crossbones</a>  <a href="#">GHS08 Health Hazard</a>  <a href="#">GHS09 Environment</a> 

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## SAFETY DATA SHEET

Date Accessed: 05/18/2024

Date Revised: 01/15/2022

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## SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #10102-45-1

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300  
International +1 703-527-3887

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## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)  
GHS03 Flame over circle  
Ox. Sol. 3 H272 May intensify fire; oxidizer.  
GHS06 Skull and crossbones  
Acute Tox. 2 H300 Fatal if swallowed.  
Acute Tox. 2 H330 Fatal if inhaled.  
GHS08 Health hazard  
STOT RE 2 H373 May cause damage to the blood through prolonged or repeated exposure. Route of exposure: Oral.  
Hazards not otherwise classified No data available  
GHS label elements, including precautionary statements



Hazard pictograms  
GHS03 GHS06 GHS08  
Signal word Danger  
Hazard statements  
H272 May intensify fire; oxidizer.  
H300+H330 Fatal if swallowed or if inhaled.  
H373 May cause damage to the blood through

prolonged or repeated exposure. Route of exposure:  
Oral.

Precautionary statements

P221 Take any precaution to avoid mixing with combustibles.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor

P320 Specific treatment is urgent (see on this label).

P405 Store locked up.

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

WHMIS classification

C - Oxidizing materials

D1A - Very toxic material causing immediate and serious toxic effects

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH

FIRE

REACTIVITY

3

0

3

Health (acute effects) = 3

Flammability = 0

Physical Hazard = 3

Other hazards

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances

CAS No. / Substance Name:

10102-45-1 Thallium(I) nitrate

Identification number(s):

EC number: 233-273-1

Index number: 081-002-00-9

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### **SECTION 4. FIRST AID MEASURES**

Description of first aid measures

General information

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated

clothing has been completely removed.  
In case of irregular breathing or respiratory arrest  
provide artificial respiration.  
If inhaled:  
Supply patient with fresh air. If not breathing, provide  
artificial respiration. Keep patient warm.  
Seek immediate medical advice.  
In case of skin contact:  
Immediately wash with soap and water; rinse  
thoroughly.  
Seek immediate medical advice.  
In case of eye contact:  
Rinse opened eye for several minutes under running  
water. Consult a physician.  
If swallowed:  
Do not induce vomiting; immediately call for medical  
help.  
Information for doctor  
Most important symptoms and effects, both acute and  
delayed:  
No data available  
Indication of any immediate medical attention and  
special treatment needed:  
No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media  
Suitable extinguishing agents Carbon dioxide,  
extinguishing powder or water spray. Fight larger fires  
with water spray or alcohol resistant foam.  
For safety reasons unsuitable extinguishing agents  
Halocarbon extinguisher  
Special hazards arising from the substance or mixture  
This substance is an oxidizer and its heat of reaction  
with reducing agents or combustibles may cause  
ignition.  
If this product is involved in a fire, the following can be  
released:  
Toxic metal oxide fume  
Nitrogen oxides (NO<sub>x</sub>)  
Advice for firefighters  
Protective equipment:  
Wear self-contained respirator.  
Wear fully protective impervious suit.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and  
emergency procedures

Use personal protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Environmental precautions: Do not allow material to be released to the environment without official permits.  
Methods and materials for containment and cleanup:  
Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Prevention of secondary hazards:  
Acts as an oxidizing agent on organic materials such as wood, paper and fats  
Keep away from combustible material.  
Reference to other sections  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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## **SECTION 7. HANDLING AND STORAGE**

### Handling

Precautions for safe handling  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.  
Open and handle container with care.  
Information about protection against explosions and fires:  
Substance/product can reduce the ignition temperature of flammable substances.  
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.  
Conditions for safe storage, including any incompatibilities  
Requirements to be met by storerooms and receptacles: No special requirements.  
Information about storage in one common storage facility:  
Store away from flammable substances.  
Store away from reducing agents.  
Do not store with organic materials.  
Store away from metal powders.  
Store away from oxidizing agents.  
Further information about storage conditions:  
Keep container tightly sealed.  
Store in cool, dry conditions in well-sealed containers.  
Specific end use(s) No data available

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

10102-45-1 Thallium(I) nitrate (100.0%)

PEL (USA) Long-term value: 0.1 mg/m<sup>3</sup>  
as TI; Skin

REL (USA) Long-term value: 0.1 mg/m<sup>3</sup>  
as TI; Skin

TLV (USA) Long-term value: 0.02\* mg/m<sup>3</sup>  
as TI; \*inhalable fraction; Skin

EL (Canada) Long-term value: 0.1 mg/m<sup>3</sup>  
as TI; Skin

Additional information: No data

Exposure controls

Personal protective equipment

Follow typical protective and hygienic practices for handling chemicals.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use self-contained respiratory protective device in emergency situations.

Protection of hands:

Impervious gloves

Inspect gloves prior to use.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Penetration time of glove material (in minutes) No data available

Eye protection: Safety glasses

Body protection: Protective work clothing.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

Appearance:

Form: Powder

Color: White

Odor: Odorless  
Odor threshold: No data available.  
pH: N/A  
Melting point/Melting range: 206 °C (403 °F)  
Boiling point/Boiling range: 430 °C (806 °F)  
Sublimation temperature / start: No data available  
Flammability (solid, gas) Contact with combustible material may cause fire.  
Ignition temperature: No data available  
Decomposition temperature: No data available  
Autoignition: No data available.  
Danger of explosion: No data available.  
Explosion limits:  
Lower: No data available  
Upper: No data available  
Vapor pressure: N/A  
  
Density at 20 °C (68 °F): 5.55 g/cm<sup>3</sup> (46.315 lbs/gal)  
Relative density No data available.  
Vapor density N/A  
Evaporation rate N/A  
Solubility in / Miscibility with  
Water: No data available  
Partition coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: N/A  
Kinematic: N/A  
Other information No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity May intensify fire; oxidizer.  
Chemical stability Stable under recommended storage conditions.  
Thermal decomposition / conditions to be avoided:  
Decomposition will not occur if used and stored according to specifications.  
Possibility of hazardous reactions  
Reacts with strong oxidizing agents  
Reacts with reducing agents  
Reacts with flammable substances  
Conditions to avoid No data available  
Incompatible materials:  
Reducing agents  
Oxidizing agents  
Flammable substances  
Organic materials  
Metal powders  
Hazardous decomposition products:  
Toxic metal oxide fume  
Nitrogen oxides

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## SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

Fatal if inhaled.

Fatal if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification:

Oral LD50 15 mg/kg (mouse)

Skin irritation or corrosion: May cause irritation

Eye irritation or corrosion: May cause irritation

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

Carcinogenicity: EPA-II: Inadequate information to access carcinogenic potential.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure: May cause damage to the blood through prolonged or repeated exposure. Route of exposure: Oral.

Specific target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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## SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity: No data available

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Additional ecological information:

Do not allow material to be released to the environment without official permits.

Do not allow product to reach groundwater, water courses, or sewage systems, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic to aquatic life.



May cause long lasting harmful effects to aquatic life.  
Avoid transfer into the environment.  
Results of PBT and vPvB assessment  
PBT: N/A  
vPvB: N/A  
Other adverse effects No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods  
Recommendation Consult official regulations to  
ensure proper disposal.  
Uncleaned packagings:  
Recommendation: Disposal must be made according  
to official regulations.

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## **SECTION 14. TRANSPORT INFORMATION**

UN-Number  
DOT, IMDG, IATA UN2727  
UN proper shipping name  
DOT Thallium nitrate  
IMDG, IATA THALLIUM NITRATE  
Transport hazard class(es)  
DOT  
Class 6.1 Toxic substances.  
Label 6.1+5.1  
Class 6.1 (TO2) Toxic substances  
Label 6.1+5.1  
IMDG, IATA  
Class 6.1 Toxic substances.  
Label 6.1+5.1  
Packing group  
DOT, IMDG, IATA II  
Environmental hazards: Environmentally hazardous  
substance, solid  
Special precautions for user Warning: Toxic  
substances  
EMS Number: F-A,S-Q  
Transport in bulk according to Annex II of  
MARPOL73/78 and the IBC Code N/A  
Transport/Additional information:  
DOT  
Marine Pollutant (DOT): No  
UN "Model Regulation": UN2727, Thallium nitrate, 6.1  
(5.1), II

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## SECTION 15. REGULATORY INFORMATION

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

GHS label elements, including precautionary statements

Hazard pictograms

GHS03 GHS06 GHS08

Signal word Danger

Hazard statements

H272 May intensify fire; oxidizer.

H300+H330 Fatal if swallowed or if inhaled.

H373 May cause damage to the blood through prolonged or repeated exposure. Route of exposure: Oral.

Precautionary statements

P221 Take any precaution to avoid mixing with combustibles.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor

P320 Specific treatment is urgent (see on this label).

P405 Store locked up.

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

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

SARA Section 313 (specific toxic chemical listings)

10102-45-1 Thallium(I) nitrate

California Proposition 65

Prop 65 - Chemicals known to cause cancer  
Substance is not listed.

Prop 65 - Developmental toxicity  
Substance is not listed.

Prop 65 - Developmental toxicity, female  
Substance is not listed.

Prop 65 - Developmental toxicity, male  
Substance is not listed.

Information about limitation of use:

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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## **16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

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