

# SAFETY DATA SHEET

Date Printed: 05/19/2024

Date Revised: 01/15/2022

---

## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Thorium Chloride

**Product Code:** TH-CL-04

**CAS Number:** 10026-08-1

**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:  
+1 800-424-9300

---

## SECTION 2. HAZARDS IDENTIFICATION

Hazard description:

Xn Harmful

Information pertaining to particular dangers for man and environment

R 20/22 Harmful by inhalation and if swallowed.

R 33 Danger of cumulative effects.

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH

FIRE

REACTIVITY

2

0

2

Health (acute effects) = 2

Flammability = 0

Reactivity = 2

---

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization:

Description: (CAS#)

Thorium chloride (CAS# 10026-08-1), 100%

Identification number(s):

EINECS Number: 2338450

---

## SECTION 4. FIRST AID MEASURES

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. Then consult a doctor.

If swallowed:

Seek immediate medical advice.

---

## SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing agents

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Hydrogen chloride (HCl)

Toxic metal oxide fume

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

---

## SECTION 6. ACCIDENTAL RELEASE MEASURES

Person-related safety precautions:

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Measures for environmental protection:

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

Measures for cleaning/collecting:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

---

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

### Handling

Information for safe handling:

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

No special measures required.

### Storage

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.

---

## **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.

Components with limit values that require monitoring at the workplace:

Not required.

Additional information: No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Breathing equipment:

Use suitable respirator when high concentrations are present.

Protection of hands: Impervious gloves

Eye protection: Safety glasses

Body protection: Protective work clothing.

---

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

General Information

Form: Crystalline

Color: White

Odor: Odorless

Melting point/Melting range: 768-772°C (1414-1422°F)

Boiling point/Boiling range: 928°C (1702°F) ((dec))

Sublimation temperature / start: No data available

Flash point: N/A

Ignition temperature: No data available  
Decomposition temperature: No data available  
Danger of explosion: Product does not present an explosion hazard.  
Explosion limits:  
Lower: No data available  
Upper: No data available  
Vapor pressure: No data available  
Density at 20°C (68°F): 4.59 g/cm<sup>3</sup>  
Solubility in / Miscibility with  
Water: Soluble

---

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

Thermal decomposition / conditions to be avoided:  
Decomposition will not occur if used and stored according to specifications.  
Materials to be avoided: None known.  
Dangerous reactions No dangerous reactions known  
Dangerous products of decomposition:  
Hydrogen chloride (HCl)  
Toxic metal oxide fume

---

## **SECTION 11. TOXICOLOGICAL INFORMATION**

Acute toxicity:  
Primary irritant effect:  
on the skin: Irritant to skin and mucous membranes.  
on the eye: Irritating effect.  
Sensitization: No sensitizing effects known.  
Subacute to chronic toxicity:  
Exposure to thorium may cause gastrointestinal distress, skin, eye, or lung irritation. Radiation damage and cancers of bone, blood, liver or kidney may result.  
Additional toxicological information:  
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

---

## **SECTION 12. ECOLOGICAL INFORMATION**

General notes:  
Do not allow material to be released to the environment without proper governmental permits.

---

## **SECTION 13. DISPOSAL CONSIDERATIONS**

Product:

#### Recommendation

Consult official regulations to ensure proper disposal.

Not a solid waste by RCRA exclusion, see 40CFR261.4.(a).(4).

See 10CFR part 40 for disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

---

## SECTION 14. TRANSPORT INFORMATION

DOT regulations:

Hazard class: 7

Identification number: UN2910

Proper shipping name (technical name): RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL

Land transport ADR/RID (cross-border)

ADR/RID class: 7 Radioactive material

UN-Number: 2910

Packaging group: -

Description of goods: 2910 RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL

Maritime transport IMDG:

IMDG Class: 7

UN Number: 2910

Proper shipping name: RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 7

UN/ID Number: 2910

Proper shipping name: RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL

---

## SECTION 15. REGULATORY INFORMATION

Product related hazard informations:

Hazard symbols:

Xn Harmful

Risk phrases:

20/22 Harmful by inhalation and if swallowed.

33 Danger of cumulative effects.

Safety phrases:

9 Keep container in a well-ventilated place.

36/37 Wear suitable protective clothing and gloves.

38 In case of insufficient ventilation, wear suitable respiratory equipment.

National regulations

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

This product contains a chemical known to the state of California to

cause cancer or reproductive toxicity.

Information about limitation of use:

For use only by technically qualified individuals.

The radioactive content of thorium and thorium containing materials is defined as it's specific activity. The specific activity of naturally occurring thorium is 0.00000022 curie/gram (8140 Bq/gram) of contained thorium.

---

## **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.