



# Bayville Chemical Supply Company Inc.

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## SAFETY DATA SHEET

### Thorium Oxide

#### **Section 1 - Product and Company Information**

Product Name: THORIUM OXIDE

CAS Number: 1314-20-1

#### **Relevant identified uses of the substance or mixture:**

Laboratory chemicals, manufacture of substances

Company: Bayville Chemical Supply Company Inc.

Address: 70-G East Jefryn Boulevard  
Deer Park, NY 11729 USA

Phone: 631-586-4309

Fax: 631-254-5591

Emergency Contact:

CHEMTEL: (800) 255-3928 International CHEMTEL: (813) 248-0585

#### **Section 2 - Hazards Identification**

#### **Classification of the substance or mixture:**

#### **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 3), H331

Acute toxicity, (Category 3), H331

Acute toxicity, Dermal (Category 3), H311

Carcinogenicity (Category 1B), H350

Specific target organ toxicity – repeated exposure (Category 2), H373

For the full text of H-Statements mentioned in this section see Section 16.

#### **GHS Label Elements, including precautionary statements**

Pictogram



Signal word Danger

Hazard statement(s)

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled

H350 May cause cancer

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s)

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing.  
P301+P310 IF SWALLOWED: Immediately call a Poison center or a doctor/physician.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P308+P313 If exposed or concerned, get medical advice/attention.  
P322 Specific measures (see supplemental first aid instructions on this label).  
P330 Rinse mouth.  
P361 Remove/take off immediately all contaminated clothing.  
P363 Wash contaminated clothing before reuse.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
P501 Dispose of contents/container to an approved waste disposal plant.  
**Hazards not otherwise classified (HNOC) or not covered by GHS:** Radioactive

### **Section 3 - Composition/Information on Ingredient**

Substance Name: THORIUM OXIDE  
Formula: ThO<sub>2</sub>  
CAS#: 1314-20-1  
Molecular Weight: 264.04 g/mol  
Synonyms: Thoria \* Thorium dioxide \* Thorotrast \* Thortrast\* Umbrathor  
EC#: 215-225-1  
RTECS Number: XO6950000  
SARA 313: Yes  
Acute Tox. 3; Carc. 1B; STOT  
RE 2; H301 + H311 + H331, H350, H373  
For the full text of H-Statements mentioned in this section see Section 16.

### **Section 4 - First Aid Measures**

#### **Description of first Aid measures**

**General Advice:** consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**ORAL EXPOSURE:** If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Call a physician.

**INHALATION EXPOSURE:** If inhaled, remove to fresh air. If breathing becomes difficult, if not breathing, give artificial respiration, call a physician.

**DERMAL EXPOSURE:** In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

**EYE EXPOSURE:** In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

#### **Most important symptoms and effects, both acute and delayed:**

The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11.

#### **Indication of any immediate medical attention and special treatment needed:**

No data available.

## **Section 5 - Fire Fighting Measures**

MATERIAL IS NON-FLAMMABLE

SUITABLE EXTINGUISHING MEDIA: Water spray. Carbon dioxide, dry chemical or alcohol-resistant foam.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE: Metal Oxides

FIREFIGHTING:

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## **Section 6 - Accidental Release Measures**

PROCEDURE(S) OF PERSONAL PRECAUTION(S): Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas, Avoid breathing dust.

For person protection see section 8.

ENVIRONMENTAL PRECAUTIONS: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

METHODS FOR CLEANING UP: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete. Keep in suitable containers for disposal.

## **Section 7 - Handling and Storage**

PRECAUTIONS FOR SAFE HANDLING: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. For precautions see section 2.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Keep container tightly closed in a dry, well-ventilated place. Keep in a dry place.

SPECIFIC END USE(S): Apart from the uses mentioned in section 1, no other specific uses are stipulated.

## **Section 8 - Exposure Controls / PPE**

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath. Avoid contact with skin, eyes and clothing. Wash hands before and immediately after handling the product.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

SKIN PROTECTION: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

BODY PROTECTION: Complete suit protecting against chemicals, this type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

RESPIRATORY PROTECTION: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a back up to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and under appropriate government standards such as NIOSH (US) or EN 166(EU).

CONTROL OF ENVIRONMENTAL EXPOSURE: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## **Section 9 - Physical/Chemical Properties**

<b>Property</b>	<b>Value</b>
Appearance Color:	White
Form:	Powder
Molecular Weight:	264.04 AMU
Odor:	N/A
Odor Threshold:	N/A
pH:	N/A
BP/BP Range:	4400°C
MP/MP Range:	3050°C
Freezing Point:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Saturated Vapor Conc.:	N/A
SG/Density:	9.86 gm/cm <sup>3</sup>
Bulk Density:	N/A
Volatile%:	N/A
VOC Content:	N/A
Water Content:	N/A
Solvent Content:	N/A
Evaporation Rate:	N/A
Viscosity:	N/A
Surface Tension:	N/A
Partition Coefficient:	N/A
Decomposition Temp.:	N/A
Flash Point:	N/A
Explosion Limits:	N/A
Flammability:	N/A
Auto-ignition Temp:	N/A
Refractive Index:	N/A
Optical Rotation:	N/A
Miscellaneous Data:	N/A
Solubility:	Insoluble

N/A = not available

## **Section 10 - Stability and Reactivity**

STABILITY: Stable under recommended storage conditions.

HAZARDOUS POLYMERIZATION: Hazardous Polymerization will not occur

CONDITIONS TO AVOID: None known.

INCOMPATIBLE MATERIALS: No data available.

In the event of fire see section 5.

## **Section 11 - Toxicological Information**

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY: No data available

Inhalation: No data available

Dermal: No data available

SKIN CORROSION/IRRITATION: No data available

SERIOUS EYE DAMAGE/EYE IRRITATION: No data available

RESPIRATORY OR SKIN SENSITIZATION: No data available

GERM CELL MUTAGENICITY: No data available

CARCINOGENICITY: Possible human carcinogen.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: Known to be human carcinogen (Thorium dioxide).

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

REPRODUCTIVE TOXICITY: No data available

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE: No data available

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE: May cause damage to organs through prolonged or repeated exposure.

ASPIRATION HAZARD: No data available

ADDITIONAL INFORMATION

RTECS: Not available.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach – Irregularities – Based on Human Evidence.

## **Section 12 – Ecological Information**

TOXICITY: No data available.

PERSISTENCE AND DEGRADABILITY: No data available.

BIOACCUMULATIVE POTENTIAL: No data available.

MOBILITY IN SOIL: No data available.

RESULTS OF PBT AND vPvB ASSESSMENT: BPT/vP/B assessment not available as chemical safety assessment not required/not conducted.

OTHER ADVERSE EFFECTS: No data available.

## **Section 13 - Disposal Considerations**

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. After use follow local procedures for radioactive waste. Consult local, state and federal regulations on the disposal of radioactive waste. Observe all federal, state, and local environmental regulations.

CONTAMINATED PACKAGING: Dispose of as unused product.

## **Section 14 - Transport Information**

### **DOT**

Proper Shipping Name: Radioactive material, excepted package-limited quantity of material

UN#: 2910

Class: None

Marine Pollutant: No

Poison Inhalation Hazard: No

### **IMDG**

Proper Shipping Name: Radioactive material, excepted package, limited quantity of material

IMDG UN Number: 2910

Hazard Class: 7

EMS-No: F-I, S-S

Marine Pollutant: No

## IATA

Proper Shipping Name: Radioactive material, excepted package, limited quantity of material  
IATA UN Number: 2910  
Hazard Class: 7.4H (See sub-section 10.5)

## Section 15 - Regulatory Information

### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: T-R  
Indication of Danger: Toxic. Radioactive.  
R: 45-23/24/25-33  
Risk Statements: May cause cancer. Toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects.  
S: 53-36/37/39-45  
Safety Statements: Avoid exposure - obtain special instructions before use. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Toxic.  
Risk Statements: May cause cancer. Harmful by inhalation, in contact with skin and if swallowed.  
Safety Statements: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wear suitable protective clothing, gloves, and eye/face protection. Do not breathe dust. Keep container tightly closed in a cool well-ventilated place.  
US Statements: Target organ(s): Liver. Kidneys. Calif. Prop. 65 carcinogen.

### UNITED STATES REGULATORY INFORMATION

SARA 302 COMPONENTS: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 COMPONENTS: This product is subject to SARA Title III, Section 313 reporting requirements.

	CAS No.	Revision Date
Thorium dioxide	1314-20-1	1993-04-24

SARA 311/312 HAZARDS: Acute Health Hazard, Chronic Health Hazard

### MASSACHUSETTS RIGHT TO KNOW COMPONENTS:

	CAS No.	Revision Date
Thorium dioxide	1314-20-1	1993-04-24

### PENNSYLVANIA RIGHT TO KNOW COMPONENTS:

	CAS No.	Revision Date
Thorium dioxide	1314-20-1	1993-04-24

### NEW JERSEY RIGHT TO KNOW COMPONENTS:

	CAS No.	Revision Date
Thorium dioxide	1314-20-1	1993-04-24

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer.

	CAS No.	Revision Date
Thorium dioxide	1314-20-1	2007-09-28

#### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

#### **Section 16 - Other Information**

##### FULL TEST OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3:

Acute Tox.	Acute toxicity
Carc.	Carcinogenicity
H301	Toxic if swallowed
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled
H311	Toxic in contact with skin
H331	Toxic if inhaled
H350	May cause cancer

##### HMIS RATING:

Health hazard:	2
Chronic Health hazard:	*
Flammability:	0
Physical hazard:	0

##### NFPA RATING:

Health hazard:	2
Fire hazard:	0
Reactivity hazard:	0

DISCLAIMER: For R&D use only. Not for drug, household or other uses.

WARRANTY: 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. Bayville Chemical Supply Company Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. License granted to make unlimited paper copies for internal use only.

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