Thorium Oxide	Pricing >
Thorium Oxide Nanoparticle Dispersion	Pricing >
Thorium Oxide Nanoparticles / Nanopowder	Pricing >
Thorium Oxide Pellets	Pricing >
Thorium Oxide Pieces	Pricing >
Thorium Oxide Powder	Pricing >
Thorium Oxide Rotatable Sputtering Target	Pricing >
Thorium Oxide Shot	Pricing >
Thorium Oxide Sputtering Target	Pricing >
Thorium Oxide Tablets	Pricing >

Linear Formula	ThO_2
Pubchem CID	169899
MDL Number	N/A
EC No.	253-453-3
IUPAC Name	Oxygen(-2) anion; thorium(+4) cation
Beilstein/Reaxys No.	N/A
SMILES	O=[Th]=O
Inchl Identifier	InChI=1S/2O.Th
Inchl Key	ZCUFMDLYAMJYST-UHFFFAOYSA-N
Signal Word	Danger
Hazard Statements	H301 + H311 + H331-H350-H373
Hazard Codes	N/A
Precautionary Statements	P201-P202-P260-P264-P270-P271-P280-P301 + P310-P302 + P352-P304 + P340-P308 + P313-P322-P330-P361-P363-P403 + P233-P405-P501
Flash Point	Not applicable
Risk Codes	N/A
Safety Statements	N/A
RTECS Number	N/A

Transport Information	NONH
WGK Germany	NONH
GHS Pictograms	**GHS08 Health Hazard**  **GHS06 Skull and Crossbones** 

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SAFETY DATA SHEET

Date Accessed: 05/12/2024
Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #1314-20-1

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

SECTION 2. HAZARDS IDENTIFICATION

2.1 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, Dermal (Category 3), H311
Carcinogenicity (Category 1B), H350
Specific target organ toxicity - repeated exposure (Category 2), H373

2.2 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 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.
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
Radioactive.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : O2Th
Molecular Weight : 264.04 g/mol
CAS-No. : 1314-20-1
EC-No. : 215-225-1
Hazardous components
Thorium dioxide
Classification: Acute Tox. 3; Carc. 1B; STOT RE 2; H301 + H311 + H331, H350, H373

SECTION 4. FIRST AID MEASURES

4.1 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.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
In case of eye contact
Flush eyes with water as a precaution.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
4.3 Indication of any immediate medical attention and special treatment needed
no data available

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
Metal oxides
5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.
5.4 Further information
no data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation.
Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.
6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
6.4 Reference to other sections
For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 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 2.2.
7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.
Keep in a dry place.
7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters
Contains no substances with occupational exposure limit values.
8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash

hands before breaks 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, The 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 backup 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 approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
a) Appearance Form: solid
Colour: white
b) Odor no data available
c) Odor Threshold no data available
d) pH no data available
e) Melting point/freezing point no data available
f) Initial boiling point and boiling range no data available
g) Flash point no data available
h) EVaporation rate no data available
i) Flammability (solid, gas) no data available
j) Upper/lower flammability or explosive limits no data available
k) Vapor pressure no data available

l) Vapor density no data available
m) Relative density no data available
n) Water solubility no data available
o) Partition coefficient: noctanol/water no data available
p) Auto-ignition temperature no data available
q) Decomposition temperature no data available
r) Viscosity no data available
s) Explosive properties no data available
t) Oxidizing properties no data available
9.2 Other safety information
no data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity
no data available
10.2 Chemical stability
Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions
no data available
10.4 Conditions to avoid
no data available
10.5 Incompatible materials
no data available
10.6 Hazardous decomposition products
Other decomposition products - no data available
In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity
no data available
no data available
Skin corrosion/irritation
no data available
Serious eye damage/eye irritation
no data available
Respiratory or skin sensitisation
no data available
Germ cell mutagenicity
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
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
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
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

SECTION 12. ECOLOGICAL INFORMATION

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
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

SECTION 13. DISPOSAL CONSIDERATIONS

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
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

SECTION 14. TRANSPORT INFORMATION

DOT (US)
UN number: 2910 Class: NONE
Proper shipping name: Radioactive material, excepted package-limited quantity of material
Marine pollutant: No
Poison Inhalation Hazard: No
IMDG
UN number: 2910 Class: 7 EMS-No: F-I, S-S
Proper shipping name: RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL
Marine pollutant: No
IATA
UN number: 2910 Class: 7.4H
Proper shipping name: Radioactive material, excepted package - limited quantity of material

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SECTION 15. REGULATORY INFORMATION

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:
Thorium dioxide
CAS-No.
1314-20-1
Revision Date
1993-04-24
SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard
Massachusetts Right To Know Components
Thorium dioxide
CAS-No.
1314-20-1

Revision Date
1993-04-24
Pennsylvania Right To Know Components
Thorium dioxide
CAS-No.
1314-20-1
Revision Date
1993-04-24
New Jersey Right To Know Components
Thorium dioxide
CAS-No.
1314-20-1
Revision Date
1993-04-24
California Prop. 65 Components
WARNING! This product contains a chemical known to the
State of California to cause cancer.
Thorium dioxide

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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.
