THORIUM OXIDE  
CAS NO 1314-20-1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
   Product name : Thorium Oxide
   CAS-No. : 1314-20-1

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
   Company : Central Drug House (P) Ltd
              7/28 Vardaan House
              New Delhi -110002
              INDIA
   Telephone : +91 11 49404040
   Email : care@cdhfinechemical.com

1.4 Emergency telephone number
   Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
   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

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
   Pictogram
   Signal word : Danger
   Hazard statement(s)
   H301 : Toxic if swallowed.
   H311 : Toxic in contact with skin.
   H331 : Toxic 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.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

Supplemental Hazard none

Statements
Restricted to professional users.

2.3 Other hazards
Radioactive.

SECTION 3: Composition/information on ingredients

3.1 Substances
Formula : ThO$_2$
Molecular weight : 264.04 g/mol
CAS-No. : 1314-20-1
EC-No. : 215-225-1

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thorium dioxide</td>
<td>Acute Tox. 3; Carc. 1B; STOT</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>1314-20-1</td>
<td></td>
</tr>
<tr>
<td>EC-No.</td>
<td>215-225-1</td>
<td>RE 2; H301, H331, H311, H350, H373</td>
</tr>
</tbody>
</table>

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

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.

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 firefighting 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 vapours, 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. Avoid exposure - obtain special instructions before use. 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**
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): Combustible solids, toxic

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**

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 (EN 143) respirator cartridges as a backup to engineering controls. If the 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

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>a)</td>
<td>Appearance Form: powder</td>
</tr>
<tr>
<td></td>
<td>Colour: white</td>
</tr>
<tr>
<td>b)</td>
<td>Odour No data available</td>
</tr>
<tr>
<td>c)</td>
<td>Odour Threshold No data available</td>
</tr>
<tr>
<td>d)</td>
<td>pH No data available</td>
</tr>
<tr>
<td>e)</td>
<td>Melting point/freezing point No data available</td>
</tr>
<tr>
<td>f)</td>
<td>Initial boiling point and boiling range No data available</td>
</tr>
<tr>
<td>g)</td>
<td>Flash point No data available</td>
</tr>
<tr>
<td>h)</td>
<td>Evaporation rate No data available</td>
</tr>
<tr>
<td>i)</td>
<td>Flammability (solid, gas) No data available</td>
</tr>
<tr>
<td>j)</td>
<td>Upper/lower flammability or explosive limits No data available</td>
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<tr>
<td>k)</td>
<td>Vapour pressure No data available</td>
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<td>l)</td>
<td>Vapour density No data available</td>
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<tr>
<td>m)</td>
<td>Relative density No data available</td>
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<tr>
<td>n)</td>
<td>Water solubility No data available</td>
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<tr>
<td>o)</td>
<td>Partition coefficient: n-octanol/water No data available</td>
</tr>
<tr>
<td>p)</td>
<td>Auto-ignition temperature No data available</td>
</tr>
<tr>
<td>q)</td>
<td>Decomposition temperature No data available</td>
</tr>
<tr>
<td>r)</td>
<td>Viscosity No data available</td>
</tr>
<tr>
<td>s)</td>
<td>Explosive properties No data available</td>
</tr>
<tr>
<td>t)</td>
<td>Oxidizing properties No data available</td>
</tr>
</tbody>
</table>

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
Hazardous decomposition products formed under fire conditions. - Metal oxides
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 (Thorium dioxide)
   Skin corrosion/irritation
   No data available (Thorium dioxide)
   Serious eye damage/eye irritation
   No data available (Thorium dioxide)
   Respiratory or skin sensitisation
   No data available (Thorium dioxide)
   Germ cell mutagenicity
   No data available (Thorium dioxide)
   Carcinogenicity
   Possible human carcinogen (Thorium dioxide)
   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.

Reproductive toxicity
   Specific target organ toxicity - single exposure
   No data available (Thorium dioxide)
   Specific target organ toxicity - repeated exposure
   May cause damage to organs through prolonged or repeated exposure.
   Aspiration hazard
   No data available (Thorium dioxide)

Additional Information
   RTECS: Not available
   To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (Thorium dioxide)

SECTION 12: Ecological information
12.1 Toxicity
   No data available
12.2 Persistence and degradability
   No data available
12.3 Bioaccumulative potential
   No data available
12.4 Mobility in soil
   No data available (Thorium dioxide)
12.5 Results of PBT and vPvB assessment
   PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
12.6 Other adverse effects
   No data available
SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
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

14.1 UN number
ADR/RID: 2910  IMDG: 2910  IATA: 2910

14.2 UN proper shipping name
ADR/RID: RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL
IMDG: RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL
IATA: Radioactive material, excepted package - limited quantity of material

14.3 Transport hazard class(es)
ADR/RID: 7  IMDG: 7  IATA: 7.4H

14.4 Packaging group
ADR/RID: -  IMDG: -  IATA: -

14.5 Environmental hazards
ADR/RID: no  IMDG Marine pollutant: no  IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H331 Toxic if inhaled.
H350 May cause cancer.
H373 May cause damage to organs through prolonged or repeated exposure.

Further information
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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.