



LTS Research Laboratories, Inc.
Safety Data Sheet
Barium Titanate – Copper Oxide

1. Product and Company Identification

Trade Name: Barium Titanate – Copper Oxide
Chemical Formula: BaTiO₃-CuO
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.
Street: 37 Ramland Road
City: Orangeburg
State: New York
Zip Code: 10962
Country: USA
Tel #: 855-587-2436 / 855-lts-chem

24-Hour Emergency Contact: 800-424-9300 (US & Canada)
+1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Warning



Hazard Statements: H302+H332: Harmful if swallowed or if inhaled

Precautionary Statements: P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P330: Rinse mouth
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):
Health: 2
Flammability: 0
Physical: 1

3. Composition

Chemical Family: Ceramic
Additional Names: Barium titanium oxide – Copper Oxide

Barium titanate (BaTiO₃):
Percentage: 0-100 wt%
CAS #: 12047-27-7
EC #: 234-975-0

Copper oxide (CuO):
Percentage: 0-100 wt%
CAS #: 1317-38-0
EC #: 215-269-1

4. First Aid Procedures

General Treatment: Seek medical attention if symptoms persist.
Special Treatment: None
Important Symptoms: None

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion: Seek Medical Attention.
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

5. Firefighting Measures

Flammability: Non-flammable
Extinguishing Media: No special restrictions – use suitable extinguishing agent for surrounding material and type of fire.
Spec. Fire Fighting Procedure: Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled: Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions: Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions: Wash thoroughly after handling.
Storage Conditions: Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance: Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation: Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.5 mg/m ³ as Ba, long-term value
Threshold Limit Value:	0.5 mg/m ³ as Ba, long-term value
Special Equipment:	None
Respiratory Protection:	Use a respirator with type P100 (USA) or P3 (EN143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.
Protective Gloves:	Nitrile rubber, NBR 0.11mm thick.
Penetration time of glove material:	480 minutes
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	White
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	N/A
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	N/A



10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Metal powders, Alkali metals, Aluminum/aluminum alloys, Magnesium/magnesium alloys, Oxidizing agents
Incompatible Conditions:	None
Hazardous Decomposition Products:	Barium oxide, Titanium oxide, Metal Oxide fume

11. Toxicological Information

Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	Harmful if swallowed
Inhalation:	Harmful if inhaled.
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	470 mg/kg by mouth (rat)
Carcinogen:	EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.

12. Ecological Information

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	No

Very Persistent, Very Bioaccumulative: No
Notes: Very toxic for aquatic organisms.
Do not allow material to be released to the environment without proper governmental permits.
Do not allow undiluted product or large quantities to reach ground water, water course, or sewage system.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer to the environment.

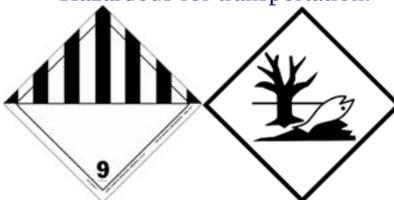
13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous:

Hazardous for transportation.



Hazard Class:
Packing Group:
UN Number:
Proper Shipping Name:

9 Miscellaneous dangerous substances and articles
III
UN3077
Environmentally hazardous substances, solid, n.o.s. (Barium Titanate – Copper Oxide)

15. Regulatory Information

Sec 302 Extremely Hazardous: No
Sec 304 Reportable Quantities: N/A
Sec 313 Toxic Chemicals: Yes

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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