



LTS Research Laboratories, Inc.
Safety Data Sheet
Ruthenium Boride

1. Product and Company Identification

Trade Name: Ruthenium Boride
Chemical Formula: RuB
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: Danger



Hazard Statements:

- H228: Flammable solid
- H290: May be corrosive to metals
- H302: Harmful if swallowed
- H314: Causes severe skin burns and eye damage
- H318: Causes serious eye damage
- H332: Harmful if inhaled
- H335: May cause respiratory irritation

Precautionary Statements:

- P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
- P234: Keep only in original container
- P240: Ground/bond container and receiving equipment
- P241: Use explosion-proof electrical/ventilating/light/equipment
- P260: Do not breathe dust/fume/gas/mist/vapors/spray
- P264: Wash face, hands and any exposed 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/eye protection/face protection
- P363: Wash contaminated clothing before reuse
- P370: In case of fire: Use CO₂, dry chemical or foam for extinction
- P390: Absorb spillage to prevent material damage
- P402: Store in a dry place
- P403: Store in a well ventilated place
- P405: Store locked up
- P406: Store in a corrosive resistant polypropylene container with a resistant inner liner

P301+P330+P331+P312: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting Call a POISON CENTER or doctor/physician if you feel unwell.

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P312+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

P305+P351+P338+P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Immediately call a POISON CENTER/doctor.

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

HMIS Health Ratings (0-4):

Health:	3
Flammability:	2
Physical:	1

3. Composition

Chemical Family:	Inorganic Compound
Additional Names:	None

Ruthenium Boride (RuB)

Percentage:	100 wt%
CAS #:	N/A
EC #:	N/A

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	Causes burns, Severe swelling

Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.
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Ingestion:	Rinse mouth with water. Do not induce vomiting. Seek medical attention.
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Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.
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Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.
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5. Firefighting Measures

Flammability:	Flammable solid
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Extinguishing Media:	Use CO ₂ , dry chemical, dry sand, alcohol resistant foam
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:	N/A
Threshold Limit Value:	N/A
Special Equipment:	None
Respiratory Protection:	Use a recommended dust respirator or mask. Only use equipment tested and approved under appropriate government standards.
Protective Gloves:	Rubber gloves
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	N/A
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	N/A
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	111.88 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Strong oxidizing agents, Strong reducing agents, Strong acids, Halogens, Ammonia, Metals
Incompatible Conditions:	Moisture Sensitive
Hazardous Decomposition Products:	Borane/Boron oxides, Hydrogen chloride gas, Ruthenium oxide

11. Toxicological Information

Potential Health Effects:

Eyes:	Causes serious damage
Skin:	Causes severe burns
Ingestion:	Harmful if swallowed
Inhalation:	Fatal if inhaled
Chronic:	N/A

Signs & Symptoms:

Causes burns, Severe swelling

Aggravated Medical Conditions:

N/A

Median Lethal Dose:

LD50 Oral - Rat - 650 mg/kg for boron powder

Carcinogen:

N/A

12. Ecological Information

Aquatic Toxicity:

High with long lasting effects

Persistent Bioaccumulation Toxicity:

N/A

Very Persistent, Very Bioaccumulative:

N/A

Notes:

N/A

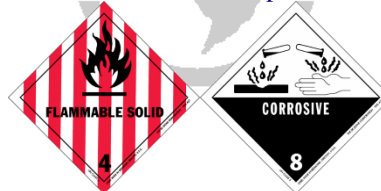
13. Disposal Considerations

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

14. Transportation Data

Hazardous:

Hazardous for transportation



Hazard Class:

4.1 Flammable Solids

Secondary Hazard Class:

8 Corrosives

Packing Group:

II

UN Number:

UN3180

Proper Shipping Name:

Flammable solid, corrosive, inorganic, n.o.s. (Ruthenium Boride)

15. Regulatory Information

Sec 302 Extremely Hazardous:

No

Sec 304 Reportable Quantities:

N/A

Sec 313 Toxic Chemicals:

No

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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01/20/2020