### SAFETY DATA SHEET
FOR
THORN SMITH LABORATORIES

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**SECTION 1 - IDENTIFICATION**

- **Trade Name:** Copper Oxide for Cu
- **Catalog Number:** 80-1230
- **Product Description:** Analyzed Quantitative Unknowns
- **Manufacturer:** Auric Enterprises, Inc.
d/b/a Thorn Smith Laboratories
- **Address:** 7755 Narrow Gauge Road
  Beulah, MI  49617
- **Phone Number:** 231-882-4672
- **SDS Number:** TSL-008

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**SECTION 2 – HAZARDS IDENTIFICATION**

**Potential Acute Health Effects:** Hazardous in case of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).

**Potential Chronic Health Effects:**
- CARCINOGENIC EFFECTS: N/A
- MUTAGENIC EFFECTS: N/A
- TERATOGENIC EFFECTS: N/A
- DEVELOPMENTAL TOXICITY: N/A

The substance is toxic to lungs and mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

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**SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS**

**Cupric Oxide**

- **Formula:** CuO
- **Formula Weight:** 79.55 g/mol
- **CAS No.:** 1317-38-0
- **Common Synonyms:** Cupric Oxide, Copper (II) Oxide
- **OSHA PEL:** TWA-0.1 mg/m³ (Copper fumes)
- **ACGIH TLV:** TWA=0.2mg/m³ (Copper fumes)

**Soluble Sulfate:**

- **Formula:** Na₂SO₄
- **CAS No.:** 7757-82-6
- **OSHA PEL:** N/E
- **ACGIH TLV:** N/E
- **OTHER LIMITS:** N/A
SECTION 4 – FIRST AID MEASURES

**Eye Contact:** Check for and remove contact lenses. Flush with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention.

**Skin Contact:** Remove any contaminated clothing. Wipe off excess from skin. Flush skin with water. Get medical attention if irritation develops or persists.

**Inhalation:** If inhaled, move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.

**Ingestion:** If swallowed, and if person is conscious, immediately rinse mouth with plenty of water. DO NOT induce vomiting. Get medical attention.

SECTION 5 – FIRE FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>Non-Flammable</td>
</tr>
<tr>
<td>Flash Points</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Auto-Ignition</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Extinguishing Media</td>
<td>Use extinguishing media appropriate to the surrounding fire.</td>
</tr>
<tr>
<td>Fire Fighting Procedure</td>
<td>Firefighters should wear self-contained breathing apparatus and protective clothing to prevent inhalation or contact with skin and eyes.</td>
</tr>
<tr>
<td>Special Hazards arising from substance or mixture</td>
<td>Copper Oxides</td>
</tr>
<tr>
<td>Fire/Explosion Hazards</td>
<td>No Data Available.</td>
</tr>
</tbody>
</table>

SECTION 6 – ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** Utilize recommended protective clothing and equipment. Sweep up or shovel spills in a manner that does not disperse dust into the air. Dispose of in accordance to all applicable federal, state and local regulations.

SECTION 7 – HANDLING AND STORAGE

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Temperatures</td>
<td>Store at ambient temperatures.</td>
</tr>
<tr>
<td>Shelf Life</td>
<td>Unlimited in tightly closed container in a dry and well-ventilated place.</td>
</tr>
<tr>
<td>Special Sensitivity</td>
<td>Keep away from incompatible materials.</td>
</tr>
<tr>
<td>Precautions to be taken in handling and storage</td>
<td>Do not breathe dust. Avoid contact with skin and eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment.</td>
</tr>
</tbody>
</table>

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

**Respiratory Protection (Specify Type):** For nuisance exposures use N95 type respirator. If airborne Concentration is high, use an appropriate NIOSH approved cartridge respirator.

**Protective Gloves:** Wear protective gloves.

**Eye Protection:** Wear chemical safety glasses.

**Ventilation To Be Used:** Use adequate general or local exhaust ventilation to keep fume or dust levels as low as possible.

- [ ] Local Exhaust
- [X] Mechanical (General)
- [ ] Special
- [ ] Other (Specify)

**Other Protective Clothing and Equipment:** Wear clean body-covering clothing. Emergency showers and eye wash stations should be available.

**Hygienic Work Practices:** Avoid contact with eyes, skin, and clothing. Avoid breathing dust. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling. Do not let product enter drains.
SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Powder
Color: Gray to Black
Odor: Odorless
Boiling Point: N/A
Melting Point/Freezing Point: 1326°C (2419°F) CuO; 884°C (1623°F) Na₂SO₄
Flash Point: N/A
Solubility in Water: Negligible (less than 0.1%) CuO; Appreciable (More than 10%) Na₂SO₄
Specific Gravity: 6.40 g/cm³ (water=1) CuO; 2.68 Na₂SO₄

SECTION 10 – STABILITY AND REACTIVITY

STABILITY: _X_ Stable _____ Unstable
Conditions to Avoid: Humidity
Incompatibility (Materials to avoid): Aluminum, magnesium, mineral acids, strong acids, strong bases.
Hazardous Decomposition Products: Oxides of sulfur may form when heated to decomposition.
HAZARDOUS POLYMERIZATION: _____ May Occur _X_ Will Not Occur

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity (CuO)
LD₅₀ Oral – Rat – >2500 mg/kg (OECD Test Guideline 423)
Inhalation: No Data
LD₅₀ Dermal – Rat – >2000 mg/kg (OECD Test Guideline 402)
No Data Available

Skin corrosion/irritation (CuO)
Skin – Rabbit
Results: No skin irritation (OECD Test Guideline 404)

Serious Eye Damage/Eye Irritation (CuO)
Eyes – Rabbit
Results: Mild eye irritation (OECD Test Guideline 405)

Respiratory or skin sensitization (CuO)
Maximisation Test (GPMT) – Guinea pig
Does not cause skin sensitization (OECD Test Guideline 406)
Germ Cell Mutagenicity (CuO)
Not Date Available

Carcinogenicity (CuO, Na₂SO₄)
No components of this product are listed by IARC, ACGIH, NTP, OSHA, or CA Prop 65.

SECTION 12 – ECOLOGICAL INFORMATION

Other Adverse Effects: Very toxic to aquatic life with long lasting effects. (CuO)

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable local, state and federal environmental regulations.

SECTION 14 – TRANSPORTATION INFORMATION

Domestic (D.O.T.)
Proper Shipping Name: Chemicals, n.o.s.

International (T.M.O.)
Proper Shipping Name: Chemicals, n.o.s.

Air (I.C.A.O.)
Proper Shipping Name: Chemicals, n.o.s.

SECTION 15 – REGULATORY INFORMATION

SARA TITLE III HAZARD CATEGORIES AND LISTS

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

SARA 313 Components
Toxic chemical notification and release reporting: Cupric Oxide

WHMIS – Canada (CuO)
Class D-1B: Poisonous and infectious material – Immediate and serious effects – Toxic
Class D-2A: Material causing other toxic effects (VERY TOXIC)
Class D-2B: Poisonous and infectious material – Other effects – Toxic

SECTION 16 – OTHER INFORMATION

HMIS Rating
Health Hazard: 1
Fire Hazard: 0
Reactivity: 0
Personal Protection: E

**NFPA Rating**
Health Hazard: 1
Fire Hazard: 0
Reactivity Hazard: 0

Date Prepared: October 2, 1989
Date of Last Revision: June 15, 2014

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