MATERIAL SAFETY DATA SHEET
Copper(II) chloride, anhydrous

Section 1 - Chemical Product and Company Identification

MSDS Name: Copper(II) chloride, anhydrous
Catalog Numbers: 20653-0000, 20653-0010, 20653-2500
Synonyms: Cupric chloride
Company Identification: Acros Organics BVBA
Janssen Pharmaceuticalaan 3a
2440 Geel, Belgium
Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name:</th>
<th>%</th>
<th>EINECS#</th>
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<tbody>
<tr>
<td>7447-39-4</td>
<td>Copper(II) chloride, anhydrous</td>
<td>99%</td>
<td>231-210-2</td>
</tr>
</tbody>
</table>

Hazard Symbols: T N
Risk Phrases: 25 36/37/38 50/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Toxic if swallowed. Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential Health Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation. May be harmful if absorbed through the skin.
Ingestion: May cause irritation of the digestive tract. Toxic if swallowed.
Inhalation: Causes respiratory tract irritation. May be harmful if inhaled.
Chronic:

Section 4 - First Aid Measures
**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Get medical aid immediately. Wash mouth out with water.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:** Treat symptomatically and supportively.

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### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible.

**Extinguishing Media:** Use extinguishing media most appropriate for the surrounding fire.

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### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Do not let this chemical enter the environment.

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### Section 7 - Handling and Storage

**Handling:** Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood.

**Storage:** Store in a cool, dry place. Store in a tightly closed container. Store under argon.

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### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits**

```
CAS# 7447-39-4:

Russia: 0.5 mg/m3 TWA (aerosol, as Cu)
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**Personal Protective Equipment**

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

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### Section 9 - Physical and Chemical Properties

**Physical State:** Crystalline powder

**Color:** brown - fine

**Odor:** odorless
**pH:** 3 (50 g/L aq.sol (20°C))

**Vapor Pressure:** Not available

**Viscosity:** Not available

**Boiling Point:** 993 deg C @760mmHg (1,819.40°F)

**Freezing/Melting Point:** 498 deg C (928.40°F)

**Autoignition Temperature:** Not available

**Flash Point:** Not available

**Explosion Limits: Lower:** Not available

**Explosion Limits: Upper:** Not available

**Decomposition Temperature:**

**Solubility in water:** 620 g/l (20°C)

**Specific Gravity/Density:** Not available.

**Molecular Formula:** Cl₂Cu

**Molecular Weight:** 134.45

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### Section 10 - Stability and Reactivity

**Chemical Stability:** Hygroscopic: absorbs moisture or water from the air.

**Conditions to Avoid:** Incompatible materials, exposure to moist air or water.

**Incompatibilities with Other Materials**

Strong oxidizing agents, alkali metals.

**Hazardous Decomposition Products**

Hydrogen chloride.

**Hazardous Polymerization**

Has not been reported.

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### Section 11 - Toxicological Information

**RTECS#:** CAS# 7447-39-4: GL7000000

**LD50/LC50:**

**RTECS:**

**CAS# 7447-39-4:** Oral, mouse: LD50 = 233 mg/kg;
Oral, rat: LD50 = 584 mg/kg;
Oral, rat: LD50 = 140 mg/kg;

Other:

**Carcinogenicity:** Copper(II) chloride, anhydrous - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

**Other:** See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

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### Section 12 - Ecological Information

**Ecotoxicity:**

Daphnia: Daphnia: EC50 = 0.04 mg/l; 48H;
Fish: Carp: LC50 = 0.120 -0.130 mg/l; 96H;
Fish: Bluegill/Sunfish: LC50 = 0.9 mg/l; 96H;
Fish: Rainbow trout: LC50 = 0.08 mg/l; 96H;
Algae: EC50 = 0.12 mg/l; 96H;
Algae: EC50 = 0.2 mg/l; 96H;

**Other:** Do not empty into drains. Not readily biodegradable.

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### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

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### Section 14 - Transport Information

<table>
<thead>
<tr>
<th>Shipping Name:</th>
<th>IATA</th>
<th>IMO</th>
<th>RID/ADR</th>
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<tbody>
<tr>
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<td>COPPER CHLORIDE</td>
<td>COPPER CHLORIDE</td>
</tr>
<tr>
<td></td>
<td>8</td>
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</tr>
</tbody>
</table>
UN Number: 2802
Packing Group: III

USA RQ: CAS# 7447-39-4: 10 lb final RQ; 4.54 kg final RQ
Severe Marine Pollutant

Section 15 - Regulatory Information

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: T N
Risk Phrases:
  R 25 Toxic if swallowed.
  R 36/37/38 Irritating to eyes, respiratory system and skin.
  R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Phrases:
  S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  S 29 Do not empty into drains.
  S 37/39 Wear suitable gloves and eye/face protection.
  S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
  S 57 Use appropriate containment to avoid environmental contamination.

WGK (Water Danger/Protection)
  CAS# 7447-39-4: 2

Canada
  CAS# 7447-39-4 is listed on Canada's DSL List

US Federal
TSCA
  CAS# 7447-39-4 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 7/16/1996
Revision #2 Date 8/23/2007
Revisions were made in Sections: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10,

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