



Safety Data Sheet

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Copper AA Standard, 30 ppm Cu in 5% HCl

Product Number: R2291300

Other Identifying Product Numbers: R2291300-500N

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company: Ricca Chemical Company

Address: 448 West Fork Drive
Arlington, TX 76012 USA

Telephone: 888-467-4222

1.4. Emergency Telephone Number (24 hr)

CHEMTREC (USA) 800-424-9300
CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture (in accordance with OSHA HCS 29 CFR 1910.1200)

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

| Hazard Class | Category | Hazard Statement | Precautionary Statements |
|----------------------------------------------------------------------|------------|------------------|-----------------------------------------------------------------------------------------------------------|
| Skin Corrosion / Irritation | Category 1 | H314 | P260, P264, P280, P301+P330+P331, P303+P361+P353, P363, P304+P340, P310, P321, P305+P351+P338, P405, P501 |
| Eye Damage / Irritation | Category 1 | H318 | P280, P305+P351+P338, P310 |
| Respiratory Sensitizer | Category 1 | H334 | P261, P285, P304+P341, P342+P311, P501 |
| Specific Target Organs/Systemic Toxicity Following Single Exposure | Category 1 | H370 | P260, P264, P270, P307+P311, P321, P405, P501 |
| Specific Target Organs/Systemic Toxicity Following Repeated Exposure | Category 1 | H372 | P260, P264, P270, P314, P501 |
| Corrosive to Metals | Category 1 | H290 | P234, P390, P406 |
| Hazardous to the Aquatic Environment (Acute) | Category 3 | H402 | P273, P501 |



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2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

| Hazard Number | Hazard Statement |
|---------------|----------------------------------------------------------------------------|
| H290 | May be corrosive to metals. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H370 | Causes damage to organs. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H402 | Harmful to aquatic life. |

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Precautionary Statements:

| Precautionary Number | Precautionary Statement |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------|
| P234 | Keep only in original container. |
| P260 | Do not breathe dust, fumes or mist. |
| P261 | Avoid breathing dust, fumes or mist. |
| P264 | Wash arms, hands and face thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves and eye protection. |
| P285 | In case of inadequate ventilation wear respiratory protection. |
| P301+P330+P331 | IF SWALLOWED: rinse mouth. Do NOT induce vomiting. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. |
| P304+P341 | IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P307+P311 | IF exposed: Call a POISON CENTER or physician. |
| P310 | Immediately call a POISON CENTER or physician. |
| P314 | Get medical attention if you feel unwell. |
| P321 | Specific treatment (Wash areas of contact with water immediately). |
| P342+P311 | If experiencing respiratory symptoms: Call a POISON CENTER or physician. |
| P363 | Wash contaminated clothing before reuse. |
| P390 | Absorb spillage to prevent material damage. |
| P405 | Store locked up. |
| P406 | Store in corrosive resistant container with a resistant inner liner. |
| P501 | Dispose of contents in accordance with local, state, federal and international regulations. |

2.3. WHMIS Classification

WHMIS classification is not included based on the recommended option (Option 4) found in the Canada Gazette Part II, Vol. 149, No.3, page 458

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.



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SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

| Chemical Name | Formula | Molecular Weight | CAS Number | Weight% |
|-------------------|------------------|------------------|------------|---------|
| Water | H ₂ O | 18.01 g/mol | 7732-18-5 | 97.86% |
| Hydrochloric Acid | HCl | 36.46 g/mol | 7647-01-0 | 2.12% |
| Nitric Acid | HNO ₃ | 63.01 g/mol | 7697-37-2 | 0.02% |
| Copper | Cu | 63.54 g/mol | 7440-50-8 | 0.00% |

SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause severe burns and permanent damage.

Inhalation: IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

Skin Contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Can cause redness, pain and severe skin burns.

Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Do not induce vomiting. Give large quantity of water. Call a physician immediately.

4.2. Most Important Symptoms and Effects, Acute and Delayed

WARNING! Corrosive. Avoid ingestion, and contact with skin, eyes or clothing. If ingested, do not induce vomiting. Dilute with water and call a physician. Wash areas of contact with plenty of water. For eyes, get medical attention. EYE CONTACT: May cause severe burns and permanent damage. SKIN CONTACT: Can cause redness, pain and severe skin burns.

4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water immediately).

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire (water or water spray). Neutralize with soda ash or slaked lime.

5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard. May react with metals to release flammable Hydrogen gas.

5.3. Special Protective Equipment for Firefighters

Use protective clothing and breathing equipment appropriate for the surrounding fire. Structural firefighter's protective clothing is ineffective for fires involving Hydrochloric Acid.

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SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.

6.2. Cleanup and Containment Methods and Materials

Absorb with suitable inert material (vermiculite, dry sand, etc) and place in a chemical waste container for proper disposal. Do not flush to sewer. Dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store in corrosive resistant container with a resistant inner liner. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Do not mix with bases.

SECTION 8: Exposure Controls / Personal Protection

8.1. Control Parameters

| Chemical Name | Limit Type | Country | Exposure Limit | Information Source |
|-------------------------------|-------------|---------|-----------------------------------------------------------------------------|------------------------------------------------------------------------|
| Copper (7440-50-8) | TWA | USA | 0.1 mg/m ³ TWA (fume) 1 mg/m ³ TWA (dust and mist) | U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs) |
| Copper (7440-50-8) | TLV-TWA | USA | 0.2 mg/m ³ TWA (fume) | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA) |
| Copper (7440-50-8) | TLV-TWA | USA | 1 mg/m ³ TWA (dust and mist, as Cu) | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA) |
| Hydrochloric Acid (7647-01-0) | TLV-Ceiling | USA | 2 ppm Ceiling | ACGIH - Threshold Limit Values - Ceilings (TLV-C) |
| Hydrochloric Acid (7647-01-0) | PEL-Ceiling | USA | 5 ppm Ceiling 7 mg/m ³ Ceiling | U.S. - OSHA - Final PELs - Ceiling Limits |
| Nitric Acid (7697-37-2) | TWA | USA | 2 ppm TWA 5 mg/m ³ TWA | U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs) |
| Nitric Acid (7697-37-2) | TLV-STEL | USA | 4 ppm STEL | ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL) |
| Nitric Acid (7697-37-2) | TLV-TWA | USA | 2 ppm TWA | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA) |

8.2. Exposure Controls

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: In case of inadequate ventilation wear respiratory protection. Normal room ventilation is adequate. If necessary, wear a respirator equipped with an acid gas cartridge.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.



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8.3. Personal Protective Equipment

Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection. Normal room ventilation is adequate. If necessary, wear a respirator equipped with an acid gas cartridge. Chemical resistant gloves. Safety glasses or goggles.

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Colorless to light blue liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: < 1

Melting/Freezing Point: Approximately 0°C

Initial Boiling Point /Range: Approximately 100°C - Approximately 100°C

Flash Point: Data not available.

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 1.03

Solubility: Miscible

Partition Coefficient (n-Octanol/Water): Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.



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10.3. Conditions to Avoid and Incompatible Materials

Keep only in original container. Most metals, Alkalies, active metals, Cyanides, Sulfides, Sulfites, Metal Oxides, Formaldehyde.

10.4. Hazardous Decomposition Products

Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

LD50, Oral, Rabbit: (Hydrochloric Acid) 900 mg/kg, details of toxic effects not reported other than lethal dose value. LCLo, inhalation, human: 3000 ppm/5 minutes: No toxic effects noted.

Skin Corrosion and Irritation:

Causes severe skin burns and eye damage. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water immediately). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Serious Eye Damage and Irritation:

Causes serious eye damage. Wear protective gloves and eye protection. 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 or physician.

Respiratory Sensitization:

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Avoid breathing dust, fumes or mist. In case of inadequate ventilation wear respiratory protection. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician. Dispose of contents in accordance with local, state, federal and international regulations.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.



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Reproductive Toxicity:

Not applicable.

Specific Target Organ Toxicity from Single Exposure:

Causes damage to organs. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF exposed: Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water immediately). Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Repeated Exposure:

Causes damage to organs through prolonged or repeated exposure. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Harmful to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.



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SECTION 14: Transportation Information

14.1. Transportation by Land - Department of Transportation (DOT, United States of America)

UN Number: UN1789

Proper Shipping Name: Hydrochloric Acid Solution

Hazard Class: 8

Packing Group: III

Hazard Placard Labels:



14.2. Transportation by Air - International Air Transport Association (IATA)

UN Number: UN1789

Proper Shipping Name: Hydrochloric Acid Solution

Hazard Class: 8

Packing Group: III

Hazard Placard Labels:



SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Hydrochloric Acid (CAS # 7647-01-0): 500 lb TPQ (gas only)

Hydrochloric Acid (CAS # 7647-01-0): 5000 lb EPCRA RQ (gas only)

Nitric Acid (CAS # 7697-37-2): 1000 lb EPCRA RQ

Nitric Acid (CAS # 7697-37-2): 1000 lb TPQ



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15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Copper (CAS # 7440-50-8): 100 curie final RQ; 3.7 TBq final RQ

Copper (CAS # 7440-50-8): 1000 curie final RQ; 37 TBq final RQ

Copper (CAS # 7440-50-8): 5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)

Hydrochloric Acid (CAS # 7647-01-0): 5000 lb final RQ; 2270 kg final RQ

Nitric Acid (CAS # 7697-37-2): 1000 lb final RQ; 454 kg final RQ

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Copper (CAS # 7440-50-8): 1.0 % de minimis concentration

Copper (CAS # 7440-50-8): 1.0 % de minimis concentration (This category does not include CAS numbers 147-14-8, 1328-53-6, or 14302-13-7, or copper phthalocyanine compounds that are substituted with only hydrogen and/or chlorine and/or bromine.)

Hydrochloric Acid (CAS # 7647-01-0): 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

Nitric Acid (CAS # 7697-37-2): 1.0 % de minimis concentration

15.5. Massachusetts Right-to-Know Substance List

Copper (CAS # 7440-50-8): Present

Hydrochloric Acid (CAS # 7647-01-0): Extraordinarily hazardous

Nitric Acid (CAS # 7697-37-2): Extraordinarily hazardous

15.6. Pennsylvania Right-to-Know Hazardous Substances

Copper (CAS # 7440-50-8): Environmental hazard

Copper (CAS # 7440-50-8): Environmental hazard (dust and fume)

Copper (CAS # 7440-50-8): Present

Copper (CAS # 7440-50-8): Present (dust and fume)

Hydrochloric Acid (CAS # 7647-01-0): Environmental hazard

Hydrochloric Acid (CAS # 7647-01-0): Present

Nitric Acid (CAS # 7697-37-2): Environmental hazard

Nitric Acid (CAS # 7697-37-2): Present

Water (CAS # 7732-18-5): Present



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15.7. New Jersey Worker and Community Right-to-Know Components

Copper (CAS # 7440-50-8): sn 0528

Copper (CAS # 7440-50-8): SN 0528 TPQ: 500 lb

Copper (CAS # 7440-50-8): sn 2215

Copper (CAS # 7440-50-8): SN 2215 TPQ: 500 lb (Category Code N100. Includes any unique chemical substance that contains the named metal as part of that chemical structure, except C.I. Pigment Blue 15, C.I. Pigment Green 7, and C.I. Pigment Green 36)

Hydrochloric Acid (CAS # 7647-01-0): corrosive

Hydrochloric Acid (CAS # 7647-01-0): sn 1012

Hydrochloric Acid (CAS # 7647-01-0): SN 1012 TPQ: 500 lb ($\geq 37\%$ concentration); SN 2909 TPQ: 500 lb (Hydrogen chloride gas only. NJ uses UN1050 for reporting purposes)

Nitric Acid (CAS # 7697-37-2): corrosive; reactive - second degree

Nitric Acid (CAS # 7697-37-2): sn 1356

Nitric Acid (CAS # 7697-37-2): SN 1356 TPQ: 500 lb

Nitric Acid (CAS # 7697-37-2): sn 3722

Nitric Acid (CAS # 7697-37-2): SN 3722 TPQ: 500 lb (water dissociable, Category Code N511)

15.8. California Proposition 65

Not listed.

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Copper (CAS # 7440-50-8): Present

Hydrochloric Acid (CAS # 7647-01-0): Present

Nitric Acid (CAS # 7697-37-2): Present

Water (CAS # 7732-18-5): Present

15.10. United States of America Toxic Substances Control Act (TSCA) List

Copper (CAS # 7440-50-8): Present

Hydrochloric Acid (CAS # 7647-01-0): Present [T]

Nitric Acid (CAS # 7697-37-2): Present

Water (CAS # 7732-18-5): Present

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Not listed.



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SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life.

Keep only in original container. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed: Call a POISON CENTER or physician. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with water immediately). If experiencing respiratory symptoms: Call a POISON CENTER or physician. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Store locked up. Store in corrosive resistant container with a resistant inner liner.

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

16.2. Miscellaneous Hazard Classes

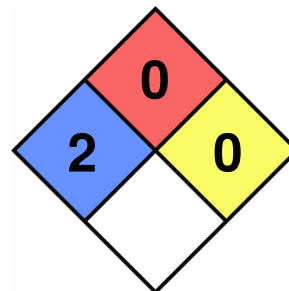
Canadian Carcinogenicity Hazard Class: Not Applicable.

Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.
Not Applicable.

16.3. National Fire Protection Association (NFPA) Rating

Health: 2
Flammability: 0
Reactivity: 0
Special Hazard:



16.4. Document Revision

Last Revision Date: 5/1/2015



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DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.