



# ELECTRO-CHEMICAL DEVICES

Liquid Analytical Instrumentation for Process Control

Bringing Simplicity  
to a Solution

## SAFETY DATA SHEET

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### SECTION 1 – PRODUCT IDENTIFICATION

**Trade Name:** Copper Standard Calibration Solution

**Product Number:** #2010463, #2010464

**Manufactured By:** Electrochemical Devices, Inc.  
1681 Kettering  
Irvine, CA 92614

**Phone #:** 1-800-692-1333

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### SECTION 2 – HAZARDS IDENTIFICATION

**Potential Health Effects:** *Eyes:* Not Hazardous.

*Skin:* Causes skin irritation.

*Ingestion:* May cause irritation of the digestive tract.

*Inhalation:* Not Hazardous

*Chronic:* May cause liver and kidney damage. Exposure to high concentrations of nitric acid vapor may cause pneumonitis and pulmonary edema which may be fatal. Symptoms may or may not be delayed. Continued exposure to the vapor & mist of nitric acid may result in a chronic bronchitis, & more severe exposure results in a chemical pneumonitis.



**Hazard Pictograms:**

**Signal Word:** *Warning*

**Hazard statement(s):** Not Hazardous.



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**Target Organs:**

Not Hazardous

**Precautionary Statement(s):**

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse.



**HMIS rating (Scale 0-4):**

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## SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

**Chemical Ingredients:**

**Active ingredients:**

< 0.1 Cupric Nitrate

CAS No. 19004-19-4

< 0.5% Sodium Nitrate (ISA)

CAS No. 7631-99-4

Balance Deionized Water

CAS No. 7732-18-8

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## SECTION 4 – FIRST-AID MEASURES

**First Aid Procedure:**

**Eye contact:** Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

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

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**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. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.



*Notes to Physician:* Treat symptomatically and supportively.

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## SECTION 5 – FIRE-FIGHTING MEASURES

<b>Fire-Fighting Procedures:</b>	<b>Flammability of the Product:</b> Non-flammable.
<b>Auto-Ignition Temperature:</b>	Not applicable.
<b>Flash Points:</b>	Not applicable.
<b>Flammable Limits:</b>	Not applicable.
<b>Products of Combustion:</b>	Not available.
<b>Fire Hazards in Presence of Various Substances:</b>	Not applicable.
<b>Explosion Hazards in Presence of Various Substances:</b>	Non-explosive in presence of open flames and sparks, of shocks.
<b>Fire Fighting Media and Instructions:</b>	Not applicable.
<b>Special Remarks on Fire Hazards:</b>	Not available.

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## SECTION 6 – ACCIDENTAL RELEASE MEASURES

<b>Spill-control Procedures:</b>	<b>Small Spill:</b> Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
	<b>Large Spill:</b> Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

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## SECTION 7 – HANDLING AND STORAGE

<b>Precautions:</b>	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Discard contaminated shoes.
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**Storage:** Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances.

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## SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

**Exposure Limits:** ACGIH (United States, 1996)  
Cu(NO<sub>3</sub>)<sub>2</sub>: 1 mg(Cu)/m<sup>3</sup>.

**NIOSH REL (United States, 1994)** Not listed

**OSHA Final Rule (United States, 1989)** Not listed

**Personal Protection:** Splash goggles. Lab coat. Gloves.

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## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

**Physical state and appearance:** Liquid.

**Odor:** Oderless.

**Taste:** Saline.

**Molecular Weight:** Not Applicable.

**Color:** Blue.

**pH (1% soln/water):** None Available.

**Boiling Point:** > 100 C

**Melting Point:** Not available.

**Critical Temperature:** Not available.

**Specific Gravity:** > 1

**Vapor Pressure:** 14 mm Hg @ 20C

**Vapor Density:** 0.7

**Volatility:** Not available



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<b>Odor Threshold:</b>	Not available
<b>Water/Oil Dist. Coeff:</b>	The product is completely soluble in water.
<b>Ionicity (in Water):</b>	Not available
<b>Dispersion Properties:</b>	Not available
<b>Solubility:</b>	Easily Soluble in water.

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## SECTION 10 – STABILITY AND REACTIVITY DATA

<b>Stability:</b>	Stable.
<b>Conditions of Instability:</b>	Excess Heat.
<b>Incompatibility:</b>	Strong oxidizing agents, strong bases.
<b>Hazardous Decomposition Products:</b>	Oxides of nitrogen, copper fumes.
<b>Polymerization:</b>	Has not been reported

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## SECTION 11 – TOXICOLOGICAL INFORMATION

<b>Routes of Entry:</b>	Oral
<b>Toxicity to Animals:</b>	ORL-RAT LD50: 3236 mg/kg as sodium nitrate
<b>Chronic Effects on Humans:</b>	Not available.
<b>Other Toxic Effects on Humans:</b>	Not Available

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## SECTION 12 – ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	Not available.
<b>BOD5 and COD:</b>	Not available.
<b>Products of Biodegradation:</b>	Not available.
<b>Toxicity of the Products of Biodegradation:</b>	Not available.
<b>Remarks on the Products of Biodegradation:</b>	Not available.



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## SECTION 13 – DISPOSAL CONSIDERATIONS

**Waste Treatment Methods:** Waste must be disposed of in accordance with federal, state and local environmental regulations.

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## SECTION 14 – TRANSPORT INFORMATION

**DOT Classification:** Not dangerous goods.

**IMDG:** Not dangerous goods.

**IATA:** Not dangerous goods.

**Identifications:** Not dangerous goods.

**Special Provisions for Transport:** Not dangerous goods.

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## SECTION 15 – OTHER REGULATORY INFORMATION

**Federal and State Regulations:** CAS# 19004-19-4 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

**Other Regulations:** None of the chemicals are on the Health & Safety Reporting List.

**WHMIS (Canada):** This product has a WHMIS classification of E, D2B. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**SARA Codes:** CAS # 19004-19-4: immediate, delayed, fire.  
Cu(NO<sub>3</sub>)<sub>2</sub> is a CERCLA hazard and is subject to Sections 304, 311 and 312.

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## SECTION 16 – OTHER INFORMATION



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**References:** None Available.

**Other Special Considerations:** None Available.

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