

# Material Safety Data Sheet

MSDS0003 Page 1 of 5

## Section 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Revision Date: August 29, 2003

Product Name: Plating Solution, Electroclean  
Product Number: 1oz: 115-3841  
4oz: 115-3844

DISTRIBUTOR: Circuit Technology Center, Inc.  
45 Research Drive, Haverhill, MA 01832-1293  
Phone: 978-374-5000, FAX: 978-372-5700

**Emergency Response 24-Hour Telephone: CHEMTRAC    United States: (800) 424-9300  
International: (703) 527-3887 (collect)**

---

## Section 2. COMPOSITION, INFORMATION OR INGREDIENTS

CHEMICAL	RTECS #	C.A.S. #	Weight %
Sodium Hydroxide	WB4900000	1310-73-2	1-5
Water	ZC0110000	7732-18-5	95-99

### OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

	Exposure Limits 8 Hours TWA (PPM)				
	OSHA PEL	ACGIH TLV	ACGIH Ceiling	NIOSH REL	NIOSH IDLH
Sodium Hydroxide	2mg/M3	NA	2mg/M3	2mg/M3	10mg/M3
Water	NA	NA	NA	NA	NA

---

## Section 3. HAZARD IDENTIFICATION

Emergency Overview: Clear, odorless liquid. **Danger!** Corrosive to skin, eyes and respiratory system.  
Environmental Hazard.

1996 North American Emergency Response Guidebook ID #1824, Guide #154

### Potential Health Effects:

INHALATION: Irritating to the eyes, nose throat, and lungs. May cause sneezing, watering of eyes, nasal discharge and coughing.  
EYES: Corrosive to the eyes and may cause severe eye damage.  
SKIN: Causes skin irritation. May cause skin burns.  
INGESTION: May cause severe and permanent damage to mouth, throat and stomach.  
NOTE 1: Prolonged or repeated exposure may cause chronic dermatitis.  
NOTE 2: Medical conditions generally aggravated by exposure include preexisting skin and eye conditions and respiratory system disorders.  
NOTE 3: Substance does not absorb through skin.  
Target Organs: Skin, eyes and respiratory system.  
Routes of entry: Skin/eye contact, inhalation and ingestion.

None of the ingredients in this product are listed by IARC, NTP, ACGIH or OSHA as carcinogenic.

---

## Section 4. FIRST AID MEASURES

INHALATION: Remove to fresh air. Lay victim down, legs raised. Loosen tight clothing, cover with a blanket. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.  
EYE CONTACT: Hold eyelids apart and flush with plenty of water for at least 15 minutes.  
SKIN CONTACT: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly decontaminate (or discard) clothing and shoes.  
INGESTION: DO NOT induce vomiting, unless advised by EMS. Give victim large quantities of water or milk with 1-2 fresh eggs. Give a glass of 1/3 vinegar with 2/3 water. Never give anything by mouth to an unconscious person.

First aid providers must take proper precautions for their own safety before entering contaminated areas to assist chemical accident victims and handling their contaminated clothing and equipment. Another person should immediately call the Emergency Medical Service, 911-Operator, Hospital, Physician, Ophthalmologist or Poison Control Center, as applicable. Give the following information: Location of the accident, your phone number, description of the accident, name of the chemical agent and product, number and condition of casualties and what is being done for the victims. Stay on the phone until the other party hangs up! Remove victim from contaminated area to a clean, quiet, ventilated area. Calm and reassure him, keep him warm.

## Section 5. FIRE-FIGHTING MEASURES

Flash Point & Method: NA

Flammable Limits: LEL: None UEL: None

Autoignition Temperature: NA

GENERAL HAZARD: Containers can build up pressure and burst if exposed to heat (fire). Water runoff can cause environmental damage. Dike area for later disposal.

FIRE FIGHTING INSTRUCTIONS: NIOSH/MSHA approved positive-pressure self-contained breathing apparatus. Structural fire fighters' protective clothing may not provide adequate protection.

HAZARDOUS COMBUSTION PROD.: NA

FLAMMABLE PROPERTIES: Material will not burn.

EXTINGUISHING MEDIA: All

## Section 6. ACCIDENTAL RELEASE MEASURES

LAND SPILL: Do not touch or walk through spilled material. Isolate hazard area and keep people away. Notify your facility emergency coordinator. Eliminate all sources of ignition. Provide maximum ventilation. Do not release into soil, sewers or natural bodies of water. Wear proper personal protective equipment (PPE). Carefully mop up or vacuum spill and triple rinse with water into suitable plastic container. Release of a reportable quantity (RQ) requires notification of proper authorities. Dispose of according to local, state, and federal regulations.

NEUTRALIZING AGENT: Dilute Hydrochloric Acid (6M)

## Section 7. HANDLING AND STORAGE

STORAGE TEMPERATURE: 60-90°F

STORAGE PRESSURE: Atmospheric

HANDLING: Use "buddy system" when working with chemicals. Do not get in eyes, on skin or on clothing. Do not breathe vapor, mist or gas. Use with adequate ventilation. Wash thoroughly after handling. Triple rinse container clean before discarding. Put nothing else in this container.

STORAGE: Keep container tightly closed in upright position. Store at 60-90°F away from incompatible materials and physical hazards. Do not remove or deface container labels.

## Section 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls:

- Local Exhaust ventilation is required.
- Mechanical ventilation recommended.
- Use explosion proof ventilation equipment.
- Do not use in confined spaces without mechanical ventilation equipment.

See section 2 for component exposure guidelines.

**Personal Protection:**

RESPIRATOR: If engineering controls are not feasible, the respiratory protection program must comply with OSHA's 29 CFR 1910.134, 30 CFR 11 and ANSI Z88.2 requirements.

HAND PROTECTION: (X) Protective Gloves Recommended (use one of the following)  
(X) Nitrile (X) Neoprene (X) Vinyl (X) Latex

EYE PROTECTION: (Use one of the following)  
(X) Face Shield and Safety Glasses w/Side Shields  
(X) Chemical Goggles (splash-proof)

**Note 1: DO NOT WEAR CONTACT LENSES**

OTHER RECOMMEND.: (Use all of the following)  
(X) Eye Bath (X) Safety Shower (X) Washing Station nearby  
(X) Impervious Boots (X) Apron (X) Appropriate Protective Clothing

**Section 9. PHYSICAL AND CHEMICAL PROPERTIES**

Density.....	1.044-1.054 g/ml	pH.....	12-14
Boiling Point.....	>100°C, >212°F	% Volatile By Volume.....	NA
Freezing Point.....	<0°C, <32°F	% Solids.....	NA
Vapor Density (Air = 1).....	NA	Evaporation Rate (Ethyl Ether = 1).....	<1
Solubility in Water.....	Complete	Viscosity.....	NA
Molecular Weight.....	NA	Physical State.....	Liquid
Non-Exempt VOC (g/L).....	NA	Odor.....	None
Appearance: Colorless liquid.		Vapor Pressure.....	NA

**Section 10. STABILITY AND REACTIVITY**

GENERAL: Stable under normal ambient conditions.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: Avoid contact with amphoteric metals, strong acids, anhydrides and aldehydes.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Na<sub>2</sub>O (Sodium oxide).

HAZARDOUS POLYMERIZATION: Will not occur.

**Section 11. TOXICOLOGICAL INFORMATION**

RESULTS OF COMPONENT TOXICITY TEST PERFORMED: Information not available.

HUMAN EXPERIENCE: Information not available.

**Section 12. ECOLOGICAL INFORMATION**

FURTHER INFORMATION: Information not available.

**Section 13. DISPOSAL CONSIDERATIONS****RCRA 40 CFR 261 Classification:**

Federal, State, and Local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

EPA Waste I.D. Number: D002

WASTE DISPOSAL METHOD: Follow the applicable regulations for disposal of empty containers and rinsate. The disposal information applies to the materials as manufactured. Contamination may affect the disposal requirements. The responsibility for proper waste disposal is with the generator of the waste.

## Section 14. TRANSPORT INFORMATION

### DOT, IATA, ICAO, and IMO Description:

Basic Description: Electrocleaning Plating Solution  
Proper Shipping Name: Sodium Hydroxide Solution  
Hazard Class: 8  
Packaging Group: II  
UN Number: UN 1824  
Label Requirements: 8 - Corrosive  
Max. Shippable Qty.: 1 liter by Air, (No ground limitations)  
Packaging: Meets Performance Oriented Packaging Requirements  
Reportable Quantity (RQ): NA  
1996 NAERG Guide#: 154  
Limitations: NA

---

## Section 15. REGULATORY INFORMATION

### UNITED STATES FEDERAL REGULATIONS:

MSDS complies with OSHA's Hazard Communication Rule, 29 CFR 1910.1200.

#### CERCLA/SUPERFUND, 40 CFR 117, 302:

--- None of the chemicals are Superfund hazards ---

#### SARA SUPERFUND AND REAUTHORIZATION ACT OF 1986 TITLE III Sections 302, 311, 312 and 313:

##### Section 302 - Extremely hazardous substances (40 CFR 355)

--- None of the chemicals are Section 302 hazards ---

##### Section 311/312 - Material Safety Data Sheet Requirements (40 CFR 370)

( ) By our hazard evaluation, this product is non-hazardous  
(X) By our hazard evaluation, this product is hazardous. It should be reported under the following EPA hazard:  
(X) Immediate (acute) health hazard  
(X) Delayed (chronic) chronic health hazard  
( ) Sudden release of pressure hazard  
( ) Reactive Hazard

##### Section 313 - List of Toxic Chemicals (40 CFR 372)

This product contains the following chemicals (at levels of 1% or greater) which are found on the 313 list of Toxic Chemicals

<u>CHEMICAL</u>	<u>C.A.S. Number</u>	<u>Weight %</u>
-----------------	----------------------	-----------------

TOXIC SUBSTANCE CONTROL ACT (TSCA): All substances are TSCA Listed.

#### RESOURCE CONSERVATION AND RECOVERY ACT (RCRA 40 CFR 261) Subpart C&D:

Refer to Section 11. for RCRA classification.

#### FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (FORMERLY SECTION 307), 40 CFR 116 (FORMERLY SECTION 311)

This product contains the following chemicals which are listed:

<u>CHEMICAL</u>	<u>C.A.S. Number</u>	<u>Weight %</u>
-----------------	----------------------	-----------------

CLEAN AIR ACT: --- No Information ---

#### CERCLA and EPCRA:

Threshold Planning Quantity: NA  
(Release) Reportable Quantity: >18,000 liters  
Extremely Hazardous Substance: None

# Material Safety Data Sheet

MSDS0003 Page 5 of 5

## EPCRA Hazard Categories:

Immediate (Acute) Health: YES  
Delayed (Chronic) Health: YES  
Fire: NO  
Sudden Release of Pressure: NO  
Reactivity: NO

## ODS Certification:

This product does not contain and is not manufactured with Ozone Depleting Substances (ODS).

## VOC Certification:

This product does not contain any Volatile Organic Compounds (VOC).

## PCB Certification:

This product does not contain any polychlorinated biphenyls (PCB).

## STATE REGULATIONS:

CALIFORNIA PROPOSITION 65

This product contains the following ingredients which appear on the California proposition 65 list: CHEMI-CAL C.A.S. Number Weight %

## INTERNATIONAL REGULATIONS

INTERNATIONAL REGULATIONS: Class D2B, Class E  
CANADA WHIMS: NA  
EUROPE EINECS NUMBERS: NA

---

## Section 16 OTHER INFORMATION

#### Section 10. OTHER INFORMATION

European risk and Safety Phrases: NA  
European Symbols Needed: NA  
Canadian WHIMS Symbols: NA

#### NFPA HAZARD RATING:

**REVISION DATES, SECTIONS, REVISED BY:**

08-OCTOBER-98. J. FORBES

#### ABBREVIATIONS USED IN THIS DOCUMENT:

NE - Not Established. NA - Not Applicable/Not Available. NIF - No Information Found

## REFERENCES:

Code of Federal Regulations (CFR)  
The Sigma-Aldrich Library of Regulatory and Safety Data  
Chemical Guide and OSHA Hazard Communication Standard  
Various Federal, State & Local Regulations

To the best of our knowledge, the information contained herein is accurate. However, neither Circuit Technology Center, Inc. nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.