SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: TRANSENE COMPANY, INC.
ADDRESS: DANVERS INDUSTRIAL PARK
10 ELECTRONICS AVENUE DANVERS, MA 01923
TEL: (978) 777-7860 FAX: (978)-739-5640
WWW.TRANSENE.COM
EMERGENCY NO. 1-800-424-9300 CHEMTREC

MATERIAL NAME: **PC ELECTROLESS COPPER SOLUTION A**
REVISED: October 2013
CHEMICAL FAMILY: Alcohol
Product Number: 110-0080000
For ½ Gal: 110-0080

SECTION 2. HEALTH HAZARD INFORMATION

GHS Classifications

H302: Acute toxicity oral : Category 4
H332: Acute toxicity inhalation : Category 4
H315: Skin corrosion / skin irritation **:** Category 2
H319: Serious eye damage / eye irritation **:** 2A
H411: Chronic aquatic environmental hazards: Category 2

Pictograms or Hazard symbols

Warning: Harmful if swallowed. Causes skin irritation and serious eye irritation. Harmful if inhaled.

Toxic to aquatic life with long lasting effects.

Precautionary Statements

P261 Avoid breathing fumes/mist/vapors.
P264 Wash thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release into the environment.
P280 Wear protective gloves, clothing, and eye and face protection.
P301 + P312 If swallowed, call a physician if you feel unwell.
P302 + P352 If on skin, wash with plenty of water. Remove contact lenses if present and easy to do so. Continue rinsing.
P304 + P340 If inhaled, remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 If in eyes, rinse cautiously with water for several minutes.

P312 Call a physician if you feel unwell.
P330 Rinse mouth.
P332 + P313 If skin irritation occurs, get medical advice/attention.
P337 + P313 If eye irritation persists, get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3.COMPOSITION/INFORMATION ON INGREDIENTS

Material		Wt %	Toxicity (mg/m^3)
Ethylenediamine tetraacetic acid, Tetrasodium salt	CAS# 64-02-8	1-5	LD_{50}: 2.09
Triethanolamine	CAS# 102-71-6	5-10	
Diethanolamine	CAS# 111-42-2	1-5	3 ppm
Copper Sulfate	CAS# 7758-99-8	1-5	100 ppm
Sodium Hydroxide	CAS# 1310-73-2	1-5	2 ppm
Water	CAS# 7732-18-5	> 75	
Total		100	

SECTION 4. FIRST AID MEASURES

EFFECTS OF OVEREXPOSURE
FIRST AID:
Eye Contact: Damaging to naked eye; in case of contact flush eyes well for 15 minutes, lifting the lower and upper eyelids occasionally. Vapors cause irritation.
Skin Contact: May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects. Symptoms include redness, burning, and swelling of skin, burns, and other skin damage. Flush skin with water for 15 minutes.
Inhalation: Inhalation of vapors irritates the respiratory tract. If inhaled, remove to fresh air. If not breathing give artificial respiration. May severe irritation and burns to the nose, throat and respiratory tract. Seek medical attention.
Ingestion: Ingestion may be harmful or fatal. Symptoms include severe stomach and intestinal irritation (nausea, vomiting, diarrhea), abdominal pain, and vomiting of blood. Swallowing this material may cause burns and destroy tissue in the mouth, throat, and digestive tract. Low blood pressure and shock may occur as a result of severe tissue injury. This material can get into the lungs during swallowing or vomiting, resulting in lung inflammation or other injury.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point and Method	Autoignition Temp.	Flammability Limits In Air	LOWER	UPPER
NA	NA		--	--

Explosion: Above flash point, vapor-air mixtures are explosive. Contact with strong oxidizers may cause fire or explosion. Vapors are heavier than air and can flow along surfaces to distant ignition sources and flash back. Sensitive to static discharge.
Extinguishing media: Water spray or fog, carbon dioxide and dry chemical.
Special fire fighting procedures: Wear full protective clothing and NIOSH self-contained breathing apparatus. Thermal decomposition produces toxic fumes. Contact with oxidizing reagents may cause extremely violent combustion.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILLS, LEAKS: Ventilate area of leak or spill. Clean up personnel should wear protective clothing and NIOSH approved respirator. Dike and cover the contaminated areas with absorbent material such as vermiculite or sand. Transfer to a closed container and send to an approved waste disposal facility. Remove all ignition sources.

SECTION 7. HANDLING AND STORAGE

Storage & Handling Information Store below 80 degrees F. Store in a cool dry place. Do not store near incompatible products, ignition sources, or open flame. Store away from direct sunlight.

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Respiratory protection: If exposure limits are exceeded, wear NIOSH/MESA approved full or half face piece (with goggles) respiratory protective equipment. A respiratory protection program complying with requirements of 29CFR 1910.134 is recommended.
Ventilation: Where adequate ventilation is not available, use NIOSH approved vapor respirator with organic filters. Local ventilation through fume hoods or laminar flow stations is also preferred. Keep fumes away from ignition sources, sparks, or open flame.
Protective gloves: Skin contact should be minimized through use of rubber gloves.
Other protective equipment: Steel tipped shoes/eye wash station/chemical safety chemical retardant clothing.
Eye protection: Safety goggles / face shield.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form :	liquid
Appearance :	blue
Odor :	amine
pH :	alkaline
Melting point:	not available
Boiling point/Boiling range :	100 ºC
Flash point :	75 ºC CC
Ignition point :	207 ºC
Danger of explosion	1.1-14 %
Decomposition temperature:	no information
Vapor density (Air = 1) :	not available
Volatiles, %:	100
Vapor pressure at 25º C, mm Hg:	not availble
Specific gravity :	1.1 g/cc
Solubility in / Miscibility:	miscible
Evap. Rate (Water = 1):	not available

SECTION 10. STABILITY AND REACTIVITY

Stability	Stable	X	Conditions to avoid: Excess heat , flame
	Unstable		

Incompatible with:
Alkali, ketones, organic anhydrides, organic halides, strong acids, aldehydes, strong oxidizing agents

Hazardous decomposition products: carbon dioxide, carbon monoxide.

Hazardous polymerization:	May occur Will not occur X	Conditions to avoid: Excess heat, sunlight.

SECTION 11. TOXICOLOGICAL INFORMATION

Triethanolamine:
Oral, rat LD_{50}: 4.92 mL/kg
Skin, rabbit LD_{50}: > 20 mL/kg
Irritation of skin: mild, 560 mg/24H (rabbit)
Irritation of eyes: mild, 10 mg (rabbit)
Investigated as a tumorigen, mutagen, reproductive effector

Copper Sulfate:
Oral, human LD_{LO}: 1.088 mg(hydrate)/kg
Oral, human LD_{LO}: 50 mg/kg(anhydrous)
Oral, rat LD_{50}: 300 mg/kg

Tumorigenic effects have been observed on tests with laboratory animals.
Mutagenic effects have been observed on tests with human lymphocytes.
IARC-3: No

SECTION 12. ECOLOGICAL INFORMATION

Environmental Fate: No information available.

Ecotoxicity : Copper Sulfate is toxic to the aquatic environment with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSAL: Dispose of in accordance with all federal state and local regulations. Send waste to an approved waste disposal facility.

SECTION 14. TRANSPORTATION INFORMATION

Proper shipping name: Non-hazardous, non-restricted

SECTION 15. REGULATORY

NFPA: 1-2-0
WHMIS: 1-1-0

Risk Symbol: C
Risk Phrases:
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed
R36/37 Irritating to eyes and respiratory system

Safety Phrases:

S3/7: Keep container tightly closed in a cool place
S16: Keep away from sources of ignition—No smoking
S20/21: When using do not eat, drink, or smoke
S24/25 Avoid contact with skin and eyes

SECTION 16. OTHER INFORMATION

TSCA listed ingredients