

SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION AND COMPANY DETAIL

Product Name: N1 Neutralizer
Product Code(s): E-MM-N1-2 and E-MM-N1-4
Recommended Use: For use in the Electro-Chemical Etching Process
Manufacturers Name: Ullman Devices Corp.
Address: 29 E. Madison St., Suite 900
 Chicago, IL 60602

Emergency Telephone: (203) 438-6577, available during offices hours,
 8:00am – 5:00pm EST, Monday – Friday, in English.
Fax Number: (203) 431-9054
Date Prepared: 30 March 2015

| HMIS | |
|------------------|---|
| H | 1 |
| F | 0 |
| R | 1 |
| PPE [†] | |
| †Sec. 8 | |

SECTION 2 – HAZARDS IDENTIFICATION



Hazardous Pictogram:

Signal Word:

WARNING

Precautionary Statement: Harmful if swallowed.
 Do not swallow.
 Avoid inhalation of mist.
 Avoid Skin and Eye contact.

Inhalation: Avoid breathing product mists. Breathing mists in excess may cause irritation of upper respiratory tract. Persons with chronic respiratory disease may show increased symptoms due to irritation.

Ingestion: May effect persons with existing kidney or liver disease.

Skin contact: Mild irritation may occur.

Eye contact: Mild irritation may occur.

This product, when used specifically as directed and for its intended purpose (i.e. mild electrolytic etching) and in conjunction with proper work procedures and policies and sound hygienic practices, does not constitute a hazard to personnel.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components (specific chemical identity/ Common name):

SOLIDS:

LIQUIDS: Monoethanolamine (CAS#141-43-5) TLV: 3ppm PEL: 3ppm STEL: 6ppm

TRADE SECRET: The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SAFETY DATA SHEET

SECTION 4 – FIRST AID MEASURES

Skin contact: Wash with soap and water.
Eye contact: Flush eyes with thoroughly with water for 15 minutes; if irritation continues, consult physician.
Ingestion: Induce vomiting by administering an emetic. Consult Physician.
Inhalation: Remove to source of fresh air.
Always seek medical attention if irritation continues.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water fog, dry chemical powder or appropriate foam.
Special fire fighting procedures: If water boils off, use water fog, carbon dioxide, foam, dry chemical.
Unusual fire and explosions hazards: None

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Protective Equipment: rubber gloves, safety goggles, optional-apron

Steps to be taken in the event of accidental release: Dilute with water and mop up. Dispose of waste in accordance with all current local, state and national regulations.

SECTION 7 – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in the event of spillage or chemical release: Dilute with water and mop up. Minimize the release of chemical into the environment.

Waste disposal method: Dilute with water and transfer into sewage or waste disposal system which provides air or biological oxidation. Dispose of in accordance with all current local, state and national regulations.

Precautions to be taken in Handling and Storage: Keep container tightly closed. Keep from freezing (32 degrees [F]) Wash hand thoroughly after handling. No eating, drinking or smoking in work area.

Incompatibility: (materials to avoid) Contact with strong oxidizers

Other Precautions: None

SECTION 8 – EXPOSURE CONTROLS – PERSONAL PROTECTION

Occupation Exposure Limits: N/A

Personal Protective Equipment:

Respiratory System: (Required only if spraying or misting) Use mechanical filter.
Skin and Body: Optional-Apron
Hands: Rubber Gloves
Eyes: Safety glasses or goggles
Other/Special: Local exhaust is sufficient.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

SAFETY DATA SHEET

| | |
|--------------------------------------------------------|-------------------------------------|
| Physical State: | Liquid and suspension. |
| Color: | Green fluorescent fluid. |
| Odor: | amine odor |
| Odor Threshold: | N/A |
| pH: | 9.1 to 9.5 |
| Boiling Point: | 215 Degrees (F) |
| Melting/Freezing Point: | N/A - Freezing below 32 degrees (F) |
| Flash Point: | N/A |
| Fire Hazards in presence of various substances: | N/A |
| Auto-ignition temperature: | N/A |
| Explosive Properties: | No risk |
| Lower explosion limit: | N/A |
| Oxidizing properties: | N/A |
| Vapor Pressure: | N/A |
| Evaporation Rate: | Like water |
| Density: | Like water |
| Solubility: | Complete (100%) |
| Vapor Density: | Like water |

SECTION 10 – REACTIVITY DATA

| | |
|------------------------------------------------|----------------------------------------|
| Stability: | STABLE |
| Conditions to avoid: | N/A |
| Incompatibility: (materials to avoid) | Contact with strong oxidizers |
| Hazardous Decomposition or By-products: | Thermal; oxides of carbon and nitrogen |
| Hazardous polymerization: | WILL NOT OCCUR. |

SECTION 11 – TOXICOLOGICAL INFORMATION

Carcinogenicity: NTP: No IARC: No OSHA: No

The toxicological information for the components is: N/A

Acute effects

Causes mild eye irritation.

Causes mild skin irritation.

Material is irritating to mucous membranes.

May be harmful by ingestion or if contacted with skin.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12 – ECOLOGICAL INFORMATION

Potential as Pollutant: Material is not considered a pollutant.

SECTION 13 – DISPOSAL CONSIDERATIONS

Effective waste disposal treatment should be utilized. COD – 511,800ppm

Biological: Oxygen demand (BOD-5) 325,000ppm

SAFETY DATA SHEET

SECTION 14 – TRANSPORT INFORMATION

Special Precautions: Keep container tightly closed. Keep from freezing (32 degrees [F]).

This is a Non-Hazardous product.

UN Number

US DOT (United States Department of Transportation): Not Regulated

IMO/IMDG (International Maritime Dangerous Goods): Not Regulated

IATA (International Air Transport Association): Not Regulated

ADR (Agreement on Dangerous Goods by Road (Europe)): Not Regulated

RID (Regulations Concerning The International Transport of Dangerous Goods (Europe)): Not Regulated

AND (European Agreement Concerning The Carriage of dangerous Goods by Inland Waterways): Not Regulated

SECTION 15 – TRANSPORT INFORMATION

Safety Phrases: N/A

Risk Phrases: N/A

Regulations: N/A

SECTION 16 – OTHER INFORMATION

Source of key data used to

Compile Safety Data Sheet: Material Safety Data Sheet. Essentially similar to U.S. Department of Labor Form OSHA-20

Issue Date: 04 May 1987

Changes to Issue: 21 September 2017

WE CANNOT ANTICIPATE ALL CONDITIONS UNDER WHICH THIS INFORMATION AND OUR PRODUCTS, OR THE PRODUCTS OF OTHER MANUFACTURERS IN COMBINATION WITH OUR PRODUCTS MAY BE USED. WE ACCEPT NO RESPONSIBILITY FOR RESULTS OBTAINED BY THE APPLICATIONS OF THIS INFORMATION OR THE SAFETY AND SUITABILITY OF OUR PRODUCTS, EITHER ALONE OR IN COMBINATION WITH OTHER PRODUCTS. USERS ARE ADVISED TO MAKE THEIR OWN TESTS TO DETERMINE THE SAFETY AND SUITABILITY OF EACH SUCH PRODUCT OR PRODUCT COMBINATION FOR THEIR OWN PURPOSES. UNLESS OTHERWISE AGREED IN WRITING, WE SELL THE PRODUCTS WITHOUT WARRANTY, AND BUYERS AND USERS ASSUME ALL RESPONSIBILITY AND LIABILITY FOR LOSS OR DAMAGE ARISING FROM THE HANDLING AND USE OF OUR PRODUCTS, WHETHER USED ALONE OR IN COMBINATION WITH OTHER PRODUCTS.

THE FORMULAS USED FOR THESE PRODUCTS ARE CONSIDERED CONFIDENTIAL TRADE SECRETS. THIS INFORMATION IS FOR OUR CUSTOMERS EYES ONLY.

ULLMAN DEVICES COMPLIES WITH ALL APPLICABLE RULES AND REGULATIONS UNDER THE TSCA. (TOXIC SUBSTANCES CONTROL ACT)

©ULLMAN DEVICES CORP.