

SAFETY DATA SHEET



SECTION 1 – IDENTIFICATION AND COMPANY DETAIL

Product Name: Formula #2 Electrolyte
Product Code(s): Formula 2
Recommended Use: For use in the Electro-Chemical Etching Process
Manufacturers Name: Monode Marking Products, Inc.
Address: 9200 Tyler Boulevard
Mentor, OH 44060

Emergency Telephone: (440) 975-8802, available during office hours,
8:00am - 5:00pm EST, Monday - Friday, in English.

Fax Number: (440) 975-8836
Date Prepared: 21 April 2015

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PPE [†]	
[†] Sec. 8	

SECTION 2 – HAZARDS IDENTIFICATION



Hazardous Pictogram:

Signal Word: WARNING

Precautionary Statement: Harmful if swallowed.
Do not swallow.
Do not inhale mist.
Avoid skin and eye contact.

Inhalation: Possible Chronic Carcinogen
Ingestion: Toxic
Skin contact: Minor Irritant upon prolonged contact in concentrated form.
Eye contact: Acute Irritant

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components (specific chemical identity/ Common name):

NAME	CAS#	OSHA PEL	ACGIH TLV	Other Limits Rec.	% Optional
As required by Section 313 of SARA Title III of 1988 and 40 cfr Part 372, this product contains the following items in a reportable quantity.					
Diethanolamine	CAS 111-42-2	3.5%			
N-Nitrosodiethanolamine	CAS 1116-54-7	0.1 – 1.0 %			

SOLIDS:

NAME	CAS#	OSHA PEL	ACGIH TLV	Other Limits Rec.	% Optional
Sodium Nitrite	7632-00-0	none	none	180mg/kg LD50 Ori-Rat	20-25

LIQUIDS:

NAME	CAS#	OSHA PEL	ACGIH TLV	Other Limits Rec.	% Optional
Triethanolamine	102-71-6	none	none	8000mg/kg LD50 Ori-Rat	15-20
Diethanolamine	111-42-2	none	15mg.M3	none	1-5
N-Nitrosodiethanolamine	1116-54-7	none	none	none	0.1 – 1.0



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

SECTION 4 – FIRST AID MEASURES

Skin contact: Wash well with soap and water.
Eye contact: Immediately flush thoroughly with water for fifteen minutes. If irritation persists call a physician.
Ingestion: If conscious, immediately induce vomiting by giving water and sticking finger down throat. Get medical attention.
Inhalation: N/A

Always seek medical attention if irritation continues.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing media: N/A
Special fire fighting procedures: N/A
Unusual fire and explosions hazards: N/A

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled:

SMALL SPILLS: Absorb with inert material. Keep from entering sewer or waterways.

LARGE SPILLS: Use suitable absorbent and dispose of in DOT approved waste containers.

WASTE DISPOSAL: To be performed in compliance with all current local, state and federal regulations.

SECTION 7 – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in the event of spillage or chemical release: Recover free liquid. Return to container. Absorb with inert material. Keep from entering sewer or waterways.

Waste disposal method: To be performed in compliance with all current local, state and federal regulations.

Precautions to be taken in Handling and Storage: Since containers contain product residue, observe all label precautions when empty. Do not cut, drill, weld, or grind on or near the container. Do not reuse unless thoroughly cleaned. Do not eat, drink or smoke in work area. Be particularly careful that you follow safe handling procedures and reduce your exposure to the product as much as possible.

Other Precautions: Normal drum storage. Keep container closed.

SECTION 8 – EXPOSURE CONTROLS – PERSONAL PROTECTION

Occupation Exposure Limits: N/A

Personal Protective Equipment:

Respiratory System: If exposure exceeds TLV, wear NIOSH approved respirators

Skin and Body: Apron

Hands: Rubber or neoprene gloves



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Eyes: Wear safety glasses.
Other/Special: Local exhaust – forced air
Work/Hygienic Practices: Wash well with soap and water after use.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Color: Transparent Green liquid
Odor: odorless
Odor Threshold: N/A
pH:
Boiling Point: 215°F
Melting / Freezing Point: Melting - N/A / Freezing - below -10 °F
Flash Point: N/A, water based
Fire Hazards in presence of various substances: N/A
Auto-ignition temperature: N/A
Explosive Properties: N/A
Lower explosion limit: N/A
Oxidizing properties: N/A
Vapor Pressure (mm Hg.): @20°C (77°F):17.5
Evaporation Rate: < 1 (Butyl Acetate = 1)
Density: N/A
Solubility: Complete (100%)
Vapor Density (Air = 1): > 1

SECTION 10 – REACTIVITY DATA

Stability: Stable
Conditions to avoid: Freezing
Incompatibility: (materials to avoid) Strong Acids and oxidizing agents.
Hazardous Decomposition or By-products: If combusted, oxides of nitrogen and carbon.
Hazardous polymerization: Will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

Carcinogenicity: NTP: Yes, possible Carcinogen IARC Monographs: Yes OSHA Regulated: No

Health Hazards (Acute & Chronic);

Eyes: Acute Irritant

Skin: Acute Irritant upon prolonged contact in concentrated form.

Inhalation: Chronic Possible Carcinogen

Signs and Symptoms of Exposure:

Eyes: Will cause eye irritation, burning, tearing, reddening.

Skin: Minor irritation leading to dermatitis upon prolonged contact.

Medical conditions generally aggravated by exposure: None.

Inhalation: Long term exposure to vapors may pose danger due to potential human carcinogenic effect from Nitrosodiethanolamine.



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SECTION 12 – ECOLOGICAL INFORMATION

N/A

SECTION 13 – DISPOSAL CONSIDERATIONS

Observe all federal, state and local environmental regulations.

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

IRRITANT

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: 26 February 1987

Changes to Issue: 04 January 2021

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