



Safety Data Sheet

Material Name: E-Strip 929-L

SDS ID: EPI-0543c

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

E-Strip 929-L

Details of the supplier of the safety data sheet

Electrochemical Products Inc.

17000 West Lincoln Ave

New Berlin, WI 53151

Phone: 262-786-9330

Emergency Phone #: NCEC (#EPI-29003) +1 202 464 2554, +44 1865 407333

E-mail: us-sales@epi.com

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Fax: 262-786-9403

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Acute Toxicity - Oral - Category 4

Acute Toxicity - Dermal - Category 3

Acute Toxicity - Inhalation - Gas - Category 4

Skin Corrosion/Irritation - Category 1B

Serious Eye Damage/Eye Irritation - Category 1

Skin Sensitization - Category 1

Hazardous to the Aquatic Environment - Acute - Category 2

Hazardous to the Aquatic Environment - Chronic - Category 3

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Harmful if swallowed

Toxic in contact with skin



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Harmful if inhaled
Causes severe skin burns and eye damage
Causes serious eye damage
May cause allergic skin reaction
Toxic to aquatic life
Harmful to aquatic life with long lasting effects

Precautionary Statement(s)

Prevention

Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Wash thoroughly after handling
Contaminated work clothing must not be allowed out of the workplace
Do not eat, drink or smoke when using this product
Avoid release to the environment
Do not breathe dusts or mists
Wear protective gloves

Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower
Take off immediately all contaminated clothing and wash it before reuse
Wash contaminated clothing before reuse
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
Immediately call a POISON CENTER or doctor
Specific treatment (see label)

Storage

Store locked up
May cause mild eye or skin irritation.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations

Statement of Unknown Toxicity

0% of the mixture consists of ingredient(s) of unknown acute toxicity.

Other Hazards

May cause burning or watering of eyes. May irritate mucous membranes if mists are inhaled. This product may be harmful if it is swallowed.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS



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CAS	Component Name	Percent
7732-18-5	Water	45-55
107-15-3	Ethylenediamine	40-50
1310-73-2	Sodium hydroxide	1-5

Section 4 - FIRST AID MEASURES

Inhalation

If inhaled, immediately remove the affected person to fresh air.

Skin

Wash skin with soap and water.

Eyes

Flush immediately with water for at least 15 minutes. Do not rub eyes. If irritation persists, get medical attention.

Ingestion

If swallowed, give milk or water to dilute. Seek medical attention immediately. Never give anything by mouth to an unconscious person. Call a physician immediately.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Dry chemical, foam, carbon dioxide, water fog.

Unsuitable Extinguishing Media

None identified.

Special Hazards Arising from the Chemical

Thermal degradation of this product produces oxides of phosphorous and sodium.

Hazardous Combustion Products

None identified.

Advice for firefighters

None identified.

Fire Fighting Measures

Use methods suitable to fight surrounding fire.



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Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye/face protection. Avoid dust formation. Do not breathe dust/fume/gas/mist/vapors/spray.

Methods and Materials for Containment and Cleaning Up

None identified.

Environmental Precautions

Dike and contain the spill with sand and earth. Do not allow to enter into surface water or drains.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Always provide effective general and, when necessary, local exhaust ventilation to draw fumes, vapors and/or dust away from workers to prevent routine inhalation. Use normal measures for preventive fire protection.

Conditions for Safe Storage, Including any Incompatibilities

Store locked up

Keep container tightly closed in a dry and well-ventilated place.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Ethylenediamine	107-15-3
ACGIH:	10 ppm TWA
	Skin - potential significant contribution to overall exposure by the cutaneous route
NIOSH:	10 ppm TWA; 25 mg/m ³ TWA
	1000 ppm IDLH
OSHA (US):	10 ppm TWA; 25 mg/m ³ TWA
Mexico:	10 ppm TWA LMPE-PPT; 25 mg/m ³ TWA LMPE-PPT
	3 mg/m ³ STEL [LMPE-CT]
	Skin - potential for cutaneous absorption



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Sodium hydroxide	1310-73-2
ACGIH:	2 mg/m3 Ceiling
NIOSH:	2 mg/m3 Ceiling
	10 mg/m3 IDLH
OSHA (US):	2 mg/m3 TWA
Mexico:	2 mg/m3 Ceiling

Biological limit value

There are no biological limit values for any of this product's components.

Engineering Controls

Local exhaust is suggested for use, where possible, in enclosed or confined spaces.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear chemical goggles; face shield (if splashing is possible).

Skin Protection

Wear rubber gloves, long sleeved shirt and trousers.

Respiratory Protection

If ventilation is not sufficient to effectively prevent buildup of vapor/mist/fume/dust, appropriate NIOSH/MSHA respiratory protection must be provided.

Glove Recommendations

Wear impervious gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear solution	Physical State	Liquid
Odor	Odorless	Color	Tan
Odor Threshold	Not available	pH	10 - 11
Melting Point	Not available	Boiling Point	240 - 245 °F
Freezing point	32 °F (0 °C)	Evaporation Rate	(Approx. equal to Water)
Boiling Point Range	Not available	Flammability (solid, gas)	Not available
Autoignition	Not available	Flash Point	221 °F



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Lower Explosive Limit	Not available	Decomposition	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	(Approx. equal to water)	Specific Gravity (water=1)	0.97 - 0.99
Water Solubility	Completely	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	Not available	VOC	0

Section 10 - STABILITY AND REACTIVITY

Reactivity

No known hazardous reactions.

Chemical Stability

This is a stable material.

Possibility of Hazardous Reactions

None identified. Hazardous polymerization will not occur.

Conditions to Avoid

Keep container tightly closed and store at room temperature.

Incompatible Materials

Strong oxidizing agents, acids.

Hazardous decomposition products

Does not occur under normal handling, storage or use. Decomposes on heating. toxic. Phosphine releasing. Explosive.

Thermal decomposition products

Ammonia. type. vapors.

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

Component Analysis - LD50/LC50



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The components of this material have been reviewed in various sources and the following selected endpoints are published:

Water (7732-18-5)

Oral LD50 Rat >90 mL/kg

Ethylenediamine (107-15-3)

Oral LD50 Rat 637 mg/kg

Dermal LD50 Rabbit 560 mg/kg

Sodium hydroxide (1310-73-2)

Dermal LD50 Rabbit 1350 mg/kg

Immediate Effects

No information on significant adverse effects.

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data

No data available.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Component Carcinogenicity

Ethylenediamine	107-15-3
ACGIH:	A4 - Not Classifiable as a Human Carcinogen

Germ Cell Mutagenicity

No data available.

Tumorigenic Data

No data available

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity - Single Exposure

No data available.

Specific Target Organ Toxicity - Repeated Exposure

No data available.

Aspiration hazard

No data available.

Medical Conditions Aggravated by Exposure

No data available.



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Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

Ethylenediamine	107-15-3
Fish:	LC50 96 h Pimephales promelas 98.6 - 131.6 mg/L [static]; LC50 96 h Pimephales promelas 191 - 254 mg/L [flow-through]; LC50 96 h Pimephales promelas 115.7 mg/L [semi-static]; LC50 96 h Poecilia reticulata 180 - 560 mg/L [semi-static]
Algae:	EC50 72 h Pseudokirchneriella subcapitata 645 mg/L IUCLID; EC50 96 h Pseudokirchneriella subcapitata 151 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 17 mg/L IUCLID
Sodium hydroxide	1310-73-2
Fish:	LC50 96 h Oncorhynchus mykiss 45.4 mg/L [static]

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: CAUSTIC ALKALI LIQUIDS, N.O.S., (Contains:ETHYLENEDIAMINE/SODIUM HYDROXIDE)

Hazard Class: 8

UN/NA #: 1719

Packing Group: II

Required Label(s): Corrosive

TDG Information:

Shipping Name: CAUSTIC ALKALI LIQUIDS, N.O.S., (Contains:ETHYLENEDIAMINE/SODIUM HYDROXIDE)

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Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Ethylenediamine	107-15-3
SARA 302:	10000 lb TPQ
CERCLA:	5000 lb final RQ; 2270 kg final RQ
SARA 304:	5000 lb EPCRA RQ
Sodium hydroxide	1310-73-2
CERCLA:	1000 lb final RQ; 454 kg final RQ

All components are on the U.S. EPA TSCA Inventory List. Supplier(s) of proprietary component(s) have stated that their components appear on the Canadian DSL/NDSL.

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Ethylenediamine	107-15-3	Yes	Yes	Yes	Yes	Yes
Sodium hydroxide	1310-73-2	Yes	Yes	Yes	Yes	Yes

Not listed under California Proposition 65

Canada Regulations

This material is a controlled product under Canadian WHMIS regulations.

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Ethylenediamine	107-15-3
	0.1 %
Sodium hydroxide	1310-73-2
	1 %



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Component Analysis - Inventory

Water (7732-18-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes

Ethylenediamine (107-15-3)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Sodium hydroxide (1310-73-2)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

HMIS Rating

Health: 2 Fire: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

NFPA Ratings

Health: 2 Fire: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; JP - Japan; Kow -



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Octanol/water partition coefficient; KECI - Korea Existing Chemicals Inventory; KECL – Korea Existing Chemicals List; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH-Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act.; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information

Disclaimer:

Reasonable care has been taken in the preparation of this information; however, the manufacturer makes no warranty whatsoever including the warranty of merchantability, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental, consequential, or other such damages resulting from its use or misuse..