



Safety Data Sheet

Material Name: E-Pik 271

SDS ID: EPI-0399c

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

E-Pik 271

Product Use

inhibited. acid.

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 #: Chemtrec #800-424-9300 (CCN7498)
E-mail: us-sales@epi.com
www.epi.com
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 - Inhalation - Vapor - Category 3
Skin Corrosion/Irritation - Category 1
Serious Eye Damage/Eye Irritation - Category 1
Hazardous to the Aquatic Environment - Acute - Category 1

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Harmful if swallowed
Toxic if inhaled
Causes severe skin burns and eye damage
Very toxic to aquatic life



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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
Do not eat, drink or smoke when using this product
Avoid release to the environment
Do not breathe dusts or mists

Response

Collect spillage
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
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 in a well-ventilated place. Keep container tightly closed
Store locked up

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.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
7732-18-5	Water	60-70
7647-01-0	Hydrogen chloride	25-35
107-19-7	2-Propyn-1-ol	0.0005-0.0009
71-36-3	1-Butanol	0.0002-0.0005
50-00-0	Formaldehyde	0.0002-0.0005



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64-19-7	Acetic acid	0.0001-0.0003
Confidential	Surfactants	0.4-0.8

Section 4 - FIRST AID MEASURES

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration.

Skin

For skin contact flush with large amounts of water while removing contaminated clothing.

Eyes

In case of contact, immediately flush eyes with large amounts of water, continuing to flush for 15 minutes. 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. Do not induce vomiting unless directed to do so by medical personnel.

Most Important Symptoms/Effects

Acute

Hydrogen chloride or hydrochloric acid is a corrosive acid. Chronic exposure may be associated with changes in pulmonary function, chronic bronchitis, dermatitis, erosion of dental enamel, conjunctivitis and upper respiratory tract abnormalities.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Dry chemical, foam, carbon dioxide, water fog.

Unsuitable Extinguishing Media

None known.

Hazardous Combustion Products

Hydrogen Chloride and Hydrogen gas.

Fire Fighting Measures

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.



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Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Isolate area. Keep unnecessary personnel away.

Methods and Materials for Containment and Cleaning Up

Mix with large amounts of DRY inert absorbent material such as DRY soda ash or DRY sand. The soda ash will react with the acid releasing carbon dioxide. Make sure there is sufficient ventilation before neutralizing the acidic material.

Environmental Precautions

Do not allow the spilled product to enter public drainage system or open water courses. Do not discharge into sewers or waterways.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Hydrogen chloride	7647-01-0
ACGIH:	2 ppm Ceiling
NIOSH:	5 ppm Ceiling; 7 mg/m ³ Ceiling
	50 ppm IDLH
Europe:	5 ppm TWA; 8 mg/m ³ TWA
	10 ppm STEL; 15 mg/m ³ STEL
OSHA (US):	5 ppm Ceiling; 7 mg/m ³ Ceiling
Mexico:	5 ppm Ceiling; 7 mg/m ³ Ceiling



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2-Propyn-1-ol	107-19-7
ACGIH:	1 ppm TWA
	Skin - potential significant contribution to overall exposure by the cutaneous route
NIOSH:	1 ppm TWA; 2 mg/m ³ TWA
	Potential for dermal absorption
1-Butanol	71-36-3
ACGIH:	20 ppm TWA
NIOSH:	50 ppm Ceiling; 150 mg/m ³ Ceiling
	Potential for dermal absorption
	1400 ppm IDLH (10% LEL)
OSHA (US):	100 ppm TWA; 300 mg/m ³ TWA
Mexico:	50 ppm Ceiling; 150 mg/m ³ Ceiling
	Skin - potential for cutaneous absorption
Formaldehyde	50-00-0
ACGIH:	0.3 ppm Ceiling
NIOSH:	0.016 ppm TWA
	0.1 ppm Ceiling 15 min
	20 ppm IDLH
OSHA (US):	0.75 ppm TWA
	2 ppm STEL (See 29 CFR 1910.1048) 15 min; 0.5 ppm Action Level (See 29 CFR 1910.1048); 0.75 ppm TWA (See 29 CFR 1910.1048)
	2 ppm STEL (See 29 CFR 1910.1048)
Mexico:	2 ppm Ceiling; 3 mg/m ³ Ceiling
Acetic acid	64-19-7
ACGIH:	10 ppm TWA
	15 ppm STEL
NIOSH:	10 ppm TWA; 25 mg/m ³ TWA



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	15 ppm STEL; 37 mg/m ³ STEL
	50 ppm IDLH
Europe:	10 ppm TWA; 25 mg/m ³ TWA
OSHA (US):	10 ppm TWA; 25 mg/m ³ TWA
Mexico:	10 ppm TWA LMPE-PPT; 25 mg/m ³ TWA LMPE-PPT
	15 ppm STEL [LMPE-CT]; 37 mg/m ³ STEL [LMPE-CT]

Biological limit value

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

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear solution	Physical State	Liquid
Odor	Acrid,pungent	Color	Light yellow
Odor Threshold	Not available	pH	<1
Melting Point	Not available	Boiling Point	Not available
Freezing point	<32	Evaporation Rate	(Approx. equal to Water)
Boiling Point Range	Not available	Flammability (solid, gas)	Not available
Autoignition	Not available	Flash Point	Not available
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)	1.14 - 1.2
Water Solubility	Completely	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	Not available	VOC	0



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Section 10 - STABILITY AND REACTIVITY

Reactivity

Will not occur.

Chemical Stability

This is a stable material.

Possibility of Hazardous Reactions

Will not occur.

Conditions to Avoid

Avoid strong oxidizing agents. Explosive HYDROGEN GAS may be released if aqueous solutions of this material come into contact with reactive metals (IRON, ZINC, ALUMINUM).

Incompatible Materials

This product may react with oxidizing agents. This product may react with strong alkalis. Cyanides, sulfides, and Carbides.

Hazardous decomposition products

Hydrogen chloride, hydrogen, and chlorine.

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

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

Hydrogen chloride (7647-01-0)

Oral LD50 Rat 238 - 277 mg/kg

Dermal LD50 Rabbit >5010 mg/kg

Inhalation LC50 Rat 1.68 mg/L 1 h

2-Propyn-1-ol (107-19-7)

Oral LD50 Rat 20 mg/kg

Dermal LD50 Rabbit 16 mg/kg

Inhalation LC50 Rat 1040 ppm 1 h

1-Butanol (71-36-3)

Oral LD50 Rat 700 mg/kg

Dermal LD50 Rabbit 3402 mg/kg

Inhalation LC50 Rat >8000 ppm 4 h

Formaldehyde (50-00-0)

Oral LD50 Rat 100 mg/kg



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Dermal LD50 Rabbit 270 mg/kg
Inhalation LC50 Rat 0.578 mg/L 4 h
Acetic acid (64-19-7)
Oral LD50 Rat 3310 mg/kg
Dermal LD50 Rabbit 1060 mg/kg
Inhalation LC50 Rat 11.4 mg/L 4 h

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

Hydrogen chloride	7647-01-0
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Monograph 54 [1992] (Group 3 (not classifiable))
Formaldehyde	50-00-0
ACGIH:	A2 - Suspected Human Carcinogen
IARC:	Monograph 100F [2012]; Monograph 88 [2006]; Monograph 62 [1995]; Supplement 7 [1987] (Group 1 (carcinogenic to humans))
NTP:	Known Human Carcinogen
DFG:	Category 4 (no significant contribution to human cancer)
OSHA:	Present
OSHA:	see 29 CFR 1910.1048

Germ Cell Mutagenicity

No data available.

Tumorigenic Data

No data available

Reproductive Toxicity



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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.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

Hydrochloric acid will infiltrate the soil. The presence of water in the soil will influence the rate of chemical movement in the soil. Hydrochloric acid will dissolve some of the soil material. The acid will be neutralized to some degree. Significant amounts of acid are expected to remain for transport through soil to ground water table. Hydrochloric acid will dissociate in water almost completely.

Component Analysis - Aquatic Toxicity

2-Propyn-1-ol	107-19-7
Fish:	LC50 96 h Pimephales promelas 1.49 - 1.56 mg/L [flow-through]
1-Butanol	71-36-3
Fish:	LC50 96 h Pimephales promelas 1730 - 1910 mg/L [static]; LC50 96 h Pimephales promelas 1740 mg/L [flow-through]; LC50 96 h Lepomis macrochirus 100000 - 500000 µg/L [static]; LC50 96 h Pimephales promelas 1910000 µg/L [static]
Algae:	EC50 96 h Desmodesmus subspicatus >500 mg/L IUCLID; EC50 72 h Desmodesmus subspicatus >500 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 1983 mg/L IUCLID; EC50 48 h Daphnia magna 1897 - 2072 mg/L [static] EPA
Formaldehyde	50-00-0
Fish:	LC50 96 h Pimephales promelas 22.6 - 25.7 mg/L [flow-through]; LC50 96 h Lepomis macrochirus 1510 µg/L [static]; LC50 96 h Brachydanio rerio 41 mg/L [static]; LC50 96 h Oncorhynchus mykiss 0.032 - 0.226 mL/L [flow-through]; LC50 96 h Oncorhynchus mykiss 100 - 136 mg/L [static]; LC50 96 h Pimephales promelas 23.2 - 29.7 mg/L [static]



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Invertebrate:	LC50 48 h Daphnia magna 2 mg/L IUCLID; EC50 48 h Daphnia magna 11.3 - 18 mg/L [static] EPA
Acetic acid	64-19-7
Fish:	LC50 96 h Pimephales promelas 79 mg/L [static]; LC50 96 h Lepomis macrochirus 75 mg/L [static]
Invertebrate:	EC50 48 h Daphnia magna 65 mg/L [static] EPA

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Waste must be handled in accordance with all federal, state, provincial, and local regulations. Transport waste material to an authorized waste location, or incinerate under controlled conditions.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: Corrosive Liquid NOS, (Contains: Hydrochloric Acid)

Hazard Class: 8

UN/NA #: 1789

Packing Group: II

Required Label(s): Corrosive

TDG Information:

Shipping Name: Corrosive Liquid NOS, (Contains: Hydrochloric Acid)

Hazard Class: 8

UN#: 1789

Packing Group: II

Required Label(s): Corrosive

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.



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Hydrogen chloride	7647-01-0
SARA 302:	500 lb TPQ gas only)
SARA 313:	1 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)
CERCLA:	5000 lb final RQ; 2270 kg final RQ
OSHA (safety):	5000 lb TQ; 5000 lb TQ anhydrous)
SARA 304:	5000 lb EPCRA RQ gas only)
2-Propyn-1-ol	107-19-7
SARA 313:	1 % de minimis concentration
CERCLA:	1000 lb final RQ; 454 kg final RQ
1-Butanol	71-36-3
SARA 313:	1 % de minimis concentration
CERCLA:	5000 lb final RQ; 2270 kg final RQ
Formaldehyde	50-00-0
SARA 302:	500 lb TPQ
SARA 313:	0.1 % de minimis concentration
CERCLA:	100 lb final RQ; 45.4 kg final RQ
OSHA (safety):	1000 lb TQ
SARA 304:	100 lb EPCRA RQ
Acetic acid	64-19-7
CERCLA:	5000 lb final RQ; 2270 kg final RQ

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
Water	7732-18-5	No	No	No	No	Yes
Hydrogen chloride	7647-01-0	Yes	Yes	Yes	Yes	Yes
2-Propyn-1-ol	107-19-7	Yes	Yes	Yes	Yes	Yes



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1-Butanol	71-36-3	Yes	Yes	Yes	Yes	Yes
Formaldehyde	50-00-0	Yes	Yes	Yes	Yes	Yes
Acetic acid	64-19-7	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer

Formaldehyde	50-00-0
Carc:	carcinogen , 1/1/1988 (gas)

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

Hydrogen chloride	7647-01-0
	1 %
2-Propyn-1-ol	107-19-7
	1 %
1-Butanol	71-36-3
	1 %
Formaldehyde	50-00-0
	0.1 %
Acetic acid	64-19-7
	1 %

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

Hydrogen chloride (7647-01-0)



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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

2-Propyn-1-ol (107-19-7)

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

1-Butanol (71-36-3)

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

Formaldehyde (50-00-0)

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

Acetic acid (64-19-7)

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: 0 Reactivity: 0

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

NFPA Ratings

Health: 2 Fire: 0 Reactivity: 0 Other:

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

Key / Legend



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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; 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; JP - Japan; Kow - Octanol/water partition coefficient; 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; 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; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.