



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

E-Kleen 154

Product Use

Acidic Metal Cleaner, Aluminum Etchant.

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

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 - Dermal - Category 3

Acute Toxicity - Inhalation - Vapor - Category 2

Skin Corrosion/Irritation - Category 1

Serious Eye Damage/Eye Irritation - Category 1

GHS Label Elements**Symbol(s)****Signal Word**

Danger

Hazard Statement(s)

Harmful if swallowed.

Toxic in contact with skin.



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

Fatal if inhaled.
Causes severe skin burns and eye damage.

Precautionary Statement(s)

Prevention

Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear respiratory protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.

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 is urgent (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

5.03% of the mixture consists of ingredient(s) of unknown acute toxicity.

Other Hazards

May be fatal if swallowed and enters airways.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
7732-18-5	Water	25-45
7664-38-2	Phosphoric acid	40-60
Trade Secret	Surfactants	1-3



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

77-92-9	Citric acid	2-5
111-76-2	2-Butoxyethanol	7-15

Section 4 - FIRST AID MEASURES

Inhalation

Allow the victim to rest in a well ventilated area. Monitor for respiratory distress. Seek immediate medical attention.

Skin

If the chemical got onto the clothed portion of the body, remove the contaminated clothes, shoes, and jewelry, protecting your own hands and body. Place the victim under a deluge shower for at least 15 minutes. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap or epsom salts. If irritation persists, seek medical attention. Wash contaminated clothing before reusing, discard contaminated shoes.

Eyes

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek immediate medical attention.

Ingestion

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. If conscious, give lots of water, milk, or dilute solution of any soluble calcium or magnesium salt to rinse mouth and drink. Seek immediate medical attention.

Section 5 - FIRE FIGHTING MEASURES

Hazardous Combustion Products

Oxides of carbon. Irritating and toxic gases may be released during a fire.

Fire Fighting Measures

Dry chemical, foam, carbon dioxide, water fog.

Section 6 - ACCIDENTAL RELEASE MEASURES

Environmental Precautions

Dike the spill with sand or earth. Sweep up and shovel into suitable containers for disposal.



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Wash thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

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

Store locked up.

Keep container tightly closed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Phosphoric acid	7664-38-2
ACGIH:	1 mg/m ³ TWA
	3 mg/m ³ STEL
NIOSH:	1 mg/m ³ TWA
	3 mg/m ³ STEL
	1000 mg/m ³ IDLH
Europe:	1 mg/m ³ TWA
	2 mg/m ³ STEL
OSHA (US):	1 mg/m ³ TWA
Mexico:	1 mg/m ³ TWA VLE-PPT
	3 mg/m ³ STEL [PPT-CT]
2-Butoxyethanol	111-76-2
ACGIH:	20 ppm TWA
NIOSH:	5 ppm TWA ; 24 mg/m ³ TWA
	Potential for dermal absorption
	700 ppm IDLH
Europe:	20 ppm TWA ; 98 mg/m ³ TWA



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

	Possibility of significant uptake through the skin
	50 ppm STEL ; 246 mg/m ³ STEL
OSHA (US):	50 ppm TWA ; 240 mg/m ³ TWA
	prevent or reduce skin absorption
Mexico:	26 ppm TWA VLE-PPT; 120 mg/m ³ TWA VLE-PPT
	75 ppm STEL [PPT-CT]; 360 mg/m ³ STEL [PPT-CT]
	Skin - potential for cutaneous absorption

EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health Surveillance Measures

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

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

2-Butoxyethanol (111-76-2)

200 mg/g creatinine Medium: urine Time: end of shift Parameter: Butoxyacetic acid with hydrolysis

Engineering Controls

Use local exhaust ventilation.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Safety glasses or chemical goggles. It is generally recognized that contact lenses should not be worn when working with chemicals because they may contribute to the severity of an eye injury.

Skin Protection

The use of rubber gloves, long sleeved shirt and trousers are required.

Respiratory Protection

Wear a dust mask if dust is generated above exposure limits.

Glove Recommendations

The use of rubber gloves is recommended.

Protective Materials

Eye wash fountain and emergency showers are recommended.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear solution.	Physical State	Liquid
Odor	Slight musty odor	Color	Colorless.
Odor Threshold	Not available	pH	<1
Melting Point	Not available	Boiling Point	212 °F



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

Boiling Point Range	Not available	Freezing point	32 °F (0 °C)
Evaporation Rate	(Approx. equal to Water)	Flammability (solid, gas)	Not available
Autoignition Temperature	Not available	Flash Point	Not available
Lower Explosive Limit	Not available	Decomposition temperature	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	(Approx. equal to water)	Specific Gravity (water=1)	1.3 - 1.37
Water Solubility	Completely	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	Not available	VOC	0
Molecular Weight	Not available		

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. Avoid Strong reducing agents. This product may react with strong alkalis.

Incompatible Materials

None identified.

Hazardous decomposition products

None identified.



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

Thermal decomposition products

Carbon monoxide, carbon dioxide and other hydrocarbon fragments.

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

Phosphoric acid (7664-38-2)

Oral LD50 Rat 1530 mg/kg

Dermal LD50 Rabbit 2740 mg/kg

Inhalation LC50 Rat >850 mg/m³ 1 h

Citric acid (77-92-9)

Oral LD50 Rat 3 g/kg

2-Butoxyethanol (111-76-2)

Oral LD50 Rat 470 mg/kg

Dermal LD50 Rabbit 99 mg/kg

Inhalation LC50 Rat 450 ppm 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

2-Butoxyethanol	111-76-2
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC:	Monograph 88 [2006] (Group 3 (not classifiable))
DFG:	Category 4 (no significant contribution to human cancer)

Germ Cell Mutagenicity



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

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.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

Citric acid	77-92-9
Fish:	LC50 96 h Lepomis macrochirus 1516 mg/L [static]
2-Butoxyethanol	111-76-2
Fish:	LC50 96 h Lepomis macrochirus 1490 mg/L [static]; LC50 96 h Lepomis macrochirus 2950 mg/L
Invertebrate:	EC50 48 h Daphnia magna >1000 mg/L 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



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

US DOT Information:

Shipping Name: Phosphoric acid, solution

Hazard Class: 8

UN/NA #: UN1805

Packing Group: III

Required Label(s): Corrosive

TDG Information:

Shipping Name: Phosphoric acid, solution

Hazard Class: 8

UN#: UN1805

Packing Group: III

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.

Phosphoric acid	7664-38-2
CERCLA:	5000 lb final RQ ; 2270 kg final RQ

All components are on the U.S. EPA TSCA Inventory List. This product is in compliance with TSCA.

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: no **Chronic Health:** no **Fire:** no **Pressure:** no **Reactivity:** no

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
Phosphoric acid	7664-38-2	Yes	Yes	Yes	Yes	Yes
2-Butoxyethanol	111-76-2	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



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Phosphoric acid	7664-38-2
	1 %
Citric acid	77-92-9
	1 %
2-Butoxyethanol	111-76-2
	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

Phosphoric acid (7664-38-2)

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

Citric acid (77-92-9)

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-Butoxyethanol (111-76-2)

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



Safety Data Sheet

Material Name: E-Kleen 154

SDS ID: EPI-0412cc

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

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 - 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..