



Safety Data Sheet

Material Name: E-Brite 23-11R

SDS ID: EPI-0256c

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

E-Brite 23-11R

Product Use

Plating Additive.

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.

Skin Corrosion/Irritation - Category 1

Serious Eye Damage/Eye Irritation - Category 1

Hazardous to the Aquatic Environment - Acute - Category 3

Hazardous to the Aquatic Environment - Chronic - Category 3

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Causes severe skin burns and eye damage.

Harmful to aquatic life with long lasting effects.

Precautionary Statement(s)



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Prevention

Wear protective gloves/protective clothing/eye protection/face protection.
Wash thoroughly after handling.
Avoid release to the environment.
Do not breathe dusts or mists.

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.
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.
Contains: Cyanide compounds. Harmful if swallowed. Wash thoroughly after handling.

Disposal

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

Other Hazards

Swallowing this solution can cause death. Exposure to small amount of cyanide compounds over long periods of time is reported to cause loss of appetite, headache, weakness, nausea, dizziness and symptoms of irritation of the upper respiratory tract and eyes.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
7732-18-5	Water	98-99.5
1310-58-3	Potassium hydroxide	0.1-0.3
143-33-9	Sodium cyanide	0.05-0.09

Section 4 - FIRST AID MEASURES

Inhalation



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If inhaled, immediately remove the affected person to fresh air. If symptoms persist, get medical attention.

Skin

Wash skin with soap and water. If irritation persists get medical attention.

Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.

Ingestion

If the material is swallowed, get immediate medical attention or advice. Do NOT induce vomiting. Give several glasses of water. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Note to Physicians

First aid for cyanide exposure: Actions to be taken in case of cyanide exposure should be planned in advance and practiced before working with cyanide. Cyanide poisoning requires immediate action - First aid using Amyl Nitrite and oxygen is generally given by a layman before medical help arrives. Medical treatment involves intravenous injections administered only by qualified medical personnel.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Use methods for the surrounding fire.

Unsuitable Extinguishing Media

None identified.

Special Hazards Arising from the Chemical

None identified.

Hazardous Combustion Products

Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Fire Fighting Measures

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

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear appropriate personal protective equipment.

Methods and Materials for Containment and Cleaning Up



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Isolate area. Keep unnecessary personnel away.

Environmental Precautions

Dike the spilled material, where this is possible. Wear protective equipment. For small spills absorb liquid with dirt or other absorbent material and dispose of in DOT approved waste containers. For large spills contain with soil or other absorbent material and keep spill alkaline by covering with lime. Flush area with dilute solution of Sodium or Calcium Hypochlorite. Keep out of sewers, storm drains and surface waters.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Wash thoroughly after handling. Do not reuse the empty container.

Conditions for Safe Storage, Including any Incompatibilities

Store locked up.

Keep the container tightly closed and in a cool, well-ventilated place.

Incompatible Materials

Acids.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Potassium hydroxide	1310-58-3
ACGIH:	2 mg/m ³ Ceiling
NIOSH:	2 mg/m ³ Ceiling
Sodium cyanide	143-33-9
ACGIH:	5 mg/m ³ Ceiling as CN
	Skin - potential significant contribution to overall exposure by the cutaneous route
NIOSH:	4.7 ppm Ceiling as CN 10 min; 5 mg/m ³ Ceiling as CN 10 min
	25 mg/m ³ IDLH as CN
Mexico:	5 mg/m ³ Ceiling
	Skin - potential for cutaneous absorption



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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)

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. Use adequate local exhaust to maintain emissions at point of use below applicable exposure limits when mist or spray may be generated.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

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

Skin Protection

Use impervious gloves. Use of protective coveralls and long sleeves is recommended. Use of an impervious apron is recommended.

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

Use impervious gloves.

Protective Materials

Eye wash fountain and emergency showers are recommended.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless to pale yellow	Physical State	Liquid
Odor	Characteristic odor	Color	Clear to pale yellow
Odor Threshold	Not available	pH	11.8 - 12.7
Melting Point	Not available	Boiling Point	218 °F (103 °C)
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	Not available



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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)	Not available
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

Will not occur.

Chemical Stability

This is a stable material.

Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

Conditions to Avoid

None.

Incompatible Materials

This product may react with strong acids or oxidizing agents.

Hazardous decomposition products

Poisonous Hydrogen Cyanide and Ammonia gasses.

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

Potassium hydroxide (1310-58-3)



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Oral LD50 Rat 284 mg/kg
Sodium cyanide (143-33-9)
Oral LD50 Rat 5.733 mg/kg
Dermal LD50 Rabbit 14.602 mg/kg
Inhalation LC50 Rat 0.16 mg/L 1 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

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

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.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

Sodium cyanide	143-33-9
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Fish:	LC50 96 h Lepomis macrochirus 0.066 - 0.0852 mg/L [flow-through]; LC50 96 h Lepomis macrochirus 0.15 mg/L [static]; LC50 96 h Oncorhynchus mykiss 0.0391 - 0.0548 mg/L [static]; LC50 96 h Oncorhynchus mykiss 0.0558 - 0.0586 mg/L [flow-through]; LC50 96 h Pimephales promelas 0.0712 - 0.0936 mg/L [flow-through]; LC50 96 h Pimephales promelas 0.17 mg/L [static]
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Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Waste must be handled in accordance with all federal, state, provincial, and local regulations. Dispose of waste material in accordance with all applicable Federal, State or provincial and local environmental regulations. See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: Potassium Hydroxide Solution, (Contains: Potassium Hydroxide Solution)

Hazard Class: 8

UN/NA #: 1814

Packing Group: II

Required Label(s): Corrosive

TDG Information:

Shipping Name: Potassium Hydroxide Solution, (Contains: Potassium Hydroxide Solution)

Hazard Class: 8

UN#: 1814

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.

Potassium hydroxide	1310-58-3
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CERCLA:	1000 lb final RQ; 454 kg final RQ
Sodium cyanide	143-33-9
SARA 302:	100 lb TPQ This material is a reactive solid. The TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form)
CERCLA:	10 lb final RQ; 4.54 kg final RQ
SARA 304:	10 lb EPCRA RQ

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

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
Potassium hydroxide	1310-58-3	Yes	Yes	Yes	Yes	Yes
Sodium cyanide	143-33-9	Yes	Yes	Yes	Yes	Yes

Not listed under California Proposition 65

Canada Regulations

This product is not WHMIS controlled.

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

Potassium hydroxide	1310-58-3
	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

Potassium hydroxide (1310-58-3)

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



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Sodium cyanide (143-33-9)

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

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

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.



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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..