



Safety Data Sheet

Material Name: E-Tec 555

SDS ID: EPI-0666c

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

E-Tec 555

Details of the supplier of the safety data sheet

Electrochemical Products Inc.

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New Berlin, WI 53151

Phone: 262-786-9330

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

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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

Germ Cell Mutagenicity - Category 2

Reproductive Toxicity - Category 2

Specific Target Organ Toxicity - Single Exposure - Category 1 (Nervous System , heart , kidneys)

Specific Target Organ Toxicity - Repeated Exposure - Category 1 (respiratory system , eyes , bones)

Specific Target Organ Toxicity - Repeated Exposure - Category 2 (heart , liver , kidneys , testes)

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.

Suspected of causing genetic defects.

Suspected of damaging fertility or the unborn child.

Causes damage to organs.

Causes damage to organs through prolonged or repeated exposure.

May cause damage to organs through prolonged or repeated exposure.

Harmful to aquatic life with long lasting effects.

Precautionary Statement(s)



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Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.

Response

If exposed: Call a POISON CENTER or doctor/physician.
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.

Disposal

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

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
7732-18-5	Water	90-95
10043-35-3	Boric acid (H3BO3)	0.2-1
7681-49-4	Sodium fluoride	2.5-3.5

Section 4 - FIRST AID MEASURES

Inhalation

If inhaled, immediately remove the affected person to fresh air. Give artificial respiration if not breathing. Seek medical attention.

Skin

For skin contact flush with large amounts of water while removing contaminated clothing. If irritation persists, get medical attention.

Eyes

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

Ingestion



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Give several glasses of water. Do not induce vomiting unless directed to do so by medical personnel. Call a physician immediately.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Water spray, dry chemical, carbon dioxide.

Unsuitable Extinguishing Media

None known.

Special Hazards Arising from the Chemical

Hydrogen fluoride in case of fire or extreme heat. Toxic fumes may be released in case of fire.

Hazardous Combustion Products

None known.

Advice for firefighters

Not a fire hazard.

Fire Fighting Measures

Firefighters should wear full protective clothing including self contained breathing apparatus.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Avoid contact with skin and eyes. Wear appropriate protective equipment during cleanup. Keep unnecessary personnel away.

Methods and Materials for Containment and Cleaning Up

Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. Sweep up material and place into a sealable, properly labeled container for disposal.

Environmental Precautions

Block any potential routes to water systems.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Avoid getting this material into contact with your skin and eyes. Keep container tightly closed in a cool, well-ventilated place.

Conditions for Safe Storage, Including any Incompatibilities

Store locked up.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Boric acid (H3BO3)	10043-35-3
ACGIH:	2 mg/m3 TWA inhalable particulate matter
	6 mg/m3 STEL inhalable particulate matter



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Mexico:	2 mg/m3 TWA VLE-PPT inhalable fraction
Sodium fluoride	7681-49-4
NIOSH:	2.5 mg/m3 TWA as F
	250 mg/m3 IDLH as F

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

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

Engineering Controls

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Wear safety glasses with side shields.

Skin Protection

Wear impervious (neoprene) gloves, impervious apron.

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.

Protective Materials

Eye wash fountain and emergency showers are recommended.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid.	Physical State	Liquid
Odor	Slight.	Color	Colorless.
Odor Threshold	Not available	pH	1.8 - 2.5
Melting Point	Not available	Boiling Point	>220 °F
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	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)	Not available	Specific Gravity (water=1)	1.05 - 1.08
Water Solubility	Complete	Partition coefficient: n-octanol/water	Not available



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Viscosity	Not available	Kinematic viscosity	Not available
Solubility (Other)	Not available	Density	Not available
VOC	0	Molecular Weight	Not available

Section 10 - STABILITY AND REACTIVITY

Reactivity

Contact with acids liberates toxic gas.

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None identified.

Incompatible Materials

May react with strong oxidizing agents.

Hazardous decomposition products

Hydrogen fluoride.

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

Boric acid (H3BO3) (10043-35-3)

Oral LD50 Rat 2660 mg/kg

Dermal LD50 Rabbit >2000 mg/kg

Inhalation LC50 Rat >0.16 mg/L 4 h (no deaths occurred)

Sodium fluoride (7681-49-4)

Oral LD50 Rat 52 mg/kg

Dermal LD50 Rat 175 mg/kg

Product Toxicity Data

Acute Toxicity Estimate

Dermal	0 0
Inhalation - Vapor	0 0
Oral	0 0

Immediate Effects

No information on significant adverse effects.

Delayed Effects

No information on significant adverse effects.

Irritation/Corrosivity Data



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No data available.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Component Carcinogenicity

Boric acid (H3BO3)	10043-35-3
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
Sodium fluoride	7681-49-4
IARC:	Supplement 7 [1987] (Group 3 (not classifiable))

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

Boric acid (H3BO3)	10043-35-3
Invertebrate:	EC50 48 h Daphnia magna 115 - 153 mg/L EPA
Sodium fluoride	7681-49-4
Fish:	LC50 96 h Lepomis macrochirus >530 mg/L; LC50 96 h Lepomis macrochirus 830 mg/L [semi-static]; LC50 96 h Oncorhynchus mykiss 38 - 68 mg/L [static]; LC50 96 h Pimephales promelas 180 mg/L [semi-static]
Algae:	EC50 96 h Pseudokirchneriella subcapitata 272 mg/L IUCLID ; EC50 72 h Desmodesmus subspicatus 850 mg/L [static] EPA



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Invertebrate:	EC50 48 h Daphnia magna 338 mg/L IUCLID ; EC50 48 h Daphnia magna 98 mg/L [Static] EPA
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Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes. 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.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: SODIUM FLUORIDE SOLUTION , (Contains: Sodium fluoride solution.)

Hazard Class: 6.1

UN/NA #: UN3415

Packing Group: III

Required Label(s): Toxic

TDG Information:

Shipping Name: Corrosive Liquid. Toxic, N.O.S. , (Contains: Sodium fluoride solution.)

Hazard Class: 6.1

UN#: UN3415

Packing Group: III

Required Label(s): Toxic

International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

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.

Sodium fluoride	7681-49-4
CERCLA:	1000 lb final RQ ; 454 kg final RQ

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

Reproductive Toxicity; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity; Germ Cell Mutagenicity

U.S. State Regulations



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

Component	CAS	CA	MA	MN	NJ	PA
Sodium fluoride	7681-49-4	Yes	Yes	No	Yes	Yes

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

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

Boric acid (H3BO3)	10043-35-3
	1 %
Sodium fluoride	7681-49-4
	1 %

Component Analysis - Inventory Water (7732-18-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Boric acid (H3BO3) (10043-35-3)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Sodium fluoride (7681-49-4)



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US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN (Draft)
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	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; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); 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; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); 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; F - Background (for Venezuela Biological Exposure Indices); 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; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; 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; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; 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; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper



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Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

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..