



Safety Data Sheet

Material Name: B/OX 318

SDS ID: EPI-0276

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

B/OX 318

Product Use

Antiquing Solution.

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.

Corrosive to Metals - Category 1

Serious Eye Damage/Eye Irritation - Category 1

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

May be corrosive to metals

Causes serious eye damage

Precautionary Statement(s)

Prevention

Keep only in original container

Wear eye protection/face protection



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Response

Absorb spillage to prevent material damage

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Immediately call a POISON CENTER or doctor

Storage

Store in corrosive resistant container with a resistant inner liner

Disposal

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

Other Hazards

CORROSIVE. This product may be severely irritating to corrosive to the eyes and skin. This product may irritate the respiratory tract. This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
7732-18-5	Water	85-95
7705-08-0	Ferric chloride	5-15
Not Available	Surfactant	0.05-0.1

Section 4 - FIRST AID MEASURES

Inhalation

Immediately move victim to fresh air. If symptoms persist, seek medical attention. If breathing is irregular or stopped, administer artificial respiration. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Skin

After contact with skin, wash immediately with plenty of water and soap. For skin contact flush with large amounts of water while removing contaminated clothing. In case of skin irritation, consult a physician.

Eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Ingestion



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If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Give several glasses of water. Call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Most Important Symptoms/Effects

Acute

Causes burns to the eyes, skin, gastrointestinal tract, and respiratory system.

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 decomposition: Hydrogen Chloride and Hydrogen gas,

Hazardous Combustion Products

Decomposition of this product may yield metallic oxides. These products are carbon oxides (CO, CO₂). May produce irritants and toxic gases.

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

Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.

Methods and Materials for Containment and Cleaning Up

Dike and contain the spill with sand and earth. Place spilled material in an appropriate container for disposal. The soda ash will react with the acid releasing carbon dioxide. Make sure there is sufficient ventilation before neutralizing the acidic material.

Section 7 - HANDLING AND STORAGE

Conditions for Safe Storage, Including any Incompatibilities

Store in corrosive resistant container with a resistant inner liner



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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Ferric chloride	7705-08-0
ACGIH:	1 mg/m3 TWA as Fe (related to Iron soluble salts)
NIOSH:	1 mg/m3 TWA as Fe (related to Iron soluble salts)
Mexico:	1 mg/m3 TWA LMPE-PPT as Fe (related to Iron soluble salts)
	2 mg/m3 STEL [LMPE-CT] as Fe (related to Iron soluble salts)

Biological limit value

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

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brown - orange solution	Physical State	Liquid
Odor	Characteristic acid odor	Color	Not available
Odor Threshold	Not available	pH	0 - 1.1
Melting Point	Not available	Boiling Point	212 °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	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)	1.08 - 1.093



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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

Possibility of Hazardous Reactions

Hazardous polymerisation does not occur.

Conditions to Avoid

This product may react with aluminum, zinc, and tin to generate flammable hydrogen gas. Heating may release irritating and toxic gases.

Hazardous decomposition products

Hydrogen Chloride and Hydrogen gas.

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

Ferric chloride (7705-08-0)

Oral LD50 Rat 450 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.



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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

Ferric chloride	7705-08-0
Fish:	LC50 96 h <i>Lepomis macrochirus</i> 20.26 mg/L [semi-static]; LC50 96 h <i>Pimephales promelas</i> 20.95 - 22.56 mg/L [semi-static]
Invertebrate:	EC50 48 h <i>Daphnia magna</i> 27.9 mg/L IUCLID; EC50 48 h <i>Daphnia magna</i> 9.6 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. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Do not allow this material to drain into sewers/water supplies.



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Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: Ferric Chloride Solution, (Contains: Ferric Chloride)

Hazard Class: 8

UN/NA #: UN2582

Packing Group: III

Required Label(s): Corrosive

TDG Information:

Shipping Name: Ferric Chloride Solution, (Contains: Ferric Chloride)

Hazard Class: 8

UN#: UN2582

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.

Ferric chloride	7705-08-0
CERCLA:	1000 lb final RQ; 454 kg final RQ

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
Ferric chloride	7705-08-0	Yes	Yes	Yes	Yes	Yes

Not listed under California Proposition 65

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



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Ferric chloride	7705-08-0
	1 % (related to Iron soluble salts)

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

Ferric chloride (7705-08-0)

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; 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



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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.