SAFETY DATA SHEET



Revision date 15-Nov-2022 Revision Number 1

1. Identification

Product identifier

Product Name E-Prep 221

Other means of identification

Product Code(s) EPI-0402C

UN number or ID number UN3093

Synonyms None

Details of the supplier of the safety data sheet

Manufacturer Address

Electrochemical Products Inc. 17000 West Lincoln Ave New Berlin, WI 53151 Phone: 262-786-9330

E-mail: us-sales@epi.com www.epi.com

Fax: 262-786-9403

Emergency telephone number

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

2. Hazard(s) identification

Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 1A

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Harmful if inhaled

Causes severe skin burns and eye damage

May cause cancer



Appearance Clear Solution

Physical state Liquid

Odor Characteristic

Precautionary Statements - 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

Use only outdoors or in a well-ventilated area

Do not breathe dusts or mists

Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response

IF exposed or if you feel unwell:

Immediately call a POISON CENTER or doctor

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

If skin irritation or rash occurs: Get medical advice/attention

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing

If experiencing respiratory symptoms: Call a POISON CENTER or doctor

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

Harmful to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

<u>Mixture</u>

Chemical name	CAS No	Weight-%	Trade secret
Water	7732-18-5	60-75	*
Hydrogen peroxide	7722-84-1	12-18	*
Sulfuric acid	7664-93-9	10-20	*
Trade secret	Trade secret	1-2	*

^{*}The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice Get medical attention if irritation or other symptoms occur. Show this safety data sheet to

the doctor in attendance.

Inhalation Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical

attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention

immediately if symptoms occur.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. If skin irritation or rash occurs: Get medical advice/attention.

Ingestion Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water.

Never give anything by mouth to an unconscious person. Get medical attention immediately

if symptoms occur.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing vapors or mists. Use personal protective equipment as required. See

section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood

pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting measures

can lead to release of irritating gases and vapors.

surrounding environment.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing mediaDo not scatter spilled material with high pressure water streams.

Specific hazards arising from the The product causes burns of eyes, skin and mucous membranes. Thermal decomposition

chemical

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment for

fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout

gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate

ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing vapors or mists.

Other information Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated

clothing and wash before reuse. Avoid breathing vapors or mists.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from

moisture. Store locked up. Keep out of the reach of children. Store away from other

materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Hydrogen peroxide	TWA: 1 ppm	TWA: 1 ppm	IDLH: 75 ppm
7722-84-1		TWA: 1.4 mg/m ³	TWA: 1 ppm
		(vacated) TWA: 1 ppm	TWA: 1.4 mg/m ³
		(vacated) TWA: 1.4 mg/m ³	
Sulfuric acid	TWA: 0.2 mg/m³ thoracic	TWA: 1 mg/m ³	IDLH: 15 mg/m ³
7664-93-9	particulate matter	(vacated) TWA: 1 mg/m ³	TWA: 1 mg/m ³
Trade secret	-	TWA: 15 mg/m ³ mist, total	-
		particulate	
		TWA: 5 mg/m³ mist, respirable	
		fraction	
		(vacated) TWA: 10 mg/m ³	
		mist, total particulate	
		(vacated) TWA: 5 mg/m³ mist,	
		respirable fraction	

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers

·

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Respiratory protectionNo protective equipment is needed under normal use conditions. If exposure limits are

exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do

not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical stateLiquidAppearanceClear SolutionColorcolorlessOdorCharacteristic

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

< 1 None known 0 °C / 32 °F Melting point / freezing point None known 100 °C / 212 °F Boiling point / boiling range None known Flash point No data available None known Relative density 1.125 - 1.16 None known Water solubility Completely None known

Other information

VOC Content (%) 0

10. Stability and reactivity

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid Exposure to air or moisture over prolonged periods. Excessive heat.

Incompatible materials Acids. Bases. Oxidizing agent.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. Corrosive by inhalation.

(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs.

Pulmonary edema can be fatal. Harmful by inhalation.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye

damage. (based on components). Corrosive to the eyes and may cause severe damage

including blindness. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Acute toxicity

Numerical measures of toxicity

No information available

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 6,052.30 mg/kg **ATEmix (dermal)** 42,729.90 mg/kg

ATEmix (inhalation-dust/mist) 2.74 mg/l

Component Information

	Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
	Water	> 90 mL/kg (Rat)	-	-
	7732-18-5			
	Hydrogen peroxide 7722-84-1	= 1518 mg/kg (Rat)	= 9200 mg/kg (Rabbit)	= 2000 mg/m ³ (Rat) 4 h
	Sulfuric acid 7664-93-9	= 2140 mg/kg (Rat)	-	= 0.375 mg/L (Rat) 4 h
Ī	Trade secret	= 12600 mg/kg(Rat)	> 10 g/kg (Rabbit)	> 2.75 mg/L (Rat)4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Revision date 15-Nov-2022

EPI-0402C - E-Prep 221

Carcinogenicity

Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Hydrogen peroxide 7722-84-1	-	Group 3	-	-
Sulfuric acid 7664-93-9	-	Group 1	Known	Х

Legend

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposureNo information available.

Target organ effects Kidney, Respiratory system, Eyes, Skin, Teeth.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity Harmful to aquatic life.

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
			microorganisms	
Hydrogen peroxide	-	LC50: 10.0 - 32.0mg/L	-	EC50: 18 - 32mg/L (48h,
7722-84-1		(96h, Oncorhynchus		Daphnia magna)
		mykiss)		_
		LC50: 18 - 56mg/L (96h,		
		Lepomis macrochirus)		
		LC50: =16.4mg/L (96h,		
		Pimephales promelas)		
Sulfuric acid	-	LC50: >500mg/L (96h,	-	-
7664-93-9		Brachydanio rerio)		
Trade secret	-	LC50: 51 - 57mL/L (96h,	-	-
		Oncorhynchus mykiss)		

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Revision date 15-Nov-2022

Component Information Partition coefficient Chemical name -1.75 Trade secret

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

EPI-0402C - E-Prep 221

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with

environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT

UN3093 **UN** number or ID number

Proper shipping name Corrosive liquids, oxidizing, n.o.s.

Transport hazard class(es) 8 Subsidiary hazard class 5.1 Packing group

Reportable Quantity (RQ) (Sulfuric acid: RQ (kg)= 454.00) Sulfuric acid: RQ (lb)= 1000.00

DOT reportable quantity kg Sulfuric acid: RQ (kg)= 4495.00

(calculated)

DOT Reportable Quantity lbs. Sulfuric acid: RQ (lb)= 9901.00

(calculated)

Special Provisions A6, A7, IB2

DOT Marine Pollutant NP

Description UN3093, Corrosive liquids, oxidizing, n.o.s. (Hydrogen peroxide, Sulfuric acid), 8 (5.1), II

Emergency Response Guide

Number

TDG

UN number or ID number UN3093

UN proper shipping name Corrosive liquid, oxidizing, n.o.s.

Transport hazard class(es) Subsidiary hazard class 5.1 Packing group Special Provisions Ш

Description UN3093, Corrosive liquid, oxidizing, n.o.s. (Hydrogen peroxide, Sulfuric acid), 8 (5.1), II

MEX

UN number or ID number UN3093

UN proper shipping name Corrosive liquid, oxidizing, n.o.s.

Transport hazard class(es) 8 Subsidiary hazard class 5.1 Packing group

Technical Name Hydrogen peroxide, Sulfuric acid

Description UN3093, Corrosive liquid, oxidizing, n.o.s. (Hydrogen peroxide, Sulfuric acid), 8 (5.1), II

Special Provisions 274

ICAO (air)

UN3093 **UN** number or ID number

UN proper shipping name Corrosive liquid, oxidizing, n.o.s.

Transport hazard class(es) 8 Subsidiary hazard class 5.1

Packing group

Description UN3093, Corrosive liquid, oxidizing, n.o.s. (Hydrogen peroxide, Sulfuric acid), 8 (5.1), II

IATA

UN number or ID number UN3093

UN proper shipping name Corrosive liquid, oxidizing, n.o.s.

Transport hazard class(es) 8
Subsidiary hazard class 5.1
Packing group II

Technical Name Hydrogen peroxide, Sulfuric acid

Description UN3093, Corrosive liquid, oxidizing, n.o.s. (Hydrogen peroxide, Sulfuric acid), 8 (5.1), II

ERG Code 8X

IMDG

UN number or ID number UN3093

UN proper shipping name Corrosive liquid, oxidizing, n.o.s.

Transport hazard class(es) 8
Subsidiary hazard class 5.1
Packing group II
EmS-No F-A,

EmS-NoF-A, S-QSpecial Provisions274Marine pollutantNP

Description UN3093, Corrosive liquid, oxidizing, n.o.s. (Hydrogen peroxide, Sulfuric acid), 8 (5.1), II

RID

UN number or ID number UN3093

UN proper shipping name Corrosive liquid, oxidizing, n.o.s.

Transport hazard class(es) 8
Subsidiary hazard class 5.1
Packing group II
Classification code CO1
Special Provisions 274

Description UN3093, Corrosive liquid, oxidizing, n.o.s. (Hydrogen peroxide, Sulfuric acid), 8 (5.1), II

<u>ADR</u>

UN number or ID number UN3093

UN proper shipping name Corrosive liquid, oxidizing, n.o.s.

Transport hazard class(es) 8
Subsidiary hazard class 5.1
Packing group II
Classification code CO1
Tunnel restriction code (E)
Special Provisions 274

Description UN3093, Corrosive liquid, oxidizing, n.o.s. (Hydrogen peroxide, Sulfuric acid), 8 (5.1), II,

(E)

<u>ADN</u>

UN number or ID number UN3093

UN proper shipping name Corrosive liquid, oxidizing, n.o.s.

Transport hazard class(es) 8
Subsidiary hazard class 5.1
Packing group II
Classification code CO1
Special Provisions 274

Description UN3093, Corrosive liquid, oxidizing, n.o.s. (Hydrogen peroxide, Sulfuric acid), 8 (5.1), II

Equipment Requirements PP, EP

15. Regulatory information

International Inventories

TSCA Complies

Chemical name	CAS No	US TSCA Inventory listing	US TSCA inactive/active
			designation
Water	7732-18-5	Present	Active
Hydrogen peroxide	7722-84-1	Present	Active
Sulfuric acid	7664-93-9	Present	Active
Trade secret	-	Present	Active
Trade secret	-	Present	Active
Trade secret	-	Present	Active

DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Hydrogen peroxide 7722-84-1	-	1000 lb	
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:.

EPI-0402C - E-Prep 221

Chemical name	California Proposition 65
Sulfuric acid - 7664-93-9	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water	-	-	X
7732-18-5			
Hydrogen peroxide 7722-84-1	X	-	X
Sulfuric acid 7664-93-9	X	-	Х
Trade secret	X	-	Х

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPAHealth hazards3Flammability0Instability0Special hazards-HMISHealth hazards3 *Flammability0Physical hazards0Personal protectionX

Chronic Hazard Star Legend *= Chronic Health Hazard

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value * Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR) U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Revision date 15-Nov-2022

Revision Note No information available.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other

materials or in any process, unless specified in the text.

End of Safety Data Sheet