EHS-SDS-1009

EAGLEPICHER TECHNOLOGIES

Section 1: Identification of the Substance/Mixture

Product identifier used on the label:

Product Name:	Cathode PC-XI

Other means of identification:

Recommended use of the chemical and restrictions on use:

Product Uses:	Chemical reactions
Product Restrictions:	For professional use only

Chemical manufacturer address and telephone number:

Manufacturer Name:	EaglePicher Technologies
Manufacturer Address 1:	PO Box 49
Manufacturer City:	Joplin
Manufacturer State:	MO
Manufacturer Zip Code:	64802
Business Phone:	1-417-623-8000

Emergency phone number:

Chemtrec:	CHEMTREC Numbers: For emergencies in the US, call CHEMTREC: 800-424-9300
Creation Date:	2019-05-09
Revision Date:	2019-05-14 13:12:03

Section 2: Hazards Identification

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

Signal Words:	Warning
GHS Class:	Acute Oral Toxicity, category 4 Skin Irritation, category 2 Eye Irritation, category 2B
Hazard Statements:	H302 - Harmful if swallowed. H315 - Causes skin irritation. H319 - Causes serious eye irritation.

Precautionary Statements: P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.
P314 - Get medical advice/attention if you feel unwell.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P337+P313 - If eye irritation persists: Get medical advice/attention.
Wash hands and face thoroughly after handling.

Hazards not otherwise classified that have been identified during the classification process:

Section 3: Composition/Information on Ingredients

Mixtures:

Ingredient Name	CAS Number	Ingredient Percent	EC Number	Comments
Iron disulfide	1309-36-0	60 - 80		
Magnesium oxide	1309-48-4	1 - 15		
Lithium chloride	7447-41-8	1 - 10		
Potassium chloride	7447-40-7	1 - 15		

Section 4: First Aid Measures

Description of necessary measures:

Eye Contact: Check the victim for contact lenses, and remove if present. In case of contact, lift eyelids and immediately flush eyes with plenty of water for at least 15 minutes. Do not allow the victim to rub/shut eyes. Call a physician.

Skin Contact: In case of contact, wash area with soap and water. Call a physician if irritation occurs.

Inhalation: If inhaled, remove to fresh air. If breathing is difficult, or discomfort occurs and persists, call a physician.

Ingestion: Provide 1-2 glasses of water. Never give anything by mouth to an unconscious person. Follow up with physician.

Most important symptoms/effects, acute and delayed:

Other First Aid: Inhalation of Magnesium oxide dust may aggravate any pre-existing respiratory disease; prolonged/frequent skin contact may lead to dermatitis.

Indication of immediate medical attention and special treatment needed

Note To Physicians: Treat symptomatically.

Section 5: Firefighting Measures

Suitable and unsuitable extinguishing media

Extinguishing Media: Use dry chemical, CO2

Specific hazards arising from the chemical
Special protective equipment and precautions for fire-fighters

Protective Equipment: Firefighters should wear full protective gear.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personnel Precautions:	Utilize recommended protective clothing and equipment, including safety goggles and rubber gloves. Avoid inhalation of dust, use with adequate ventilation.

Methods and materials for containment and cleaning up

Methods for Containment:	Collect spilled material and place in containers for reclamation or disposal. Collect wash water for approved disposal. Keep from entering water or ground water.
Methods for Cleanup:	Spill area can be washed with water.
Large spill:	Isolate spill and provide ventilation.

Environmental precautions

Environmental Precautions:	Do not wash into drains. Dispose of at qualified waste facility.

Section 7: Handling and Storage

Precautions for safe handling

Handling:	Avoid breathing dust. Avoid getting in eyes or on skin. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage:	Store in well ventialted area at ambient temperature in a closed container. Store away from acids.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines

Exposure Guidelines - Ingredient Based:

Magnesium oxide:

ACGIH - TLV - TWA:	10 mg/m3
USA - NIOSH - TWA:	5 mg/m3
USA - OSHA - PEL:	15 mg/m3 (total dust) 5 mg/m3 (respirable fraction)

Appropriate engineering controls

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Ventilation:	Use local ventilation if dusting is a problem, to maintain air levels below the recommended exposure limit. Use NIOSH approved respiratory protection when necessary.

Individual protection measures

Eye Protection:	Safety glasses or goggles
Skin Protection:	PVC gloves with impervious boots, apron or coveralls. Wash hands and face before eating, drinking or using tobacco.

Respiratory Protection:	Work ambient concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved dust respirator must be worn.
PPE Routine Handling:	Wear safety glasses or goggles, appropriate chemical resitant gloves and impervious skin protection. Avoid contact with eyes and skin.
Emergency Other Protective:	Emergency showers and eye wash stations should be available. Educate and train employees in the safe handling of hazardous chemicals.

Section 9: Physical and Chemical Properties

Physical and chemical properties

Physical State:	Solid, powder
Color:	Grey
pH:	ND
Boiling Temperature:	N/A
Lower Flammable Limit:	N/A
Upper Flammable Limit:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Solubility In Water:	ND
Evaporation Rate:	N/A
Percent Volatile:	N/A
VOC Content:	N/A
Viscosity:	N/A
Odor Threshold:	ND

Section 10: Stability and Reactivity

Reactivity:

Reactivity:	Reaction can occur with acids to form hydrogen chloride.

Chemical Stability:

Chemical Stability:	Stable.

Possibility of hazardous reactions:

Hazardous Polymerization:	Will not occur.

Conditions To Avoid:

Conditions To Avoid:	Contact with strong acids, strong oxiders. Moisture. Ignition souces.

Incompatible Materials:

Incompatible Materials:	Acids
Hazardous Decomposition Products:	Contact of iron with strong acids form flammable and explosive hydrogen gas. Potassium oxides. Magnesium oxide. Sulfur oxides.

Section 11: Toxicological Information

Toxicological Information:

Product:

Eye Toxicity: May cause eye irritation.

Skin Toxicity: May cause skin irritation.

Ingestion Toxicity: Harmful if swallowed.

Route of Exposure: Eye contact. Ingestion. Inhalation. Skin contact.

Magnesium oxide:

Ingestion Toxicity: Oral LD50: 3870 mg/kg (Rat-male)
Oral LD50: 3990 mg/kg (Rat-female)
Oral LD50: 810 mg/kg (Mouse)

Iron disulfide:

Acute Toxicity: May cause skin and eye irritation. Harmful if swallowed.

Lithium chloride:

Ingestion Toxicity: Oral LD50: >526 mg/kg (Rat)

Inhalation Toxicity: Inhalation LC50: >5.57 mg/L (Rat)

Potassium chloride:

Ingestion Toxicity: Oral LD50: 2,600 mg/kg (Rat)

Section 12: Ecological Information

Ecotoxicity:

Product:

Ecotoxicity: N/A

Magnesium oxide:

Ecotoxicity: Acute ecotoxicity:
Crustaceans, Daphnia magna, EC50, 48 hours: 190 mg/L (Mg)

Chronic ecotoxicity:
Fish, Salmo gairdneri, LC50, 28 days: 1355mg/L (Mg)
Crustaceans, Daphnia magna, EC50, reproduction, 21 days: 125mg/l (Mg)
Crustaceans, Daphnia magna, LOEC, reproduction, 21 days: 82mg/l (Mg)

Lithium chloride:

Ecotoxicity: Rainbow trout: 96hr. LC50 = 158 mg/L
Daphnia magna: 48hr. EC50 = 249 mg/L
Daphnia reproduction 21 day, NOEC 10.4 mg/L

Potassium chloride:

Ecotoxicity: Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) - 880 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - > 440 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria static test EC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)

Persistence and degradability:

Product:

Environmental Fate: N/A

Biodegredation:	N/A

Bioaccumulative potential:

Product:

BioAccumulation:	N/A

Mobility in soil:

Product:

Mobility In Environmental Media:	N/A

Section 13: Disposal Considerations

Description of waste:

Waste Disposal:	Waste disposal should be in accordance with existing federal, state and local environmental regulations.

Section 14: Transport Information

Transportation:	None
DOT:	None

Section 15: Regulatory Information

Safety, health and environmental regulations specific for the product:

Regulatory - Product Based:

TSCA 12(b): Export Notification:

This compound is on the EPA Toxic Substance Control Act (TSCA) Inventory List

Prop 65:

To the best of our knowledge, this product contains no levels of listed substances, which the State of California has found to cause cancer, birth defects or other reproductive effects.

SARA:

SARA 313 Title III:
Section 320 Extremely Hazardous Substances: None
Section 311/312 Hazardous Categories: None
Section 313 Toxic Chemicals: None

Section 16: Additional Information

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Other Information: