

SAFETY DATA SHEET

EHC® Metals Reagent

SDS # : EHCM-C
Revision date: 2016-02-18
Format: NA
Version 1



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name EHC® Metals Reagent

Other means of identification

Alternate Commercial Name EHC®-M

Recommended use of the chemical and restrictions on use

Recommended Use: For the remediation of contaminated groundwater

Restrictions on Use: Not for drinking water purification treatment.

Manufacturer/Supplier

PeroxyChem LLC
2005 Market Street
Suite 3200
Philadelphia, PA 19103
Phone: +1 267/ 422-2400 (General Information)
E-Mail: sdsinfo@peroxychem.com

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)
1 303/ 389-1409 (Medical - U.S. - Call Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Combustible dust

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Warning

Hazard Statements

May form combustible dust concentrations in air

Precautionary Statements - Prevention

Dry or powdered ingredients are combustible. Dispersal of finely divided dust from products into air may form mixtures that are ignitable or explosive. Minimize airborne dust generation and eliminate sources of ignition.

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

CONTAINMENT HAZARD: Any vessel that contains wet EHC must be vented due to potential pressure build up from fermentation gases

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Potassium Magnesium Sulfate	14977-37-8	25-35
Iron	7439-89-6	25-35
Organic amendment	Proprietary	25-35
Viscosity modifier	Proprietary	0 - 10%

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact	In case of contact, immediately flush skin with plenty of water. Get medical attention if irritation develops and persists.
Skin Contact	Wash off with soap and water.
Inhalation	Remove person to fresh air. If signs/symptoms continue, get medical attention.
Ingestion	Rinse mouth with water and afterwards drink plenty of water or milk. Call a poison control center or doctor immediately for treatment advice. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	Inhalation of dust in high concentration may cause irritation of respiratory system
Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Dry chemical, CO ₂ , sand, earth, water spray or regular foam.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific Hazards Arising from the Chemical	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Combustible material
Explosion data	
Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Not sensitive.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid dust formation. Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air.). For personal protection see Section 8.
Other	Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Use only non-sparking tools.
Environmental Precautions	Recover the product in solid form, if possible. Do not flush into surface water or sanitary sewer system.
Methods for Containment	Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.
Methods for cleaning up	Sweep or vacuum up spillage and return to container. The waste may be recovered and recycled.

7. HANDLING AND STORAGE

Handling	Minimize dust generation and accumulation. Keep away from open flames, hot surfaces and sources of ignition. Refer to Section 8.
Storage	Keep tightly closed in a dry and cool place. Keep away from open flames, hot surfaces and sources of ignition. Any vessel that contains wet EHC must be vented due to potential pressure build up from fermentation gases.
Incompatible products	Oxidizing agents. Strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Guidelines	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. Local nuisance dust standards apply.
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Appropriate engineering controls

Engineering measures	It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in the handling of this product contain explosion relief vents or an explosion suppression or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.
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Individual protection measures, such as personal protective equipment

Eye/Face Protection	Safety glasses with side-shields.
Skin and Body Protection	Wear suitable protective clothing. Protective shoes or boots.
Hand Protection	Use gloves if extended exposure is anticipated
Respiratory Protection	Whenever dust in the worker's breathing zone cannot be controlled with ventilation or other engineering means, workers should wear respirators or dust masks approved by NIOSH/MSHA, EU CEN or comparable organization to protect against airborne dust.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Light-tan powder
Physical State	Solid
Color	Light tan
Odor	odorless
Odor threshold	Not applicable
pH	5.6 (as aqueous solution)
Melting point/freezing point	Not applicable
Boiling Point/Range	No information available
Flash point	No information available
Evaporation Rate	No information available
Flammability (solid, gas)	Some of these materials will burn with intense heat
Flammability Limit in Air	
Upper flammability limit:	46.0
Lower flammability limit:	3.3
Vapor pressure	No information available
Vapor density	No information available
Density	1.03 g/mL
Specific gravity	No information available
Water solubility	practically insoluble
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	248 - 266 °C
Decomposition temperature	No information available
Viscosity, kinematic	No information available (Solid)
Viscosity, dynamic	No information available
Explosive properties	Low level dust explosion hazard
K_{st}	8 bar-m/sec: St1 Class dust
Oxidizing properties	No information available
Molecular weight	No information available
Bulk density	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	None under normal use conditions
Chemical Stability	Stable.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong acids. Oxidizing agents.
Hazardous Decomposition Products	None known.

11. TOXICOLOGICAL INFORMATION**Product Information**

LD50 Oral	Iron: 98.6 g/kg (rat)
LD50 Dermal	No information available
LC50 Inhalation	Iron: > 100 mg/m ³ 6 hr (rat)
Sensitization	As a precaution the product should be treated as a sensitizer.

Information on toxicological effects

Symptoms No information available.

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

Irritation Not expected to be irritating based on the components.
corrosivity Not applicable.
Chronic toxicity No known chronic effects of components present at greater than 1%.

Carcinogenicity Contains no ingredient listed as a carcinogen.

Mutagenicity This product is not recognized as mutagenic by Research Agencies

Neurological effects None known

Reproductive toxicity This product is not recognized as reprotox by Research Agencies.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target organ effects No known effects under normal use conditions.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to Microorganisms	Toxicity to daphnia and other aquatic invertebrates
Iron		96 h LC50: = 13.6 mg/L (Morone saxatilis) static		
Sodium chloride		96 h LC50: 5560 - 6080 mg/L (Lepomis macrochirus) flow-through 96 h LC50: = 12946 mg/L (Lepomis macrochirus) static 96 h LC50: 6020 - 7070 mg/L (Pimephales promelas) static 96 h LC50: 6420 - 6700 mg/L (Pimephales promelas) static 96 h LC50: 4747 - 7824 mg/L (Oncorhynchus mykiss) flow-through 96 h LC50: = 7050 mg/L (Pimephales promelas) semi-static		48h EC50: 1000 mg/l Daphnia magna; 48h EC50: 340.7 - 469.2 Daphnia magna Static

Persistence and degradability The organic components are biodegradable and can be expected to contribute to BOD.

Bioaccumulation Bioaccumulation is unlikely.

Mobility Is not likely mobile in the environment due its low water solubility.

Other Adverse Effects None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations.

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT NOT REGULATED

15. REGULATORY INFORMATION

U.S. 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

Acute health hazard	No
Chronic health hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

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/EPCRA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

International Inventories

Component	TSCA (United States)	DSL (Canada)	EINECS/EL INCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)	NZIoC (New Zealand)
Iron 7439-89-6 (25-35)	X	X	X		X	X	X	X	X
Organic amendment (25-35)		X	X		X		X	X	X
Viscosity modifier (NF)	X	X	X	X	X	X	X	X	X

Mexico - Grade Slight risk, Grade 1

CANADA

WHMIS Statement

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

WHMIS Hazard Class Non-controlled

16. OTHER INFORMATION

NFPA	Health Hazards 1	Flammability 1	Stability 0	Special Hazards -
HMIS	Health Hazards 1	Flammability 1	Physical hazard 0	Personal Protection -

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

References Refer to NFPA 654, *Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids*, for safe handling.

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End of Safety Data Sheet