

**SAFETY DATA SHEET**  
**EHC® Liquid Reagent Mix**

**SDS # : EHCLM-C**  
**Revision date: 2016-02-03**  
**Format: NA**  
**Version 1.01**



**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier**

**Product Name** EHC® Liquid Reagent Mix

**Other means of identification**

**Alternate Commercial Name** EHC®-L Mix; EHC® Liquid - Solid Component

**Recommended use of the chemical and restrictions on use**

**Recommended Use:** Bioremediation product for the remediation of contaminated soil and 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 chemical is considered hazardous by the 2012 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**

Keep away from all ignition sources including heat, sparks and flame.

Keep container closed and grounded.

Prevent dust accumulations to minimize explosion hazard.

**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 %
Iron salt	Proprietary	92-97
amino acid	Proprietary	3-7

Occupational exposure limits, if available, are listed in section 8

**4. FIRST AID MEASURES**

<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids intermittently. Consult a physician.
<b>Skin Contact</b>	Wash off with warm water and soap. Get medical attention if irritation develops and persists.
<b>Inhalation</b>	Remove from exposure, lie down. If symptoms persist, call a physician.
<b>Ingestion</b>	If swallowed, do not induce vomiting - seek medical advice.
<b>Protection of first-aiders</b>	No information available.
<b>Most important symptoms and effects, both acute and delayed</b>	Gastrointestinal effects. Inhalation of dust in high concentration may cause irritation of respiratory system.
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	Treat symptomatically

**5. FIRE-FIGHTING MEASURES**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Specific Hazards Arising from the Chemical</b>	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.
<b>Hazardous Combustion Products</b>	Carbon oxides (COx).
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	Not sensitive.
<b>Sensitivity to Static Discharge</b>	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**

For personal protection see Section 8. Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air.).

**Other**

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Use only non-sparking tools.

**Environmental Precautions**

No special environmental precautions required.

**Methods for Containment**

Sweep or vacuum up spillage and return to container. Avoid wetting dust and clean up as a dry powder with appropriate PPE for handling dry dusty materials; store in containers that keep material dry, segregated but allow to vent. Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air.). Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Material may be recycled when contamination is not a problem.

**Methods for cleaning up**

Following product recovery, flush area with water.

**7. HANDLING AND STORAGE**

**Handling**

Avoid contact with skin, eyes and clothing. Do not ingest. Ensure adequate ventilation. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powdered material can build static electricity when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmosphere.

**Storage**

Keep tightly closed in a dry and cool place. Keep away from open flames, hot surfaces and sources of ignition.

**Incompatible products**

. Strong oxidizing agents

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Control parameters

**Exposure Guidelines**

Ingredients with workplace control parameters.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Iron salt	TWA: 1 mg/m <sup>3</sup>	-	-	-
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Iron salt	TWA: 1 mg/m <sup>3</sup>	TWA: 1.0 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>

Appropriate engineering controls

**Engineering measures**

Ensure adequate ventilation, especially in confined areas. 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 to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Individual protection measures, such as personal protective equipment

<b>Eye/Face Protection</b>	Safety glasses with side-shields.
<b>Skin and Body Protection</b>	Wear suitable protective clothing.
<b>Hand Protection</b>	Protective gloves
<b>Respiratory Protection</b>	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Dry powder
<b>Physical State</b>	Solid
<b>Color</b>	light gray
<b>Odor</b>	Slight
<b>Odor threshold</b>	No information available
<b>pH</b>	4.5 (1% solution)
<b>Melting point/freezing point</b>	100 °C
<b>Boiling Point/Range</b>	No information available
<b>Flash point</b>	Not applicable
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid, gas)</b>	May be combustible at high temperatures
<b>Flammability Limit in Air</b>	
<b>Upper flammability limit:</b>	No information available
<b>Lower flammability limit:</b>	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Density</b>	No information available
<b>Specific gravity</b>	No information available
<b>Water solubility</b>	Fairly soluble
<b>Solubility in other solvents</b>	
<b>Partition coefficient</b>	No information available
<b>Autoignition temperature</b>	
<b>Decomposition temperature</b>	No information available
<b>Viscosity, kinematic</b>	No information available
<b>Viscosity, dynamic</b>	No information available
<b>Explosive properties</b>	Low level dust explosion hazard
<b>K<sub>st</sub></b>	76 bar-m/sec: St1 Class dust
<b>Oxidizing properties</b>	No information available
<b>Molecular weight</b>	No information available
<b>Bulk density</b>	Not applicable

## 10. STABILITY AND REACTIVITY

None under normal use conditions

<b>Chemical Stability</b>	Stable under recommended storage conditions. Decomposes on heating.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	To avoid thermal decomposition, do not overheat.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	Carbon oxides (COx).

## 11. TOXICOLOGICAL INFORMATION

**Product Information**

**LD50 Oral** Iron Salt: 2100 mg/kg (guinea pig)  
Cysteine: 1890 mg/kg (rat)  
**LD50 Dermal** No information available  
**LC50 Inhalation** No information available

**Sensitization** Not expected to be sensitizing based on the components.

**Information on toxicological effects**

**Symptoms** Dust is irritating eyes, nose, throat, and lungs.

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

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Mutagenicity** This product is not recognized as mutagenic by Research Agencies

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.

**Aspiration hazard** Not applicable.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects** Not expected to have significant environmental effects

**Persistence and degradability** No information available.

**Bioaccumulation** No information available.

**Mobility** No information available.

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

**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 salt ( 92-97 )	X	X	X			X	X	X	X
amino acid ( 3-7 )	X	X	X	X	X	X	X	X	X

**CANADA**

**WHMIS Hazard Class** Non-controlled

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards 1</b>	<b>Flammability 1</b>	<b>Stability 0</b>	<b>Special Hazards -</b>
<b>HMIS</b>	<b>Health Hazards 1</b>	<b>Flammability 1</b>	<b>Physical hazard 0</b>	<b>Special precautions -</b>

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

**Uniform Fire Code  
References**

COMBUSTIBLE DUST/POWDER  
 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.

**Revision date:** 2016-02-03  
**Revision note** (M)SDS sections updated 9  
**Issuing Date:** 2016-01-26

**Disclaimer**

PeroxyChem believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use are beyond the control of PeroxyChem, PeroxyChem expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

Prepared By:

PeroxyChem

© 2016 PeroxyChem. All Rights Reserved.

**End of Safety Data Sheet**