

# SAFETY DATA SHEET

## EHC® Liquid Mix

SDS #: EHCLM-C  
Revision date: 2016-02-09  
Version 1



### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. Product Identifier

**Product Name** EHC® Liquid Mix  
**Alternate Commercial Name** EHC®-L Mix; EHC® Liquid - Solid Component  
**Pure substance/mixture** Mixture

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use:** Bioremediation product for the remediation of contaminated soil and groundwater.  
**Restrictions on Use** Not for drinking water purification treatment.

#### 1.3. Details of the supplier of the safety data sheet

**Manufacturer/Supplier**  
PeroxyChem LLC  
2005 Market Street  
Suite 3200  
Philadelphia, PA 19103  
267/422-2400 (General Information)  
sdsinfo@peroxychem.com (E-Mail General Information)

#### 1.4. Emergency telephone numbers

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

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No 1272/2008

The preparation is not classified in accordance with Directive 1272/2008.

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

### 2.2. Label Elements

Not classified as a dangerous substances or preparation according to Regulation (EC) 1272/2008.

### 2.3. OTHER INFORMATION

#### General Hazards

CONTAINMENT HAZARD: Any vessel that contains wet EHC must be vented due to potential pressure build up from fermentation gases. Dust cloud can be ignited by a spark

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Mixture

Chemical name	EC-No	CAS-No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Iron salt	Listed	-	92-97	-	01-2120070499-45-XXX X
amino acid	Listed	-	3-7	-	01-2120047494-54-XXX X

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

## 4. FIRST AID MEASURES

### 4.1. Description of first-aid measures

<b>Skin Contact</b>	Wash off with warm water and soap. Get medical attention if irritation develops and persists.
<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>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.

### 4.2. Most important symptoms and effects, both acute and delayed

Gastrointestinal effects. Inhalation of dust in high concentration may cause irritation of respiratory system.

### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	Treat symptomatically.
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## 5. FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

### 5.2. Special hazards arising from the substance or mixture

#### **Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases**

Dust may form explosive mixture in air.

### 5.3. Advice for firefighters

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

For personal protection see Section 8. Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air.). Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).

### 6.2. Environmental Precautions

Prevent undiluted spillage from entering sewers, basements or watercourses.

### 6.3. Methods and materials for containment and cleaning up

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. Following product recovery, flush area with water.

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

### 6.4. Reference to other sections.

For personal protection see Section 8. See section 13 for disposal information.

## 7. HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

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.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage

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

#### Materials to avoid

Strong oxidizing agents

### 7.3. Specific end uses

See subsection 1.2. Relevant identified uses of the substance or mixture and uses advised against

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure Limits

#### Ingredients with workplace control parameters

Chemical name	Latvia	Lithuania	Czech Republic
amino acid	TWA 2 mg/m <sup>3</sup>		

### 8.2. Exposure 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.

#### Personal protective equipment

##### Respiratory Protection

In case of insufficient ventilation wear suitable respiratory equipment. P2 Dust mask when airborne dust concentrations elevated. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

##### Eye/Face Protection

Safety glasses with side-shields

##### Skin and Body Protection

No special precautions required.

##### Hand Protection

Protective gloves

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

#### Environmental exposure controls

No special environmental precautions required.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Dry powder
<b>Color</b>	light gray
<b>Physical State</b>	Solid
<b>Odor</b>	Slight
<b>Odor threshold</b>	No information available
<b>pH</b>	4.5 (1% solution)
<b>Flash point</b>	Not applicable
<b>Melting Point/Range</b>	Decomposes on heating 100 °C
<b>Freezing Point</b>	No information available
<b>Boiling Point/Range</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Explosive properties</b>	Low level dust explosion hazard
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Water solubility</b>	Fairly soluble
<b>Viscosity</b>	No information available
<b>Evaporation Rate</b>	No information available

## **9.2. OTHER INFORMATION**

### **Bulk Density**

No information available

## **10. STABILITY AND REACTIVITY**

### **10.1. Reactivity**

None under normal use conditions

### **10.2. Chemical Stability**

Stable under recommended storage conditions.

### **10.3. Possibility of Hazardous Reactions**

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.

### **10.4. Conditions to avoid**

To avoid thermal decomposition, do not overheat.

### **10.5. incompatible materials**

Strong oxidizing agents.

### **10.6. Hazardous Decomposition Products**

Carbon oxides (COx)

## **11. TOXICOLOGICAL INFORMATION**

### **11.1. Information on toxicological effects**

#### **Acute toxicity**

<b>LD50 Dermal</b>	No information available
<b>LD50 Oral</b>	Iron Salt: 2100 mg/kg (guinea pig) Cysteine: 1890 mg/kg (rat)
<b>LC50 Inhalation</b>	No information available
<b>Skin Contact</b>	Expected to be non-irritating based on ingredients.
<b>Eye Contact</b>	Expected to be non-irritating based on ingredients.

**Chronic toxicity**

<b>Sensitization</b>	Not expected to be sensitizing based on the components.
<b>Carcinogenicity</b>	Contains no ingredient listed as a carcinogen.
<b>Mutagenicity</b>	This product is not recognized as mutagenic by Research Agencies
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards

**12. ECOLOGICAL INFORMATION**

**12.1. Toxicity**

**Ecotoxicity effects**

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

**12.2. Persistence and degradability**

Product is biodegradable.

**12.3. Bioaccumulative potential**

No information available.

**12.4. Mobility in soil**

No information available.

**12.5. Results of PBT and vPvB assessment**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)

**12.6. Other Adverse Effects**

None known.

**13. DISPOSAL CONSIDERATIONS**

**13.1. Waste treatment methods**

<b>Waste from residues / unused products</b>	If recycling is not practicable, dispose of in compliance with local regulations.
<b>Product / Packaging disposal</b>	Dispose of as hazardous waste in compliance with local and national regulations.
<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

**14. TRANSPORT INFORMATION**

ADR/RID NOT REGULATEDIMDG/IMO NOT REGULATEDICAO/IATA NOT REGULATED**15. REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELI NCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines )	AICS (Australia)	NZIoC (New Zealand)
Iron salt	X	X	X	-	-	X	X	X	X
amino acid	X	X	X	X	X	X	X	X	X

**Directive 2008/98/EC on waste**

Not applicable

**Major Accidents (Directive 2012/18/EU)**

Not applicable

**CWC (Chemical Weapons Convention) - Annex on Chemicals**

Not applicable

**EU Export and import of dangerous chemicals (Regulation (EC) No 304/2003)**

Not Applicable

**Water contamination class (Germany):**

WGK 1

**Regulation 98/2013 on the marketing and use of explosives precursors**

Not Applicable

**15.2. Chemical Safety Report**

Not Applicable.

**16. OTHER INFORMATION****Issuing Date:** 2016-01-26**Restrictions on Use**

Not for use in potable drinking water. This product's foreseen or recommended applications are: Bioremediation product for the remediation of contaminated soil and groundwater.

**Revision date:** 2016-02-09**Revision note** SDS sections updated 9**List of Abbreviations and Acronyms**

ATE Acute Toxicity Estimate  
 ADR European Agreement concerning the International Carriage of Dangerous Goods by Road  
 AND European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
 CE50 Concentración Efectiva MediaCEN European Committee for Standardisation  
 C&L Classification and Labelling  
 CLP Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008  
 CLV Ceiling Limit Value Par CAS# Chemical Abstracts Service number

CMR Carcinogen, Mutagen, or Reproductive Toxicant  
CSA Chemical Safety Assessment  
CSR Chemical Safety Report  
DNEL Derived No Effect Level  
DOT Department of Transportation  
DPD Dangerous Preparations Directive 1999/45/EC  
DSD Dangerous Substances Directive 67/548/EEC  
DU Downstream User  
EC European Community  
ECHA European Chemicals Agency  
EC-Number EINECS and ELINCS Number (see also EINECS and ELINCS)  
EEA European Economic Area (EU + Iceland, Liechtenstein and Norway)  
EEC European Economic Community  
EINECS European Inventory of Existing Commercial Substances  
ELINCS European List of notified Chemical Substances  
EN European Standard  
EQS Environmental Quality Standard  
EU European Union  
Euphrac European Phrase Catalogue EWC  
European Waste Catalogue (replaced by LoW –see below)  
FDS Ficha de Datos de Seguridad  
GES Generic Exposure Scenario  
GHS Globally Harmonized System  
IATA International Air Transport Association  
ICAO-TI Technical Instructions for the Safe Transport of Dangerous Goods by Air  
IMDG International Maritime Dangerous Goods  
IMO International Maritime Organization  
IMSBC International Maritime Solid Bulk Cargoes  
IT Information Technology  
IUCLID International Uniform Chemical Information Database  
IUPAC International Union for Pure Applied Chemistry  
JRC Joint Research Centre  
Kow octanol-water partition coefficient  
LC50 Lethal Concentration to 50 % of a test population Lethal Dose to 50% of a test population (Median Lethal Dose)  
LE Legal Entity  
LLV Level Limit Value  
LoW List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)  
LR Lead Registrant M/I Manufacturer / Importer MS Member States  
MSDS Material Safety Data Sheet  
NOEC No observed effect concentration  
OC Operational Conditions  
OECD Organization for Economic Co-operation and Development  
OEL Occupational Exposure Limit  
OJ Official Journal  
OR Only Representative  
OSHA European Agency for Safety and Health at work  
PBT Persistent, Bioaccumulative and Toxic substance  
PEC Predicted Effect Concentration  
PNEC(s) Predicted No Effect Concentration(s)  
PPE Personal Protection Equipment  
(Q)SAR Qualitative Structure Activity Relationship  
RCR Risk Characterization ratio  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006  
RID Regulations concerning the International Carriage of Dangerous Goods by Rail  
RIP REACH Implementation Project  
RMM Risk Management Measure  
SADT Self-accelerating decomposition temperature  
SCBA Self-Contained Breathing Apparatus  
SDS Safety data sheet



SIEF Substance Information Exchange Forum  
SME Small and Medium sized Enterprises  
STEL Short-term exposure limit  
STOT Specific Target Organ Toxicity (STOT)  
RE Repeated Exposure(STOT)  
SE Single Exposure Par SVHC Substances of Very High Concern  
TSCA Toxic Substances Control Act  
TWA Time Weighed Average  
UN United Nations  
vPvB Very Persistent and Very Bioaccumulative / mPmB Muy Persistente y Muy Bioacumulativo  
WGK Wassergefährdungsklassen

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**End of Safety Data Sheet**

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