

# SAFETY DATA SHEET

## EHC® Metals Reagent

SDS # : EHCM-C  
Revision date: 2021-10-14  
Format: NA  
Version 1.02



### 1. PRODUCT AND COMPANY IDENTIFICATION

#### Product Identifier

**Product Name** EHC® Metals Reagent  
**Alternate Commercial Name** EHC®-M, METAFIX® EM

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

**Recommended Use:** For the remediation of contaminated groundwater  
**Restrictions on Use** No uses to be advised against were identified.

#### Manufacturer/Supplier

Evonik Active Oxygens, LLC  
2005 Market Street  
Suite 3200  
Philadelphia, PA 19103  
Phone: +1 267/ 422-2400 (General Information)  
E-Mail: Product-regulatory-services@evonik.com

#### 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****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%

**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**

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

effects, both acute and delayed

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

Treat symptomatically

## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical, CO <sub>2</sub> , sand, earth, water spray or regular foam.
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<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>Flammable properties</b>	Combustible material
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	Not sensitive.
<b>Sensitivity to Static Discharge</b>	Not sensitive.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

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

## 7. HANDLING AND STORAGE

<b>Handling</b>	Minimize dust generation and accumulation. Keep away from open flames, hot surfaces and sources of ignition. Refer to Section 8.
<b>Storage</b>	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.
<b>Incompatible products</b>	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.

### 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 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

**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

<b>Appearance</b>	Light-tan powder
<b>Physical State</b>	Solid
<b>Color</b>	Light tan
<b>Odor</b>	odorless
<b>Odor threshold</b>	Not applicable
<b>pH</b>	5.6 (as aqueous solution)
<b>Melting point/freezing point</b>	No information available
<b>Boiling Point/Range</b>	No information available
<b>Flash point</b>	No information available
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid, gas)</b>	Some of these materials will burn with intense heat
<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>	1.03 g/mL
<b>Specific gravity</b>	No information available
<b>Water solubility</b>	practically insoluble
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Autoignition temperature</b>	248 - 266 °C
<b>Decomposition temperature</b>	No information available
<b>Viscosity, kinematic</b>	No information available (Solid)
<b>Viscosity, dynamic</b>	No information available
<b>Explosive properties</b>	Low level dust explosion hazard
<b>K<sub>st</sub></b>	8 bar-m/sec: St1 Class dust
<b>Oxidizing properties</b>	No information available
<b><u>Other Information</u></b>	
<b>Molecular weight</b>	No information available

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	None under normal use conditions.
<b>Chemical Stability</b>	Stable.
<b>Possibility of Hazardous Reactions</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 polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong acids.
<b>Hazardous Decomposition Products</b>	Carbon oxides (COx); Sulfur oxides.

## 11. TOXICOLOGICAL INFORMATION

### Product Information

<b>LD50 Oral</b>	Iron: 98.6 g/kg (rat)
<b>LD50 Dermal</b>	No information available
<b>LC50 Inhalation</b>	Iron: > 100 mg/m <sup>3</sup> 6 hr (rat)

**Sensitization** As a precaution the product should be treated as a sensitizer.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation	NOAEL Oral Value
Potassium Magnesium Sulfate (14977-37-8)	2000 mg/kg (Rat)			

### 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		48 h Daphnia magna EC50 = 8934.78 mg/l
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: = 7050 mg/L (Pimephales promelas) semi-static 96 h LC50: 4747 - 7824 mg/L (Oncorhynchus mykiss) flow-through 96 h LC50: 6420 - 6700 mg/L (Pimephales promelas) 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**

This product is not subject to reporting under the Emergency Planning and Community Right-to-Know rule.

#### **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

### US State Regulations

#### **U.S. State Right-to-Know Regulations**

This product contains the following substances regulated under state Right-to-Know laws:

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals

### CANADA

#### **Environmental Emergencies**

This product contains no substances listed under Canada's Environmental Emergency regulations.

#### **Canadian National Pollutant Release Inventory**

This product contains no substances reportable under Canada's National Pollutant Release Inventory regulations.

### International Inventories

All ingredients are directly listed on the active TSCA Inventory

### Mexico

**Mexico - Grade**

Slight risk, Grade 1

## 16. OTHER INFORMATION

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

**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.

**Revision date:** 2021-10-14  
**Revision note** Manufacturer name changed.

**Issuing Date:** 2021-10-14

**Disclaimer**

This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. **EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATION AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED.** Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.

**Prepared By:**

Evonik  
© 2021 Evonik. All Rights Reserved.  
**End of Safety Data Sheet**