

SAFETY DATA SHEET

GeoForm™ Extended Release

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



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name GeoForm™ Extended Release

Recommended use of the chemical and restrictions on use

Recommended Use: Remediation of contaminated soil and groundwater

Restrictions on Use Use as recommended by the label.

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) and the 2015 Workplace Hazardous Materials Information System (WHMIS)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Combustible dust	

GHS Label elements, including precautionary statements**EMERGENCY OVERVIEW****Warning****Hazard Statements**

May form combustible dust concentrations in air

H315 - Causes skin irritation

H319 - Causes serious eye irritation

**Precautionary Statements - Prevention**

P264 - Wash hands thoroughly after handling

P280 - Wear protective gloves and eye/face protection

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

Keep container closed and grounded.

Prevent dust accumulations to minimize explosion hazard.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/ attention

P302 + P352 - IF ON SKIN: Wash with plenty of water.

P332 + P313 - If skin irritation occurs: Get medical advice/ attention

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Ferrous Sulfate Monohydrate	17375-41-6	10 - 15
Iron	7439-89-6	40 - 50
Organic amendment	Proprietary	20 - 30%
Starch	Proprietary	< 10

4. FIRST AID MEASURES

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If irritation persists, call a physician.
Skin Contact	Wash off with warm water and soap. In the case of skin irritation or allergic reactions see a physician.
Inhalation	Remove person to fresh air. If breathing is difficult or if discomfort occurs and persists, obtain medical attention.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Get medical attention if symptoms occur.
Most important symptoms and effects, both acute and delayed	May cause skin and eye irritation.
Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Carbon dioxide (CO ₂). Dry chemical. Water spray. Foam.
Specific Hazards Arising from the Chemical	Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Flammable properties	Not combustible
Hazardous Combustion Products	Oxides of sulfur. Carbon monoxide.
Explosion data	
Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
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 contact with eyes. Use personal protective equipment. For personal protection see Section 8. Avoid dust formation. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).
Other	For further clean-up instructions, call PeroxyChem Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
Environmental Precautions	Prevent entry into waterways, sewers, basements or confined areas.
Methods for Containment	Maintain good housekeeping practices to avoid accumulation of settled dust, especially on overhead surfaces. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.
Methods for cleaning up	Pick up and transfer to properly labeled containers. Take precautionary measures against static discharges. 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. The waste may be recovered and recycled.

7. HANDLING AND STORAGE

Handling	Avoid contact with eyes. Avoid breathing dust. Wear personal protective equipment. Refer to Section 8. Minimize dust generation and accumulation. Keep away from open flames, hot surfaces and sources of ignition. 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	Store in a well-ventilated place. Keep cool. Keep away from open flames, hot surfaces and sources of ignition. Any vessel that contains wet product must be vented due to potential pressure build up from gases.
Incompatible products	Oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Ferrous Sulfate Monohydrate 17375-41-6	TWA: 1 mg/m ³	-	-	-
salt	TWA: 10 mg/m ³	-	-	Mexico: TWA 10 mg/m ³
Chemical name	British Columbia	Quebec	Ontario TWA EV	Alberta
Ferrous Sulfate Monohydrate 17375-41-6	TWA: 1 mg/m ³	TWA: 1.0 mg/m ³	TWA: 1 mg/m ³	TWA: 1 mg/m ³
salt	TWA: 10 mg/m ³	-	TWA: 10 mg/m ³ inhalable	-

Appropriate engineering controls

Engineering measures	Adequate engineering controls and/or personal protective equipment must be used to prevent contact with skin and eyes. Provide emergency on-site eyewash. Provide appropriate exhaust ventilation at places where dust is formed. Use grounding and bonding of dry handling equipment for pneumatics or free falling powder during processing in
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enclosed systems. Use only appropriately classified electrical equipment and powered industrial trucks.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Whenever airborne dust concentrations are high, appropriate protective eyewear, such as mono-goggles, should be worn to prevent eye contact.
Skin and Body Protection	Wear suitable protective clothing. Protective shoes or boots.
Hand Protection	Wear suitable gloves (tested to EN374): Nitrile rubber, Rubber/latex/neoprene or other suitable chemical resistant gloves.
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	Do not eat, drink or smoke when using this product. Must have clean water available for washing in case of eye or skin contamination. Wash skin before eating, drinking, chewing gum, or using snuff. Shower after work. Remove contaminated clothing and wash before reuse. Wash all work clothing separately; do not mix with household laundry.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Brown Powder
Physical State	Solid
Color	Brown
Odor	Nearly odorless
Odor threshold	Not applicable
pH	6 - 8
Melting point/freezing point	No information available
Boiling Point/Range	No information available
Flash point	No information available
Evaporation Rate	No information available
Flammability (solid, gas)	Combustible material
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	No information available
Specific gravity	No information available
Water solubility	Insoluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	Not applicable (Solid)
Viscosity, dynamic	Not applicable
Explosive properties	Low level dust explosion hazard
Oxidizing properties	Not applicable
<u>Other Information</u>	
Molecular weight	No information available
0.92 g/cm ³ (loose) / 1.13 g/cm ³ (tapped)	

10. STABILITY AND REACTIVITY

Reactivity	None under normal use conditions.
Chemical Stability	Stable under recommended storage conditions.
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. Product may form by-products during processing which can be toxic or potentially explosive such as hydrogen, hydrogen sulfide and carbon monoxide.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Oxidizing agents. Strong acids. Strong bases.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating and toxic gases and vapors: Hydrogen sulfide, Hydrogen gas, Sulfur oxides, Carbon oxides (COx),

11. TOXICOLOGICAL INFORMATION**Product Information**

Product does not present an acute toxicity hazard based on known information.

LD50 Oral	Iron Salt: > 670 mg/kg (mouse, 4-hr)
LD50 Dermal	No information available
LC50 Inhalation	No information available

Serious eye damage/eye irritation	Irritating to eyes.
Skin corrosion/irritation	Irritating to skin.

Sensitization	Not expected to be sensitizing based on the components.
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Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation	NOAEL Oral Value
Iron (7439-89-6)	98600 mg/kg (Rat)			
Trade secret ()	= 8500 mg/kg (Rat)			
Viscosity modifier ()	6770 mg/kg (Rat)			

Information on toxicological effects

Symptoms	No information available.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity	Contains no ingredients above reportable quantities listed as a carcinogen.
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Mutagenicity	No known mutagenic or teratogenic effects.
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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 No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects Not expected to have significant environmental effects

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
Trade secret		96 h LC50: 220 - 460 mg/L (Leuciscus idus) static		24 h LC50: = 330 mg/L (Psammechinus miliaris)
Magnesium Hydroxide		96 h LC50: = 511.31 mg/L (Pimephales promelas) static		

Persistence and degradability The organic components are biodegradable and can be expected to contribute to BOD. Biodegradability does not pertain to inorganic substances.

Bioaccumulation Bioaccumulation is unlikely.

Mobility No information available.

Other Adverse Effects None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements. Recovery/recycling recommended.

Contaminated Packaging Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT NOT REGULATED

TDG 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:

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
salt					X
Trade secret			X		

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

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/EL INCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)	NZIoC (New Zealand)
Ferrous Sulfate Monohydrate 17375-41-6		H	H	X	H	H	H	X	X
Iron 7439-89-6	X	X	231-096-4	X	X	X	X	X	X
Organic amendment		X	281-689-7		X		X	X	X
salt					X		X	X	X
Starch	X	X	232-940-4	X	X	X	X	X	X

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All ingredients are directly listed on the active TSCA Inventory

Mexico

Mexico - Grade

Minimum risk, Grade 0

16. OTHER INFORMATION

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

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

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Prepared By:

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End of Safety Data Sheet