

SAFETY DATA SHEET
Daramend® Plus Reagent

SDS # : DARP-C
Revision date: 2018-04-04
Format: NA
Version 1



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Daramend® Plus Reagent

Recommended use of the chemical and restrictions on use

Recommended Use: Remediation of contaminated soil and groundwater

Restrictions on Use No uses to be advised against were identified.

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 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)

Combustible dust

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Warning

Hazard Statements

May form combustible dust concentrations in air

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 DARAMEND must be vented due to potential pressure build up from fermentation gases. Powdered material may form explosive dust-air mixtures

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Iron	7439-89-6	20 - 50
Organic amendment	Proprietary	35 - 75
Activated carbon	7440-44-0	5 - 15

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

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. In the case of skin irritation or allergic reactions see a physician.
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	Coughing and/ or wheezing.
Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Dry chemical, CO2, sand, earth, water spray or regular foam.

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

Flammable properties Combustible material

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 dust formation. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). For personal protection see Section 8.

Other For further clean-up instructions, call PeroxyChem Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions No special environmental precautions required.

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.

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 DARAMEND 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 Local nuisance dust standards apply.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Activated carbon 7440-44-0	-	-	-	Mexico: TWA 2 mg/m ³

Appropriate engineering controls

Engineering measures Provide appropriate exhaust ventilation at places where dust is formed. 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.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Safety glasses with side-shields.
Skin and Body Protection	No special precautions required.
Hand Protection	No special precautions required
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
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Information on basic physical and chemical properties

Appearance	Dark brown to black powder with medium brown flakes
Physical State	Solid
Color	Brown
Odor	No information available
Odor threshold	No information available
pH	6.0
Melting point/freezing point	Not applicable
Boiling Point/Range	Decomposes upon heating
Flash point	Not applicable
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	0.97 kg/L
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	No information available (Solid)
Viscosity, dynamic	No information available
Explosive properties	Low level dust explosion hazard
K_{st}	17 bar-m/sec: St1 Class dust
Oxidizing properties	No information available
Molecular weight	mixture
Bulk density	0.59 - 0.64 g/cm ³ (loose) / 0.71 - 0.72 g/cm ³ (tapped)

10. STABILITY AND REACTIVITY

Reactivity None under normal use conditions

Chemical Stability Stable.

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.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Oxidizing agents. Strong acids.

Hazardous Decomposition Products Burning produces obnoxious and toxic fumes

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral Iron:: 98.6 g/kg (rat)
LD50 Dermal No information available
LC50 Inhalation Iron: > 100 mg/m³ 6 hr (rat)

Serious eye damage/eye irritation Not expected to be irritating based on the components.
Skin corrosion/irritation Not expected to be irritating based on the components.

Sensitization No information available.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation	NOAEL Oral Value
Iron (7439-89-6)	98600 mg/kg (Rat)			
Activated carbon (7440-44-0)	> 10000 mg/kg (Rat)			

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

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 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 The environmental impact of this product has not been fully investigated 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		

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 Recovery/recycling recommended. Can be landfilled or incinerated, when in compliance 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 has the following hazards that are reportable under The Emergency Planning and Community Right-to-Know rule (EPCRA Tier II):

- Combustible dust

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

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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

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 (20 - 50)	X	X	X		X	X	X	X	X
Organic amendment (35 - 75)		X	X		X		X	X	X
Activated carbon 7440-44-0 (5 - 15)	X	X	X		X	X	X	X	X

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 -

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

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End of Safety Data Sheet