

SAFETY DATA SHEET

DARAMEND® Reagent

SDS #: DARR-C
Revision date: 2019-05-14
Version 1.01



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

1.1. Product Identifier

Product Name DARAMEND® Reagent

Pure substance/mixture Mixture

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

Recommended Use: Remediation of contaminated soil and groundwater

Restrictions on Use No uses to be advised against were identified

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**

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

2.2. Label Elements

Not classified

2.3. OTHER INFORMATION**General Hazards**

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

Component	EC-No	CAS-No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Lecithin 8002-43-5 (3)	Present	8002-43-5	3	-	NA
Iron 7439-89-6 (40-50)	Present	7439-89-6	40-50	-	01-2119462838-24-XX XX
Organic amendment (50-60)	Listed	-	50-60	-	NA

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

4. FIRST AID MEASURES**4.1. Description of first-aid measures****Skin Contact**

Wash off with soap and water. In the case of skin irritation or allergic reactions see a physician.

Eye Contact

In case of contact, immediately flush skin with plenty of water. Get medical attention if irritation develops and persists.

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.

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

Coughing and/ or wheezing

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

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

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Dry chemical, CO2, sand, earth, water spray or regular foam

5.2. Special hazards arising from the substance or mixture

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

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.

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

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

6.2. Environmental Precautions

No special environmental precautions required.

6.3. Methods and materials for containment and cleaning up

Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Sweep or vacuum up spillage and return to container.

6.4. Reference to other sections.

See section 13 for disposal information.

7. HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Minimize dust generation and accumulation. Keep away from open flames, hot surfaces and sources of ignition. Refer to Section 8.

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. Any vessel that contains wet DARAMEND must be vented due to potential pressure build up from fermentation gases.

Materials to avoid

Oxidizing agents. Strong acids.

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	Slovakia	Switzerland	Belgium
Iron 7439-89-6	TWA 6.0 mg/m ³		
Chemical name	Romania	Bulgaria	Russia
Iron 7439-89-6		TWA 6.0 mg/m ³	TWA 10 mg/m ³

8.2. Exposure 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.

Personal protective equipment

Respiratory Protection
Eye/Face Protection
Skin and Body Protection
Hand Protection

In case of insufficient ventilation wear suitable respiratory equipment.
 Safety glasses with side-shields
 No special protective equipment required.
 No special precautions required

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls

No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Flakes
Color	Tan, Brown
Physical State	Solid
Odor	No information available
Odor threshold	No information available
pH	6.0
Flash point	No information available
Melting Point/Range	No information available
Freezing Point	No information available
Boiling Point/Range	Decomposes upon heating
Autoignition temperature	No information available
Explosive properties	Low level dust explosion hazard
Vapor pressure	No information available
Vapor density	Not applicable
Partition coefficient	No information available
Water solubility	Insoluble in water
Viscosity	No information available
Evaporation Rate	No information available

9.2. OTHER INFORMATION

Bulk Density	0.75 - 0.95 kg/L
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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

Heat, flames and sparks.

10.5. incompatible materials

Oxidizing agents. Strong acids.

10.6. Hazardous Decomposition Products

Burning produces obnoxious and toxic fumes

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

The product has not been tested. Data is based on component.

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

Skin Contact	Not expected to be irritating based on the components.
Eye Contact	Product dust may cause mechanical eye irritation.
Inhalation	Inhalation of dust in high concentration may cause irritation of respiratory system.
Ingestion	Low order of toxicity based on components.

Chronic toxicity

Sensitization	No information available.
Neurological effects	None known.
Carcinogenicity	Contains no ingredient listed as a carcinogen.
Mutagenicity	This product is not recognized as mutagenic by Research Agencies

12. ECOLOGICAL INFORMATION

12.1. Toxicity

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		48 h Daphnia magna EC50 = 8934.78 mg/l

12.2. Persistence and degradability

The organic components are biodegradable and can be expected to contribute to BOD.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

12.4. Mobility in soil

Is not likely mobile in the environment due its low water solubility.

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

Waste from residues / unused products Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Product / Packaging disposal Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ADR/RID NOT REGULATED

IMDG/IMO NOT REGULATED

ICAO/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)
Lecithin 8002-43-5	X	X	X	-	X	X	X	X	X
Iron 7439-89-6	X	X	X	-	X	X	X	X	X
Organic amendment	-	X	X	-	X	-	X	X	X

15.2. Chemical Safety Report

Not Applicable.

16. OTHER INFORMATION**Issuing Date:** 2015-07-14**Restrictions on Use**

This product's foreseen or recommended applications are: Remediation of contaminated soil and groundwater

Revision date: 2019-05-14**Revision note**

*** Indicates updated section

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 Media
 CEN 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