

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Rhizolizer[®] Duo Wheat & Cereals Box Applied

1.2. Recommended use and restrictions on use

Recommended use : To support nutrient availability and crop nutrient uptake from the soil
Restrictions on use : No data available

1.3. Supplier

Locus Agriculture
A Division of Locus Fermentation Solutions
30600 Aurora Road, Ste 180
Solon, OH 44139
USA
T (440) 561-0800

1.4. Emergency telephone number

Emergency number : Chemtrec (800) 424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Carcinogenicity Category 1A H350 May cause cancer (Inhalation)

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger
Hazard statements (GHS US) : H350 - May cause cancer (Inhalation)
Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear eye protection, respiratory protection, protective gloves.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown acute toxicity (GHS US)

No additional information available

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SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc. (% w/w)
Talc	CAS-No.: 14807-96-6	43 – 66
Graphite	CAS-No.: 7782-42-5	7 – 22
Proprietary ingredient 1*	CAS-No.: Trade Secret	10 - 20
Proprietary ingredient 2*	CAS-No.: Trade Secret	10 - 20
Quartz (SiO ₂)	CAS-No.: 14808-60-7	< 1

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact	: If skin irritation occurs: Get medical advice/attention. Wash skin with plenty of water. Take off contaminated clothing.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth out with water. Do not induce vomiting. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.
Symptoms/effects after skin contact	: Repeated or prolonged contact may cause skin irritation.
Symptoms/effects after eye contact	: Dust from this product may cause eye irritation.
Symptoms/effects after ingestion	: May cause irritation to the digestive tract.
Chronic symptoms	: May cause cancer. Prolonged and/or massive exposure to fine fraction crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam, powder, carbon dioxide (CO₂), water spray.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

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5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate ventilation. Mark out the contaminated area with signs and prevent access to unauthorized personnel.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Presents no particular risk to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Avoid raising powdered materials into airborne dust. Collect all waste in suitable and labeled containers and dispose according to local legislation.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Do not handle until all safety precautions have been read and understood. Minimize airborne dust generation and prevent wind dispersal during loading and unloading. Use good housekeeping practices during storage, transfer, handling, to avoid excessive dust accumulation. Wear personal protective equipment. Avoid breathing dust. Avoid contact with skin and eyes.

Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry, cool and well-ventilated place.

Incompatible materials : Strong acids. Strong oxidizing agents. Strong bases.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

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Quartz (SiO₂) (14808-60-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Silica crystalline - quartz
ACGIH OEL TWA	0.025 mg/m ³ (R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Quartz (Respirable) (Silica: Crystalline)
Remark (OSHA)	Table Z-3. For OSHA PEL (TWA): Use formulas: (250 / (%SiO ₂ +5)) for mppcf and (10 mg/m ³ / (%SiO ₂ +2)) for mg/m ³ . CAS No. source: eCFR Table Z-1.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
Talc (14807-96-6)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Talc
ACGIH OEL TWA	2 mg/m ³ (Containing no asbestos fibers. E - The value is for particulate matter containing no asbestos and < 1 % crystalline silica, R - Respirable particulate matter) 2 mg/m ³ (Containing asbestos fibers. R - Respirable particulate matter) 0.1 fibers/cm ³ (Containing asbestos fibers. F - Respirable fibers)
Remark (ACGIH)	Containing no asbestos fibers = TLV® Basis: Pulm fibrosis; pulm func. Notations: A4 Containing asbestos fibers = TLV® Basis: Pneumoconiosis; lung cancer; mesothelioma. Notations: A1 (Confirmed Human Carcinogen)
Regulatory reference	ACGIH 2024
USA - OSHA - Occupational Exposure Limits	
Local name	Talc (not containing asbestos) (Silicates (less than 1% crystalline silica))
OSHA PEL TWA	20 mppcf
Remark (OSHA)	Table Z-3. CAS No. source: eCFR Table Z-1.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
Graphite (7782-42-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Graphite (all forms excepte graphite fibers)
ACGIH OEL TWA	2 mg/m ³ (R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2023
USA - OSHA - Occupational Exposure Limits	
Local name	Graphite (Natural)
OSHA PEL TWA	15 mppcf
Remark (OSHA)	Table Z-3. CAS No. source: eCFR Table Z-1.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
Proprietary ingredient 1	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	10 mg/m ³
Remark (ACGIH)	TLV® Basis: URT irr
Regulatory reference	ACGIH 2023

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Proprietary ingredient 1	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Proprietary ingredient 2	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	2 mg/m ³ (E - The value is for particulate matter containing no asbestos and < 1 % crystalline silica, R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
Wear a mask. [In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Powder
Color : Gray
Odor : Characteristic
Odor threshold : No data available
pH : No data available
Melting point : No data available
Freezing point : Not applicable
Boiling point : No data available

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Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: Not applicable
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: Not oxidising

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Incompatible materials.

10.5. Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Talc (14807-96-6)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 Inhalation - Rat	> 2.1 mg/l
LC50 Inhalation - Rat (Dust/Mist)	> 2.1 mg/l

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Graphite (7782-42-5)	
LD50 oral rat	> 2000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	> 2000 mg/l
Proprietary ingredient 1	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
Proprietary ingredient 2	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	≥ 5 mg/l

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer (Inhalation).

Quartz (SiO₂) (14808-60-7)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Known Human Carcinogens

Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Likely routes of exposure	: Inhalation. Skin and eye contact.
Symptoms/effects after inhalation	: Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.
Symptoms/effects after skin contact	: Repeated or prolonged contact may cause skin irritation.
Symptoms/effects after eye contact	: Dust from this product may cause eye irritation.
Symptoms/effects after ingestion	: May cause irritation to the digestive tract.
Chronic symptoms	: May cause cancer. Prolonged and/or massive exposure to fine fraction crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
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Talc (14807-96-6)	
LC50 - Fish [1]	89581.016
LC50 - Fish [2]	110000 mg/l
EC50 96h - Algae [1]	7202.7 mg/l
NOEC (chronic)	1459.798 mg/l

Graphite (7782-42-5)	
LC50 - Fish [1]	100 mg/l
EC50 - Crustacea [1]	100 mg/l
EC50 72h - Algae [1]	19 mg/l

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Graphite (7782-42-5)	
EC50 72h - Algae [2]	7.2 mg/l
ErC50 algae	100 mg/l
NOEC (chronic)	47 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation

: Disposal must be done according to official regulations.

Waste treatment methods

: Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

14.6. Special precautions for user

DOT

Not regulated

TDG

Not regulated

IMDG

Not regulated

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IATA

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

Canada

Quartz (SiO₂) (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

Talc (14807-96-6)

Listed on the Canadian DSL (Domestic Substances List)

Graphite (7782-42-5)

Listed on the Canadian DSL (Domestic Substances List)

Proprietary ingredient 1

Listed on the Canadian DSL (Domestic Substances List)

Proprietary ingredient 2

Listed on the Canadian DSL (Domestic Substances List)

EU

No additional information available

Mexico

Quartz (SiO₂) (14808-60-7)

Listed on IARC (International Agency for Research on Cancer)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Talc (14807-96-6)

Listed on IARC (International Agency for Research on Cancer)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Graphite (7782-42-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

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Proprietary ingredient 1
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Proprietary ingredient 2
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

Component	State or local regulations
Quartz (SiO ₂)(14808-60-7)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Talc(14807-96-6)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Graphite(7782-42-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Proprietary ingredient 1	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Proprietary ingredient 2	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases	
H350	May cause cancer

Abbreviations and acronyms	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level

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Abbreviations and acronyms	
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

NFPA health hazard

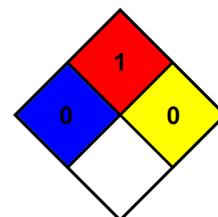
: 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard

: 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health

: 0 Minimal Hazard - No significant risk to health
 : * - Chronic (long-term) health effects may result from repeated overexposure

Flammability

: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.