

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : SabrEX Root Inoculant for Corn PB
 Item code : 1003_1005

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Seed treatment

1.3. Supplier

Agrauxine Corp.
 375 Bonnewitz Avenue
 Van Wert, Ohio 45891
 United States
 T +1 419-232-2461
fds-agx@agrauxine.lesaffre.com

1.4. Emergency telephone number

Emergency number : CHEMTREC : +1 800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Carcinogenicity Category 1A	H350	May cause cancer
Specific target organ toxicity (repeated exposure) Category 1	H372	Causes damage to organs through prolonged or repeated exposure
Combustible Dust		May form combustible dust concentrations in air

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : May form combustible dust concentrations in air
 H350 - May cause cancer
 H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P260 - Do not breathe dust.
 P264 - Wash hands, forearms and face thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P280 - Wear protective gloves, protective clothing, eye protection, face protection.
 P308+P313 - If exposed or concerned: Get medical advice/attention.
 P405 - Store locked up.
 P501 - Dispose of contents/container to a hazardous or special waste collection point.

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2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : Microorganisms can potentially cause sensitisation reactions. Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Contains *Trichoderma afroharzianum* and *Trichoderma atroviride* at a minimum concentration of 3.5×10^7 CFU/mL each

Name	Product identifier	%	GHS US classification
Talc (Mg ₃ H ₂ (SiO ₃) ₄)	CAS-No.: 14807-96-6	50 - 70	STOT RE 1, H372
Graphite	CAS-No.: 7782-42-5	15 - 25	Carc. 1A, H350 STOT RE 1, H372 Comb. Dust
Quartz (SiO ₂)	CAS-No.: 14808-60-7	< 1	Carc. 1A, H350 STOT RE 1, H372
<i>Trichoderma afroharzianum</i>	-	< 1	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335
<i>Trichoderma atroviride</i>	-	< 1	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention. If possible show him this sheet. Failing this, show him the packaging or label.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor/physician.

First-aid measures after skin contact : Take off contaminated clothing. Wash skin with plenty of water. If case of redness or irritation, call a doctor.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an opthalmologist if irritation persists.

First-aid measures after ingestion : Never attempt to induce vomiting. Rinse mouth out with water. Immediately call a poison center or doctor/physician.

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

Symptoms/effects : Microorganisms can potentially cause sensitisation reactions.

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Symptoms/effects after inhalation	: Dust from this product may cause irritation to the respiratory tract. Coughing. Respiratory difficulties. Prolonged exposure to alveolar dust containing quartz may cause silicosis or pulmonary fibrosis.
Symptoms/effects after skin contact	: Dust from this product may cause skin irritation.
Symptoms/effects after eye contact	: Dust from this product may cause eye irritation.
Chronic symptoms	: May cause cancer. Causes damage to organs through prolonged or repeated exposure.

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	: Water spray. Foam. Chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	: Do not use a solid water stream as it may scatter and spread fire.

5.2. Specific hazards arising from the chemical

Explosion hazard	: May form combustible dust concentrations in air.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon oxides (CO, CO ₂). Silicon oxide.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Cool down the containers exposed to heat with a water spray. Contain the extinguishing fluids by bunding.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Complete protective clothing. Self contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Ventilate spillage area. Avoid dust formation. Remove ignition sources. Use special care to avoid static electric charges.
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6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel. Only qualified personnel equipped with suitable protective equipment may intervene. Avoid contact with skin, eyes and clothing. Do not breathe dust.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment.
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6.2. Environmental precautions

Contain the spilled material by bunding. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Avoid dust production. Clean up dry product using methods that do not cause its dispersion into the air, for example: suction cleaners (portable industrial strength, equipped with an effective air particle filter (HEPA filter) or some other equivalent technique). Do not use compressed air for cleaning. Shovel into suitable and closed container for disposal.
Other information	: Dispose of in accordance with relevant local regulations.

6.4. Reference to other sections

Concerning personal protective equipment to use, see item 8. Concerning disposal elimination after cleaning, see item 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Ensure good ventilation of the work station. Avoid contact with skin, eyes and clothing. Do not breathe dust. Avoid dust production. Avoid ignition sources. Avoid the build-up of electrostatic charge. Handle in accordance with good industrial hygiene and safety practice.
- Hygiene measures : Do not drink, eat or smoke in the workplace. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Provide adequate ventilation to minimize dust concentrations.
- Storage conditions : Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep away from sources of ignition. Prevent build-up of electrostatic charges (e.g. by grounding).
- Incompatible materials : Strong acids, strong bases and strong oxidants. Acetylene. Ammonia.
- Special rules on packaging : Store in original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Talc (Mg ₃ H ₂ (SiO ₃) ₄) (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 2023
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

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Graphite (7782-42-5)	
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
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 2023
USA - OSHA - Occupational Exposure Limits	
Local name	Quartz (Respirable) (Silica: Crystalline)
OSHA PEL TWA	0.05 mg/m ³
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

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure that there is a suitable ventilation system. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Environmental exposure controls	: Do not allow to enter drains or water courses.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Chemically resistant protective gloves. Breakthrough time : refer to the recommendations of the supplier
Eye protection:
Safety glasses
Skin and body protection:
Protective clothing
Respiratory protection:
Dust mask. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US)

Other information:

Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

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Appearance	: Powder.
Color	: Gray
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 2.65
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosion limits	: No data available
Explosive properties	: May form combustible dust concentrations in air.
Oxidizing properties	: Non oxidizing.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

None to our knowledge.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

May form combustible dust concentrations in air.

10.4. Conditions to avoid

Avoid dust production. Avoid the build-up of electrostatic charge. Ignition sources.

10.5. Incompatible materials

Strong acids, strong bases and strong oxidants. Acetylene. Ammonia.

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

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Acute toxicity (inhalation) : Not classified

Talc (Mg₃H₂(SiO₃)₄) (14807-96-6)	
LD50 oral rat	> 5000 mg/kg body weight (OECD 423 method)
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402 method)
LC50 Inhalation - Rat (Dust/Mist)	> 2.1 mg/l/4h (OECD 403 method)

Graphite (7782-42-5)	
LD50 oral rat	> 2000 mg/kg body weight (female rat)(OECD 423 method)
LC50 inhalation rat (mg/l)	> 2000 mg/m ³ (OECD 403 method)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Microorganisms can potentially cause sensitisation reactions
Germ cell mutagenicity : Not classified
Carcinogenicity : May cause cancer.
Reproductive toxicity : Not classified
STOT-single exposure : Not classified

Trichoderma afroharzianum	
STOT-single exposure	May cause respiratory irritation.

Trichoderma atroviride	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard : Not classified
Viscosity, kinematic : Not applicable
Symptoms/effects : Microorganisms can potentially cause sensitisation reactions.
Symptoms/effects after inhalation : Dust from this product may cause irritation to the respiratory tract. Coughing. Respiratory difficulties. Prolonged exposure to alveolar dust containing quartz may cause silicosis or pulmonary fibrosis.
Symptoms/effects after skin contact : Dust from this product may cause skin irritation.
Symptoms/effects after eye contact : Dust from this product may cause eye irritation.
Chronic symptoms : May cause cancer. Causes damage to organs through prolonged or repeated exposure.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

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Persistence and degradability	No additional information available.

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

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12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

No additional information available

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

14.6. Special precautions for user

DOT

Not regulated

TDG

Not regulated

IMDG

Not regulated

IATA

Not regulated

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

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
<i>Trichoderma afroharzianum</i>		Not present	-	

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Name	CAS-No.	Listing	Commercial status	Flags
<i>Trichoderma atroviride</i>		Not present	-	
Talc (Mg ₃ H ₂ (SiO ₃) ₄)	14807-96-6	Present	Active	
Graphite	7782-42-5	Present	Active	
Quartz (SiO ₂)	14808-60-7	Present	Active	

Trichoderma afroharzianum

Not subject to reporting requirements of the United States SARA Section 313

Trichoderma atroviride

Not subject to reporting requirements of the United States SARA Section 313

Talc (Mg₃H₂(SiO₃)₄) (14807-96-6)

Not subject to reporting requirements of the United States SARA Section 313

Graphite (7782-42-5)

Not subject to reporting requirements of the United States SARA Section 313

Quartz (SiO₂) (14808-60-7)

Not subject to reporting requirements of the United States SARA Section 313

15.2. International regulations

CANADA

Trichoderma afroharzianum

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

Trichoderma atroviride

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

Talc (Mg₃H₂(SiO₃)₄) (14807-96-6)

Listed on the Canadian DSL (Domestic Substances List)

Graphite (7782-42-5)

Listed on the Canadian DSL (Domestic Substances List)

Quartz (SiO₂) (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Trichoderma afroharzianum

Not listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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Trichoderma atroviride

Not listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Talc (Mg₃H₂(SiO₃)₄) (14807-96-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Graphite (7782-42-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Quartz (SiO₂) (14808-60-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

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

SARA 313

This product contains no chemicals in excess of the applicable de minimis concentration that are 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 (Table 372.65).

Except *Trichoderma afroharzianum*, *Trichoderma atroviride*, Rice Husk, all chemical substances in this product are listed on the Canadian DSL (Domestic Substances List)

All chemical substances in this product are listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) except *Trichoderma afroharzianum*, *Trichoderma atroviride*, Rice Husk

Talc (Mg₃H₂(SiO₃)₄) (14807-96-6)

Listed on INSQ (Mexican national Inventory of Chemical Substances)

Graphite (7782-42-5)

Listed on INSQ (Mexican national Inventory of Chemical Substances)

Quartz (SiO₂) (14808-60-7)

Listed on IARC (International Agency for Research on Cancer)

Listed on INSQ (Mexican national Inventory of Chemical Substances)

Listed as carcinogen on NTP (National Toxicology Program)

15.3. US State regulations

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U.S. - California - Proposition 65 - Other information

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm (Quartz 14808-60-7)

Quartz (SiO₂) (14808-60-7)

U.S. - California - Proposition 65 - Carcinogens List

U.S. - California - Proposition 65 - Developmental Toxicity

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

No significant risk level (NSRL)

Maximum allowable dose level (MADL)

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Quartz (SiO2) (14808-60-7)					
Yes	No	No	No		

Component	State or local regulations
Talc (Mg3H2(SiO3)4)(14807-96-6)	U.S. - Pennsylvania - RTK (Right to Know) List
Graphite(7782-42-5)	U.S. - Pennsylvania - RTK (Right to Know) List
Quartz (SiO2)(14808-60-7)	U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Revision date

: 1/24/2024

Data sources

: ECHA (European Chemicals Agency). SDS of suppliers.

Full text of H-phrases	
H315	Causes skin irritation
H320	Causes eye irritation
H335	May cause respiratory irritation
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure

Abbreviations and acronyms	
LC50	Median lethal concentration
LD50	Median lethal dose
DOT	Department of Transportation (DOT)
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
OECD	Organisation for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods

Indication of changes:			
This sheet was updated (refer to the date at the top of this page).			
Section	Changed item	Change	Comments
	Supersedes	Added	No additional information available
	Revision date	Added	No additional information available
	Issue date	Removed	No additional information available
	U.S. - California - Proposition 65 - Other information	Modified	No additional information available

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16	Indication of changes	Added	No additional information available
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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.