



*Rooted in Science*

## SAFETY DATA SHEET

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

#### 1.1 Product Identifier

**Trade Name** RZA "Root Zone Amendment"

**SDS Date** March 31, 2017

#### 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

**Product Use:** Soil Amendment

**Uses Advised Against:** To be used only where there is a recognized need. Do not exceed the appropriate dose rates.

#### 1.3 Details of the Supplier of the Substance or Mixture

**Manufacturer:**

**Floratine Products Group, Inc.**  
355 East South Street  
Collierville, TN 38017  
+1 901-853-2898

#### 1.4 Emergency Telephone Number

**Emergency Spill Information** 1(800) 535-5053 for US and Canada (INFOTRAC)  
+1(352) 323-3500 for International Calls (call INFOTRAC collect)

**Other Product Information:** [cs@floratine.com](mailto:cs@floratine.com)

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the Substance or Mixture

**CLP/GHS Classification (1272/2008):**

Specific Target Organ Toxicity – Repeat Exposure Category 1

#### 2.2 Label Elements

**Danger!**



**Hazard Phrases**

H372 Causes damage to organs through prolonged or repeated exposure.

**Precautionary Phrases:**

P260 Do not breathe dust

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P314 Get medical attention if you feel unwell.

P501 Dispose of contents or container in accordance with local and national regulations.

**2.3 Other Hazards:** None**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.2 Mixtures**

Chemical Name	CAS Number / EINECS Number / REACH Reg. Number	% (w/w)	EU Classification (67/548/EEC)	CLP/GHS Classification (1272/2008)
Montmorillonite Clay, Calcined	70892-59-0 / 274-991-5	87-90%	Not dangerous	Not hazardous
Crystalline Silica, Quartz	14808-60-7 238-878-4	7-10%	Xn R48/20	STOT RE 1 (H372)
Crystalline Silica, Cristobalite	14464-46-1 / 238-455-4	<3%	Xn R48/20	STOT RE 1 (H372)
Biodegradable Silicon powder	Proprietary	<2%	Xn R48/20	STOT RE 1 (H372)

See Section 16 for full text of GHS and EU Classifications.

**SECTION 4: FIRST AID MEASURES****4.1 Description of First Aid Measures****First Aid**

**Eye contact:** In case of contact with eyes, flush immediately with water for at least 15 minutes while lifting the upper and lower lids. Do not rub eyes. Get medical attention if irritation develops or persists.

**Skin contact:** Wash with soap and water. Get medical attention if irritation develops or persists.

**Inhalation:** Remove victim to fresh air. Get medical attention if irritation develops or persists.

**Ingestion:** Do not induce vomiting unless directed to do so by medical personnel. If the person is alert, have them rinse their mouth with water and sip one glass of water. Call a poison center or physician for advice. Never give anything by mouth to an unconscious or drowsy person.

**See Section 11 for more detailed information on health effects.**

**4.2 Most Important symptoms and effects, both acute and delayed:** May cause eye and skin irritation. Inhalation of dust may cause mucous membrane and respiratory irritation. Prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis) and increase the risk of lung cancer. Risk of cancer depends on duration and level of exposure. Swallowing large amounts may cause nausea and diarrhea.

**4.3 Indication of any immediate medical attention and special treatment needed:** Immediate medical attention should not be needed unless large amounts are swallowed.

**SECTION 5: FIREFIGHTING MEASURES**

**5.1 Extinguishing Media:** Use media appropriate for the surrounding fire. Cool fire exposed containers with water.

**5.2 Special Hazards Arising from the Substance or Mixture**

**Unusual Fire and Explosion Hazards:** None

**Combustion Products:** Carbon monoxide and carbon dioxide.

**5.3 Advice for Fire-Fighters:** Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective equipment. Avoid direct contact with spilled material. Do not breathe dust.

### 6.2 Environmental Precautions:

Prevent entry in storm sewers and waterways. Report spill as required by local and national regulations.

### 6.3 Methods and Material for Containment and Cleaning Up:

Carefully collect and place in an appropriate container for use. Avoid creating dust. Do not inhale dust. Wash spill site with water.

### 6.4 Reference to Other Sections:

Refer to Section 8 for personal protective equipment and Section 13 for disposal information.

## SECTION 7: HANDLING and STORAGE

### 7.1 Precautions for Safe Handling:

Avoid contact with eyes, skin and clothing. Use with adequate ventilation. Avoid creating dust. Do not breathe dust. Use reasonable care in handling. Do not eat, drink or smoke while using product. Wash thoroughly with soap and water after handling.

### 7.2 Conditions for Safe Storage, Including any Incompatibilities:

Protect containers from physical damage. Keep containers closed. Empty containers retain product residues. Follow all SDS precautions in handling empty containers. Store away from food and feed.

### 7.3 Specific end use(s):

**Industrial uses:** None identified

**Professional uses:** Soil amendment

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control Parameters:

Chemical Name	US OEL	EU IOEL	UK OEL	Biological Limit Value
Montmorillonite Clay, Calcined	5 mg/m <sup>3</sup> TWA OSHA PEL (respirable fraction) 15 mg/m <sup>3</sup> TWA OSHA PEL (total dust)	None Established		None Established
Crystalline Silica, Quartz	0.025 mg/m <sup>3</sup> TWA ACGIH TLV 10 mg/m <sup>3</sup> %SiO <sub>2</sub> + 2 T (respirable fraction) TWA OSHA PEL	None Established	0.1 mg/m <sup>3</sup> TWA	None Established
Biodegradable Silicon	0.025 mg/m <sup>3</sup> TWA ACGIH TLV 10 mg/m <sup>3</sup> %SiO <sub>2</sub> + 2 T (respirable fraction) TWA OSHA PEL	None Established	0.1 mg/m <sup>3</sup> TWA	None Established
Crystalline Silica, Cristobalite	0.025 mg/m <sup>3</sup> TWA ACGIH TLV 10 mg/m <sup>3</sup> 2(% Silica + 2) (respirable fraction) TWA OSHA PEL	None Established	0.1 mg/m <sup>3</sup> TWA	None Established

**8.2 Exposure Controls:**

**Recommended Monitoring Procedures:** None established.

**Appropriate Engineering Controls:** Good outdoor ventilation should be adequate under normal conditions of use.

**Personal Protective Measures**

**Eye/face Protection:** Chemical goggles recommended to avoid eye contact.

**Skin Protection:** Impervious clothing is recommended if needed to avoid skin contact.

**Hands:** Impervious gloves are recommended if needed to avoid skin contact.

**Respiratory Protection:** None needed under normal use conditions with adequate ventilation. If dust is excessive, an approved particulate respirator can be used. Use respirators in accordance with local and national regulations.

**Other protection:** Suitable washing facilities should be available in the work area.

**SECTION 9: PHYSICAL and CHEMICAL PROPERTIES****9.1 Information on basic Physical and Chemical Properties**

**Appearance:** Reddish brown powder

**Odor Threshold:** Not available

**Melting/Freezing Point:** Not applicable

**Flash Point:** Not flammable

**Lower Flammability Limit:** Not applicable

**Upper Flammability Limit:** Not applicable

**Vapor Density(Air=1):** Not applicable

**Solubility:** <2%

**Autoignition Temperature:** None

**Viscosity:** Not applicable

**Oxidizing Properties:** None

**Molecular Formula:** Mixture

**Odor:** No odor.

**pH:** Not available

**Boiling Point:** Not applicable

**Evaporation Rate:** Not applicable

**Vapor Pressure:** Not applicable

**Relative Density:** 2.2

**Octanol/Water Partition Coefficient:** Not determined

**Decomposition Temperature:** Not determined

**Explosive Properties:** None

**Specific Gravity (H<sub>2</sub>O= 1):** 2.2

**Molecular Weight:** Mixture

**9.2 Other Information:** None available

**SECTION 10: STABILITY and REACTIVITY**

**10.1 Reactivity:** Not reactive under normal conditions.

**10.2 Chemical Stability:** Stable.

**10.3 Possibility of Hazardous Reactions:** Contact with organic compounds, such as turpentine and vegetable oil and hydrofluoric acid may react violently.

**10.4 Conditions to Avoid:** None known.

**10.5 Incompatible Materials:** Avoid strong acids and oxidizing agents.

**10.6 Hazardous Decomposition Products:** None known.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1 Information on Toxicological Effects:****Potential Health Effects:**

**Eye Contact:** Contact may cause mechanical irritation and possible injury.

**Skin contact:** May cause skin abrasions or dry skin.

**Inhalation:** Excessive inhalation of dust may cause upper respiratory tract irritation with coughing and difficulty in breathing.

**Ingestion:** Inhalation of dust may cause irritation to the nose, throat and upper respiratory tract with coughing and shortness of breath.

**Acute toxicity:** No acute toxicity data available for the product.

Montmorillonite Clay, Calcined: No toxicity data available.

Crystalline Silica: Oral Rat LD50 >22,500 mg/kg.

Crystalline Silica Cristobalite: No toxicity data available.

**Skin corrosion/irritation:** No data available. This product is not a skin irritant but may cause mechanical irritation or abrasions.

**Eye damage/ irritation:** No data available. This product is not an eye irritant but may cause mechanical irritation or injury.

**Respiratory Irritation:** No data available. This product may cause temporary irritation.

**Respiratory Sensitization:** No data available. This product is not expected to cause respiratory sensitization.

**Skin Sensitization:** No data available. This product is not expected to cause skin sensitization.

**Germ Cell Mutagenicity:** No data available. This product is not expected to cause mutagenic activity.

**Carcinogenicity:** Crystalline silica quartz and crystalline silica cristobalite are listed as "Carcinogenic to Humans" (Group 1) by IARC and "Known to be a Human Carcinogen" by NTP. None of the other components of this product are listed as carcinogens by OSHA, IARC or NTP or the EU directive.

**Reproductive Toxicity:** No data available. None of the components are known to cause reproductive or developmental toxicity.

#### **Specific Target Organ Toxicity:**

Single Exposure: No data available.

Repeat Exposure: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function.

### **SECTION 12: ECOLOGICAL INFORMATION**

**12.1 Toxicity:** No toxicity data available for the product or the components. This product is not expected to present an environmental hazard.

**12.2 Persistence and degradability:** Biodegradation is not applicable to inorganic substances such as montmorillonite clay and crystalline clay. .

**12.3 Bioaccumulative Potential:** No data available.

**12.4 Mobility in Soil:** No data available.

**12.5 Results of PVT and vPvB assessment:** Not required.

**12.6 Other Adverse Effects:** No data available.

### **SECTION 13: DISPOSAL CONSIDERATIONS**

#### **13.1 Waste Treatment Methods:**

Dispose in accordance with local/ and national regulations.

**SECTION 14: TRANSPORTATION INFORMATION**

	<b>14.1 UN Number</b>	<b>14.2 UN Proper Shipping Name</b>	<b>14.3 Hazard Class(s)</b>	<b>14.4 Packing Group</b>	<b>14.5 Environmental Hazards</b>
<b>US DOT</b>	None	Not Regulated			

**14.6 Special Precautions for User:** None

**14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code:** Not determined.

**SECTION 15: REGULATORY INFORMATION****15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture****US Regulations**

**CERCLA Section 103:** The normal application of fertilizers is exempt from CERCLA reporting. If an accidental release occurs, contact Floratine Products Group for information.

**SARA Hazard Category (311/312):** Chronic Health Hazard

**SARA 313:** Products used in routine agricultural operations and fertilizers held for resale by retailers is excluded from SARA 313 reporting. Contact Floratine Products Group for additional information.

**California Proposition 65:** This product contains the following substances known to the State of California to cause cancer and/or reproductive harm (birth defects): Crystalline silica, quartz 14808-60-7 7-10% (cancer), crystalline silica, cristobalite 14464-46-1 <3% (cancer)

**SECTION 16: OTHER INFORMATION****EU Classes and Risk Phrases for Reference (See Sections 2 and 3)**

Xn Harmful

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**CLP/GHS Classification and H Phrases for Reference (See Section 3)**

STOT RE 1 Specific Target Organ Toxicity - Repeat Exposure Category 1

H372 Causes damage to organs through prolonged or repeated exposure.

This safety data sheet provides health and safety information. The product is to be used in applications consistent with best farming practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information data sheet is to the best of Floratine's knowledge correct as at the date of publication. Neither Floratine, importer or local supplier accepts liability for any loss or damage resulting from reliance on this information. Further information on this product may be obtained from the supplier whose name, address and telephone number will be found on the product container. The information provided herein is offered solely for your consideration, investigation and verification. This information herein is provided by Floratine in good faith as accurate at the time of writing but without guarantee. This information includes information which has been generated by other parties and provided to Floratine and which Floratine has not independently verified. The information provided herein relates only to the specific product designated and may not be valid if the product is used in combination with any other materials or in any process