IDENTITY *(As Used on Label and List)* Sunleaves Rocks	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name Sunleaves Garden Products	Emergency Telephone Number N/A
Address *(Number, Street, City, State, and ZIP Code)*	Telephone Number for Information 812-876-6450
7854 N. State Road 37	Date Prepared 05-20-2011
Bloomington, IN 47404	Signature of Preparer *(optional)*

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL N/A	ACGIH TLV N/A	Other Limits Recommended N/A	%*(optional)* N/A
Expanded Shale				

Section III - Physical/Chemical Characteristics

Boiling Point N/A		Specific Gravity (H_2O = 1) 1.3 – 1.9	
Vapor Pressure (mm Hg) N/A		Melting Point N/A	
Vapor Density (AIR = 1) N/A		Evaporation Rate (Butyl Acetate = 1) N/A	
Solubility in Water 0%			
Appearance and Odor Angular particles, ranging in size from dust to 2” – no odor.			

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
None	None	None	None
Extinguishing Media None Required			
Special Fire Fighting Procedures None Required			
Unusual Fire and Explosion Hazards Contact with powerful oxidizing agents may cause fire and/or explosions			

(Reproduce locally) OSHA 174, Sept. 1985

Section V - Reactivity Data

Stability	Unstable		Conditions to Avoid Avoid contact with incompatible materials (see below)
	Stable X		
Incompatibility *(Materials to Avoid)* Contact with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosions. Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.			
Hazardous Decomposition or Byproducts Silica-containing respirable dust particles may be generated by handling.			
Hazardous Polymerization	May Occur		Conditions to Avoid None known
	Will Not Occur	X	

Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation? Yes (Dust)	Skin? Open wound (Dust)	Ingestion? Yes
Health Hazards *(Acute and Chronic)*			
Acute **Eye Contact:** Direct contact with dust may cause irritation by mechanical abrasion **Skin Contact:** Direct contact may cause irritation by mechanical abrasion **Skin Absorption:** Not expected to be a significant exposure route			

Ingestion: Expected to be practically non-toxic. Ingestion of large amounts may cause gastrointestinal irritation and blockage.
Inhalation: Dusts may irritate the nose, throat, and respiratory tract by mechanical abrasion. Coughing, sneezing and shortness of breath may occur following exposures in excess of appropriate exposure limits.

Repeated overexposures to very high levels of respirable crystalline silica (quartz, cristobalite, tridymite) for periods as short as six months have caused acute silicosis. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include (but are not limited to): shortness of breath, cough, fever weight loss, and chest pain.

Chronic
Prolonged and repeated inhalation of respirable crystalline silica-containing dust in excess of appropriate exposure limits has caused silicosis, a lung disease. Not all individuals with silicosis will exhibit symptoms (signs) of the disease. However, silicosis can be progressive, and symptoms can appear at any time, even years after exposure has ceased. Symptoms of silicosis may include, but are not limited to, the following: shortness of breath; difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume, right heart enlargement and/or failure. Smoking may increase the risk of developing lung disorders, including emphysema and lung cancer. Persons will silicosis have an increased risk of pulmonary tuberculosis infection.

Respirable dust containing newly broken silica particles have been shown to be more hazardous to animals in laboratory tests than respirable dust containing older silica particles of similar size. Respirable silica particles which had aged for sixty days or more showed less lung injury in animals than equal exposures of respirable dust containing newly broken particles of silica.

There are reports in literature suggesting that excessive crystalline silica exposure may be associated with adverse health effects involving the kidney, sclerodema (thickening of the skin caused by swelling and thickening of fibrous tissue) and other autoimmune disorders. However, this evidence has been obtained primarily from case reports involving individuals working in high exposure situations or those who have already developed silicosis; and therefore, this evidence does not conclusively prove a causal relationship between silica or silicosis and these adverse health effects. Several studies of persons with silicosis also indicate an increased risk of developing lung cancer, a risk that increases with the duration of exposure. Many of these studies of silicosis do not account for lung cancer confounders, especially smoking.

Expanded shale is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA). In October 1996, an IARC Working Group re-assessing crystalline silica, a component of this product, designated crystalline silica as carcinogenic (Group 1). The NTP indicates that crystalline silica is reasonably anticipated to be a carcinogen (Group 2). These classifications are based on their assessment of sufficient

evidence of carcinogenicity in certain experimental animals and on selected epidemiological studies of workers exposed to crystalline silica.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
N/A	N/A	N/A	N/A

Exposure Limits: (When exposure to the product and other chemicals is concurrent, the exposure limit must be defined in the workplace.) Unless specified otherwise, limits are expressed as eight-hour time-weighted averages (TWA).

Abbreviations: TLV = threshold limit value of the American Conference of Governmental Industrial Hygienists (ACGIH); MSHA PEL = permissible exposure limit of the Mine Safety and Health Administration (MSHA); OSHA PEL = permissible exposure limit of the Occupational Safety and Health Administration (OSHA); mg/m3 = milligrams of substance per cubic meter of air.

Other particulates: TLV = 10 mg/m3 (inhalable/total particulate, not otherwise classified), TLV = 3 mg/m3 (respirable particulate, not otherwise classified); OSHA PEL = 15 mg/m3 (total particulate, not otherwise regulated). OSHA PEL = 5 mg/m3 (respirable particulate, not otherwise regulated)
Respirable Crystalline Silica (quartz): TLV = 0.1 mg/m3; MSHA and OSHA PEL = 10 mg/m3 / (% Si02 + 2)
Respirable Dust: MSHA and OSHA PEL = 10 mg/m3 / (%Si02 +2)
Total Dust: OSHA PEL = 30 mg/m3 / (%Si02 + 2)
Mineral Dust: MSHA PEL = 30 mg/m3 / (%Si02 + 3)

ACGIH, MSHA, and OSHA have determined that adverse effects are not likely to occur in the workplace provided exposure levels do not exceed the appropriate TLVs/PELs. However, because of the wide variation in individual susceptibility, lower exposure limits may be appropriate from some individuals including persons with pre-existing medical conditions.

Signs and Symptoms of Exposure
Symptoms of Silicosis: Not all individuals with silicosis will exhibit symptoms (signs) of the disease. However, silicosis is progressive, and symptoms can appear at any time, even years after exposure have ceased. Symptoms of silicosis may include (but are not limited to): Shortness of breath; difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure. Persons with silicosis have an increased risk of pulmonary tuberculosis infection.

Medical Conditions
Generally Aggravated by Exposure

Inhaling respirable dust may aggravate existing respiratory system disease(s) and or dysfunctions. Exposure to dust may aggravate existing skin and/or eye conditions.

Emergency and First Aid Procedures
Eyes: Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops. **Skin:** Wash with soap and water. Contact a physician if irritation persists or later develops. **Ingestion:** If person is conscious, give large quantity of water and induce vomiting; however, never attempt to make an unconscious person drink or vomit. Get immediate medical attention. **Inhalation:** Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled
Spilled materials, where dust can be generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Wetting of spilled materials and/or use of respiratory protective equipment may be necessary. This product is not subject to the reporting requirements of Title III of SARA, 1985, and 40 CFR 372.
Waste Disposal Method
Pickup and reuse clean materials. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.
Precautions to Be taken in Handling and Storing
N/A
Other Precautions
None known

Section VIII - Control Measures

Respiratory Proctection *(Specify Type)* For respirable quartz levels that exceed or are likely to excee an 8hr-TWA of 0.1 mg/m3, a NIOSH/MSHA approved dust respirator must be worn. For respirable quartz levels that exceed or are likely to exceed an 8hr-TWA of 0.5 mg/m3, a NIOSH/MSHA approved HEPA filter respirator must be worn. If respirable quartz levels exceed or are likely to exceed and 8hr-TWA of 5 mg/m3, a NIOSH/MSHA approved positive pressure, full face respirator or

equivalent is required. Respirator use must comply with MSHA or OSHA standards, which include provisions for a user training program, respirator repair and cleaning, respirator fit testing, and other requirements.		
Ventilation	Local Exhaust Sufficient	Special N/A
	Mechanical *(General)* N/A	Other N/A
Protective Gloves Not required		Eye Protection Recommended
Other Protective Clothing or Equipment Not required		
Work/Hygienic Practices Wash dust-exposed skin with soap and water before eating, drinking, smoking and using toilet facilities. Wash work clothes after each use.		

* U.S.G.P.O.: 1986 - 491 - 529/45775