

SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: Guardian, Garden, GRDN, GRDN Micro, Terra Vera Solution

Synonyms: On Site Generated Nutrient Solution, Activated Amino Acid Solution.

Manufacturer's Name: Terra Vera Corp.

Address: 4 Anasazi Trails Loop, Placitas New Mexico

Product Information Phone Number: 1-505-264-0499

Emergency Contact: 1-505-264-0499

Recommended Use: Dissolved into water and generated as needed with minimal storage, used as a food grade broad spectrum Fungicide and Bactericide for use on surfaces and plants grown outside, in a greenhouse, shade structure, nursery, or indoors. Prevents and controls a variety of diseases including Powdery Mildew and Botrytis. See product label for full instructions

SECTION 2 – HAZARDS IDENTIFICATION

Hazard Symbols:

Pictogram:



Signal Word: **CAUTION**

Hazard Statements:

H303	May be harmful if swallowed.
H316	Causes mild skin irritation.
H320	Causes eye irritation.
H402	Harmful to aquatic life.

Precautionary Statements:

P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	If SWALLOWED: Rinse mouth. Do not induce vomiting.
P302+P362+P353	If ON SKIN: Take off contaminated clothing and wash before reuse. Rinse skin with water/shower.
P304+P340	If INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,

P313
P391
P501

if present and easy to do. Continue rinsing.
Get medical advice/attention.
Collect spillage.
Dispose of content/container to an approved waste disposal plant.

Other Hazards: Hazards associated with on-site activation of supplements are largely associated with the gas that is generated during the activation process. Please consult Terra Vera for more information on this, as it is outside the scope of this document.

SECTION 3 – COMPOSITION INFORMATION

This product is an activated aqueous mixture of food grade powders with water. The powders consist of a blend of the substances listed below. The weight percentages below are after the powder has been fully dissolved in the appropriate amount of water (provided onsite). Reference product label for specific instructions.

	Common Name	Percent by Weight	CAS Number
Sodium Chloride	Table Salt	0-3%	7647-14-5
Potassium Chloride	N/A	0-3%	7447-40-7
Potassium Phosphate	N/A	0-3%	7778-77-0
Calcium Chloride	N/A	0-3%	10043-52-4
Malic Acid	N/A	0-3%	6915-15-7
Citric Acid	N/A	0-3%	77-92-9
Arginine HCl	N/A	0-0.5%	74-79-3
Histidine	N/A	0-0.5%	71-00-1
Isoleucine	N/A	0-0.5%	73-32-5
Leucine	N/A	0-0.5%	61-90-5
Lysine HCl	N/A	0-0.5%	56-87-1
Methionine	N/A	0-0.5%	59-51-8
Phenylalanine	N/A	0-0.5%	63-92-1
Threonine	N/A	0-0.5%	72-19-5
Tryptophan	N/A	0-0.5%	73-22-3
Valine	N/A	0-0.5%	72-18-4
Alanine	N/A	0-0.5%	56-41-7
Arginine	N/A	0-0.5%	74-79-3
Asparagine	N/A	0-0.5%	70-47-3
Aspartic Acid	N/A	0-0.5%	56-84-8
Betaine HCl	N/A	0-0.5%	590-46-5
L-Cysteine	N/A	0-0.5%	52-90-4
Glutamic Acid	N/A	0-0.5%	56-86-0
Glutamine	N/A	0-0.5%	56-85-9
Glycine	N/A	0-0.5%	56-40-6
Ornithine	N/A	0-0.5%	70-26-8
Serine	N/A	0-0.5%	56-45-1
Taurine	N/A	0-0.5%	107-35-7
Tyrosine	N/A	0-0.5%	60-18-4
Water	N/A	Balance	7732-18-5

SECTION 4 – FIRST AID MEASURES

Inhalation: Remove to fresh air. Call a physician if irritation persists.

Ingestion: If swallowed, do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician.

Skin Contact: Immediately remove clothing from affected area and wash skin with flowing water. Clothing should be discarded or washed before reuse. Obtain medical attention if irritation persists. Do not instruct person to neutralize affected skin area.

Eye Contact: Remove contact lenses, if any, and flush eyes for at least 15 minutes with fresh water. Call a physician if irritation persists.

Note to Physician: Based on the individual's reactions, the physician's judgment should be used to control symptoms and clinical condition.

SECTION 5 – FIRE FIGHTING MEASURES

Fire Fighting Procedures: Use extinguishing media appropriate for surrounding fire. Use normal procedures and instructions. Use protective clothing and self-contained breathing apparatus.

Fire and Explosion Hazards: Not considered a fire or explosion hazard.

Hazardous Products of Thermal Decomposition and/or Combustion: May include ammonia chlorine, and oxides of nitrogen and sulfur.

Special Information: Product is a weak oxidizer. May combine with various metals (at decomposition) to form further flammable mixtures.

NFPA Ratings: Health- 1

Flammability- 0

Reactivity- 0

Other- None

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Protection: Keep unnecessary personnel away from a spill or leak. Do not touch or walk-through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective equipment and clothing.

Methods for Containment: Stop leak if it can be done without risk. Prevent spill entry into waterways, sewers, basements, or confined areas.

Methods for Cleaning Up: Prior to attempting a cleanup, review hazard data above. Alternatively, spills may be absorbed with a non-reactive absorbent and placed in a suitable, covered, labeled container. Prevent large spills from entering sewers or waterways by diking with absorbent, non-reactive material.

SECTION 7 – HANDLING AND STORAGE

Handling: Wear appropriate personal protective equipment when handling this product. Avoid contact with eyes, skin, and clothing. Do not ingest and avoid breathing vapors or mist of the product

Storage: Storage of solution is expected to be minimal since solution will be produced and used on an on-demand basis. Keep container closed when not in use. Do not store in direct sunlight. Keep or store in a cool, well-ventilated area for best storage conditions. Do not return product to original container once dispensed. Do not store or handle in aluminum, steel, copper, or their alloys. Store in a corrosive resistant container with a resistant liner.

Other Comments: Store away from incompatible materials.

SECTION 8 – PERSONAL PROTECTION/EXPOSURE CONTROL

Exposure Limits: None have been established

Personal Respirator: Avoid inhaling vapor.

Skin Protection: Wear impermeable gloves such as neoprene, nitrile, PVC, natural rubber, viton, or butyl. If conditions warrant, wear protective clothing such as boots, aprons, and coveralls to prevent skin contact. The availability of an eye wash fountain and safety shower is recommended.

Eye Protection: Wear chemical splash goggles or safety glasses with full-face shield. Maintain eye wash fountain or other eye rinsing capacity in work area.

Ventilation Protection: Use only with adequate ventilation.

Other Protection: If clothing is contaminated, remove, and thoroughly wash the affected area. Launder contaminated clothing before re-use.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Clear liquid, colorless to very pale yellow or green, odor-free to slight odor.

Vapor Pressure and Density: Not applicable (Except for water, components are not known to be volatile).

Boiling Point: Approximately 100°C.

Melting Point: Approximately 0°C.

Specific Gravity: Approximately 1.

Solubility in Water: Complete.

Volatile Percentage: Not applicable (except for water, components are not known to be volatile).

pH: 10.5-11.5.

Evaporation Rate: Not applicable (except for water, components are not known to be volatile).

Flammability: Not applicable; solution is not flammable.

Decomposition Temperature: Not applicable (any decomposition expected to occur at temperatures well above the boiling point of water, e.g., in a fire).

Viscosity: Not applicable (approximately that of water).

Flash Point/Method: Not applicable.

Auto Ignition Temperature: Not applicable.

Upper/Lower Explosion Limit: Not applicable.

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: Unreactive except with incompatible materials.

Stability: Stable at normal temperatures and pressures.

Hazardous Decomposition Products: None known.

Hazardous Polymerization: None known.

Incompatibilities: Strong acids, strong oxidizers, reducing agents, carbon steel, aluminum and aluminum alloys, copper and copper alloys, aldehydes, sulfur, and alcohols. Extended exposure to the product can cause corrosion of many metals including stainless steel.

Conditions to Avoid: N/A.

SECTION 11 – TOXICOLOGICAL INFORMATION

Inhalation- Acute: No data available.

Inhalation- Chronic: No data available.

Skin Contact- Acute: No data available.

Skin Contact- Chronic: No data available.

Eye Contact- Acute: No data available.

Ingestion- Acute: No data available.

Ingestion- Chronic: No data available.

Carcinogenicity/Mutagenicity: No data available.

Reproductive Effects: No data available.

Neurotoxicity: No data available.

Other Effects: Similar products have been found to have LD50 values of >2,000 mg/kg for both acute oral and acute ingestion.

Target Organs: Eyes, skin.

National Toxicology Program (NTP) Report on Carcinogens: No component of this product is listed on the NTP Report on Carcinogens.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: This product may be toxic if introduced into an aquatic environment in high doses, and the product should not be allowed to enter lakes, rivers, or other bodies of water.

SECTION 13 – DISPOSAL CONSIDERATIONS

If this product becomes a waste, it does not meet the definition of a hazardous waste under the Resource Conservation and Recovery Act (RCRA) at 40CFR261 Subparts C and D. It is not a characteristic waste, being not ignitable, corrosive (having a pH < 12.5), reactive or toxic by the criteria of Subpart C. It is not a listed waste in Subpart C. Nevertheless, disposal must be made in accordance with local and state regulations and, if disposed by sewer, only with the permission and guidance of the sewage treatment plant authority.

SECTION 14 – TRANSPORTATION INFORMATION

In general, this product is not intended to be transported, it is intended to be used on-site once it is activated.

D.O.T. Shipping Information: See product label and Bill of Lading.

SECTION 15 – REGULATORY INFORMATION

OSHA Status: Based on our evaluation there are no applicable hazardous components.

RCRA Status: If this product becomes a waste, it does not meet the definition of a hazardous waste under the Resource Conservation and Recovery Act (RCRA) AT 40CFR261 Subparts C and D. It is not a characteristic waste, being not ignitable, corrosive (having a pH < 12.5), reactive or toxic by the criteria of Subpart C. It is not a listed waste in Subpart C.

TSCA Status: All components of this product are listed on the TSCA Inventory or are mixtures or hydrates of items listed on the TSCA inventory.

SARA Hazard Categories: Immediate hazard- Yes; Delayed Hazard- No; Fire Hazard- No; Pressure Hazard- No; Reactivity Hazard- No.

SARA Section 302 Extremely Hazardous Substance: No.

SARA Section 311 Hazardous Chemical: Yes.

California Proposition 65 Components: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16 – OTHER INFORMATION

Disclaimer: Terra Vera Corp provides the information contained herein in good faith but makes no representations as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. It is the buyer's and/or user's responsibility to make sure that its activities comply with federal, state, provincial, and local laws. TERRA VERA CORP MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, TERRA VERA CORP WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

Issue Date: 26 August 2022

NFPA Ratings: Health- 1	Flammability- 0	Reactivity- 0	Special Notice Key- None.
HMIS Ratings: Health- 1	Flammability- 0	Reactivity- 0	Protective Equipment- B (Protective eyewear, gloves).