



# MATERIAL SAFETY DATA SHEET

## SECTION 1. PRODUCT AND COMPANY INFORMATION

**Trade Name (as labeled):** RootSTEM-H 1.6-1-0

**Recommended Use:** Refer to product label

**Manufactured By:** AgroPlantae Inc.  
2976 S Peach Ave  
Fresno, CA 93725

**Business Phone:** (559) 498-0388

**Emergency Phone:** CHEMTREC (800) 424-9300

**Date of Preparation:** August 2019

## SECTION 2. Hazard(s) identification

**Emergency Overview:** Black reddish colored liquid with slight odor. Poses slight health risks (irritation) when in contact with skin, eyes, respiratory, and mucus membranes. Responders should be prepared with suitable gas masks or appropriate self-contained breathing apparatus (SCBA). Not D.O.T. regulated.

**Symptoms Of Over Exposure:**

**Eyes:** May cause inflammation, redness, and possible damage with prolonged exposure.

**Skin:** Prolonged or repeated exposure may cause skin ulcerations and /or burns.

**Inhalation:** It may cause headaches, nausea, or weakness in case of prolonged exposure. Oxygen can be administered if breathing becomes difficult.

**Ingestion:** May result in nausea, vomiting, diarrhea, digestive disorders, or chemical burns.

**Hazardous Material Information Rating System:**

(0 = least; 1 = slight; 2 = moderate; 3 = high; 4 = extreme)

**Health (blue) 1**

**Flammability (red) 0**

**Reactivity (yellow) 0**

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Exposure Limits In Air	
		ACGIH TVL (ppm)	OSHA PEL (ppm)
Phosphoric acid	7664-38-2	N/A	N/A
Iron EDDHA	16455-61-1	N/A	N/A
Manganese EDDHA	N/E	N/A	N/A
Zinc EDDHA	N/E	N/A	N/A
Copper EDDHA	N/E	N/A	N/A
Cobalt EDDHA	N/E	N/A	N/A

NE = Not Established      NA = Not Available

## SECTION 4. FIRST-AID MEASURES

<b>If Inhaled:</b>	Remove to fresh air. If breathing becomes difficult, contact a medical physician. Give artificial respiration if victim is not breathing and obtain immediate medical attention.
<b>If Ingested:</b>	Call physician or Poison Control Center immediately for most current information. Dilute with milk, egg whites, or water. <b>Do not induce vomiting.</b>
<b>In Case Of Skin Contact:</b>	Wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if skin irritation or burning persists.
<b>In Case Of Eye Contact:</b>	Flush immediately with water for at least 15 minutes, lifting the upper and lower eyelids occasionally. Contact a medical physician immediately.

Victims of chemical exposure and all rescuers must be taken for medical attention. Take a copy of label and MSDS to physician or health professional with victim.

## SECTION 5. FIRE-FIGHTING MEASURES

**Flash Point:** Non-flammable.  
**Test Method:** Not pertinent.  
**LEL Flammable Limits:** Not pertinent.  
**UEL Flammable Limits:** Not pertinent.  
**Autoignition Temperature:** Not pertinent.  
**Extinguishing Media:** Non-flammable liquid. Use media suitable to extinguish source of fire.  
**Unusual Fire and Explosion Hazards:** Will decompose at high temperatures to produce irritating vapors and toxic carbon monoxide and carbon dioxide. May react with certain materials to generate hydrogen gas which may present an explosion hazard.  
**Special Firefighting Procedures:** Undergoes thermal decomposition at elevated temperatures to release toxic and combustible gases. Wear positive pressure, self-contained breathing apparatus (SCBA) and goggles. Avoid exposure to smoke, fumes, or mists. Contain any liquid runoff.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**Spill And Leak Response:** For small or incidental spills, the minimum personal protective equipment should be rubber gloves, rubber apron, and chemical goggles. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Gas masks or SCBA gear may be required. For large spills, contain by diking with soil or other non-combustible absorbent material. Dilution with water will reduce the release of ammonia vapors. Keep material out of sewers, storm drains, and surface waters. Comply with all applicable government regulations on spill reporting, handling, and waste disposal.

## SECTION 7. STORAGE AND HANDLING

**Storage Practices:** Store in a cool (above 32°F), dry, well-ventilated area. This product should be stored in tanks constructed of stainless steel, fiberglass, polypropylene, or polyethylene. Valves should be inspected on a regular basis and replaced as needed to prevent leakage. Transfer equipment should be constructed of stainless steel or chemical-resistant plastic. Do not store in aluminum vessels.  
**Handling Practices:** Keep away from incompatible materials. Do not breathe mists. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Wash with soap and water after handling.  
**Work/Hygiene Practices:** Avoid getting chemicals ON YOU or IN YOU. Wash hands with soap and water after handling chemicals. Do not eat or drink around or while handling chemicals. Keep out of reach of children.

## SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Ventilation/Engineering Controls:** Use with adequate ventilation to keep airborne levels below recommended exposure limits.

**Respiratory Protection:** If work conditions generate vapors or mist, wear a NIOSH approved respirator appropriate for those emission levels. Appropriate respirator may be a full facepiece respirator, an SCBA in the pressure demand mode, or a supplied-air respirator.

**Eye Protection:** Chemical dust/splash goggles or full-face shield to prevent eye contact. As a general rule, contact lenses should not be worn when working with chemicals because they contribute to the severity of an eye injury.

**Hand Protection:** Rubber gloves with gauntlets.

**Body Protection:** Use body protection appropriate for task. Chemical-resistant coveralls and rubber aprons are generally acceptable.

**Other Protective Measures:** An eyewash and safety shower should be nearby and ready for use.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b> Liquid	<b>Appearance:</b> Dark-reddish
<b>Upper/lower flammability or explosive limits:</b> NA	<b>Odor:</b> Slight
<b>Vapor Pressure:</b> NA	<b>Odor threshold:</b> NA
<b>Vapor Density (air = 1):</b> NA	<b>pH: (5% solution)</b> 6.5 - 7.5
<b>Relative Density:</b> 10.30 lbs/gallon	<b>Melting point:</b> NA
<b>Freezing Point:</b> <32 ° F	<b>Water Solubility:</b> 100%
<b>Initial Boiling point and boiling range:</b> 212° F	<b>Flash Point:</b> NA
<b>Evaporation rate:</b> NA	<b>Flammability:</b> NA
<b>Partition coefficient:</b> NA	<b>Auto-ignition temperature:</b> NA
<b>Decomposition temperature:</b> NA	<b>Viscosity:</b> NA
<b>Specific Gravity (H<sub>2</sub>O = 1):</b> 1.235	NA= Not Available

## SECTION 10. STABILITY AND REACTIVITY

**Stability:** Stable.

**Conditions To Avoid:** High temperatures, strong bases, oxidizing agents, certain metals (steel, aluminum alloy, brass, tin, zinc).

**Incompatibility:** Contact with many metals may result in liberation of hydrogen gas, giving rise to potential flammable and explosive mixtures.

**Hazardous Polymerization:** Will not occur.

## SECTION 11. TOXICOLOGICAL INFORMATION

**Toxicity Data:** Not Available

**Acute Effects:**

**Eyes:** Moderate irritant. May cause redness, burning, inflammation, and/or damage.

**Skin:** Moderate irritant, especially with prolonged exposure. May cause skin ulceration and/or burns.

**Ingestion:** May cause severe gastrointestinal irritation, vomiting, stomach cramps, and diarrhea.

May interfere with circulation and oxygen carrying capacity of blood with prolonged exposure.

**Inhalation:** May cause irritation to mucous membranes, coughing, or breathing difficulties. If exposed to decomposition gases move from area immediately.

**Chronic Effects:** Repeated overexposure of mist inhalation can produce varying degrees of respiratory irritation or lung damage.

## SECTION 12. ECOLOGICAL INFORMATION

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes.

**Effect Of Material On Plants/Animals:** May be harmful to fish, livestock, and wildlife. Dissolved mineral salts may cause irritation of the digestive tract. Non-persistent. Non-cumulative when applied using normal agricultural practices.

**Effect Of Material On Aquatic Life:** Releases of large quantities into a body of water can substantially alter the nutrient composition of the water and affect aquatic plant and animal life. Sub-lethal concentrations in water can have adverse physiological effects on marine species.

## SECTION 13. DISPOSAL CONSIDERATIONS

Do not contaminate lakes, streams, ponds, estuaries, oceans, or other waters by discharge of waste effluents or equipment rinsate. Dispose of waste effluents according to federal, state, and local regulations. Chemical additions or other alterations of this product may invalidate any disposal information in this MSDS.

## SECTION 14. TRANSPORTATION INFORMATION

This material is not regulated by US DOT for highway transportation. Other shipping information: Fertilizing Compounds (Manufactured), Liquid, NMFC Item 68140 Sub 6, LTL Class 70.

## SECTION 15. REGULATORY INFORMATION

**SARA Reporting Requirements:** This material does contain toxic chemicals subject to the requirements of Section 313, Title III of the Superfund Amendments and Reauthorization Act of 1986. **California Proposition 65:** WARNING. This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

## SECTION 16. OTHER INFORMATION

**Further Information:** Not available

**Disclaimer:** The information and recommendations herein are taken from data contained in independent, industry recognized references including NIOSH, OSHA, ANSI, and NFPA. This information is, as of date listed above, true and accurate to the best of AgroPlantae, Inc. knowledge. It is intended for use by persons possessing technical knowledge and at their own discretion and risk. Since actual use is beyond our control, no guarantee, express or implied, and no liability is assumed by AgroPlantae, in conjunction with the use of this information. Actual conditions of use and handling may require consideration of information other than, or in addition to, that which is provided herein.