# SAFETY DATA SHEET

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Crop+™
**Product number: 6500046**
**Grades:** Nutrient solution.
**Product use:** Foliar applications for agricultural and horticultural crops.
**Manufacturer name:** Cytozyme Laboratories, Inc.
**Manufacturer address:** 2700 South 600 West, Salt Lake City, Utah 84115, USA
**Manufacturer telephone number:** (801) 533-9208 **Fax number:** (801) 537-1312
**Emergency telephone number (Utah Poison Control Center 24 hour monitoring):** (800) 222-1222
**Email:** regulatory@cytozyme.com

## SECTION 2. HAZARD IDENTIFICATION CLASSIFICATION

**CLASSIFICATION OF THE SUBSTANCE OR MIXTURE**

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Eye irritation (Category 2B) H320

**GHS Label elements, including precautionary statements**

| | |
|---|---|
| Pictograms: | None |
| Signal word: | Warning |

Hazard statement(s):

| | |
|---|---|
| H320 | Causes eye irritation. |

Precautionary statement(s):

| | |
|---|---|
| P102 | Keep out of reach of children. |
| P264 | Wash skin thoroughly after handling. |
| P280 | Wear eye protection/face protection. Wear protective gloves. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists: Get medical advice. |

**Hazards not otherwise classified (HNOC) or not covered by GHS –**

May cause skin irritation.
Mist may cause cough and irritation of nose and throat.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substances:** Proprietary multimineral mixture

**Hazardous components:**

| Relevant Ingredients* | CAS # | Concentration % w/w |
|---|---|---|
| Cobalt compound | NA | 0.060 Cobalt (Co) |
| Copper compound | NA | 1.0 Copper (Cu) |
| Iron compound | NA | 1.3 Iron (Fe) |
| Manganese compound | NA | 1.1 Manganese (Mn) |
| Zinc compound | NA | 2.3 Zinc (Zn) |

*Ingredients not specifically listed are non-hazardous and are considered to be confidential business information under 29 CFR 1910.1200(i).
See Section 8 for exposure limits.

## SECTION 4. FIRST AID MEASURES

**Eye contact:** Immediately flush with copious amounts of water for 15 minutes. If irritation persists, contact physician.
**Skin contact:** Wash thoroughly with soap and water.
**Inhalation:** Remove person to fresh air. If not breathing, give artificial respiration. If irritation persists, contact physician.
**Ingestion:** Give glass of water if the victim is conscious. Never give water to an unconscious person. DO NOT INDUCE VOMITING unless told to do so by the Poison Control Center or physician. If vomiting occurs naturally, rinse mouth and repeat administration of water. Contact physician or Poison Control Center.

## SECTION 5. FIRE FIGHTING MEASURES

**General hazards:** Active ingredient does not burn or support combustion.
**Extinguishing Media:** Use media appropriate for the surrounding fire (water spray, alcohol-resistant foam, dry chemical or carbon dioxide).
**Flammability classification (29 CFR 1910.1200):** Active ingredients are non-flammable.
**Unusual fire and explosion hazards:** Under thermal decomposition product may emit toxic fumes of metal and carbon oxides.
**Protective equipment and precautions for firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent and full protective gear).

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Avoid breathing vapors or mist. Ensure adequate ventilation.
For personal protection, see Section 8.
**Environmental precautions:** Prevent leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Land spill:** Isolate spill area. When necessary confine spill with dike area. Collect liquid portion if clean and re-use it. Absorb the residual product with an absorbent such as clay, sand, or soil. Use lime (calcium oxide) or soda ash (sodium carbonate) to form insoluble salts. Shovel, vacuum or sweep up the spilled material including absorbent into a plastic container and dispose in accordance with applicable local regulations. Avoid contamination of water bodies (streams, lakes, etc.) and sewers during cleanup and disposal. Use protective clothing and gloves if skin or eye contact is possible. Wear NIOSH approved respirator and eye protection if aerosol is generated.

**Spillage into water:** Where possible remove containers with product from the water. Advise local water authorities of spillage.
**Reference to other sections:** For disposal see Section 13.

## SECTION 7. HANDLING AND STORAGE

**Precautions for safe handling:** Avoid getting the product on or in you during handling. Wash hands after handling. Do not eat, drink or smoke while handling the product (see Section 8 for details).
**Precautions for storing:** Keep out of the reach of children. Do not store with food, feed, or other materials for human or animal consumption. Do not store in direct sunlight. Keep container tightly closed. Store in a clean, dry place at temperature between 40°F (5°C) and 110°F (43°C).

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Permissible concentrations:** Based on the presence of micronutrients.

| Ingredient | CAS # | OSHA PEL | ACGIH TLV | UN Class |
|---|---|---|---|---|
| Cobalt compound | NA | Not available | 0.02 mg/m$^3$ as Co | Not Listed |
| Copper compound | NA | 1 mg/m$^3$ (as copper dust/mist) | 1 mg/m$^3$ (as copper dust/mist) | Not Listed |
| Iron compound | NA | As Fe 1 mg/m$^3$ | As Fe 1 mg/m$^3$ | Not Listed |
| Manganese compound | NA | 1 mg/m$^3$ (as manganese fume) | 0.2 mg/m$^3$ (as manganese fume) | Not Listed |
| Zinc compound | NA | 15 mg/m$^3$ (total dust)<br>5 mg/m$^3$ (respirable fraction) | Not available | Not Listed |

**Engineering controls:** Not required under normal conditions. If eye or skin contact can occur, washing facility for eyes and skin should be available nearby.
**Respiratory protection:** General ventilation is sufficient for intended use. Use NIOSH/MSHA-approved respirator if aerosol conditions exist and whenever workplace conditions warrant respirator use.
**Hand protection:** Not required under normal conditions. Recommended for repeated or prolonged skin contact and for workers with dermatitis.
**Eye protection:** Not required under normal conditions. Splash guard goggles recommended if splashing or aerosol conditions exist.
**Skin and body protection:** Not required under normal conditions. Use protective clothing to prevent repeated or prolonged skin contact.
**Personal hygiene:** Avoid getting the product on or in you. Wash hands after handling. Do not eat, drink or smoke while handling the product.

## SECTION 9. PHYSICAL/CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance:** | Brown liquid |
| **Odor:** | Characteristic odor |
| **pH:** | 2.5 – 3.5 |
| **Melting Point:** | No data available |
| **Boiling Point:** | No data available |
| **Flash Point:** | No data available |
| **Upper/Lower flammability:** | No data available |
| **Vapor pressure:** | No data available |
| **Vapor density:** | No data available |
| **Density/Relative density:** | 1.30 g/ml |
| **Solubility(ies):** | Forms suspension in water |
| **n-octanol/water partition coefficient:** | No data available |
| **Auto-ignition temperature:** | No data available |
| **Decomposition temperature:** | No data available |
| **Odor threshold:** | No data available |
| **Evaporation rate:** | No data available |
| **Flammability:** | No data available |
| **Viscosity:** | No data available |

## SECTION 10. STABILITY AND REACTIVITY

**Chemical stability:** Stable under recommended storage conditions.
**Conditions/Materials to avoid:** Avoid contact with strong alkaline materials and magnesium metal.
**Anticipated hazardous decomposition products:** No data available. In the event of fire, the product may emit toxic fumes of metal and carbon oxides.

## SECTION 11. TOXICOLOGICAL INFORMATION

**Ingestion:** Not classified.
**Acute toxicity:** Not classified.
**Skin irritation/corrosion:** Not classified.
**Eye damage/irritation:** Causes eye irritation.
**Respiratory sensitization:** Not classified.
**Skin sensitization**: Not classified.
**Carcinogenicity:** Not classified.
**Reproductive toxicity:** Not classified.
**Specific target organ toxicity – single exposure:** Not classified.
**Specific target organ toxicity – repeated exposure:** Not classified.
**Aspiration hazard:** Not classified.

## SECTION 12. ENVIRONMENTAL INFORMATION

**Ecotoxicity:** At recommended rates Crop+™ is not phytotoxic or harmful to the environment. Elements present in the product are essential for healthy growth of plants and are commonly applied to agricultural and horticultural crops.
**Environmental hazard:** May be harmful to aquatic life in high concentrations due to presence of micronutrients.
**Persistence and degradability:** No data available.
**Bioaccumulative potential:** No data available.
**Mobility in soil:** No data available.
**Toxicity to Aquatic Organisms:** No data available.
**Ecotoxicity to Terrestrial Organisms**
**Plant toxicity:** At recommended rates the product is not phytotoxic.
Some varieties of lettuce and stone fruits (plums, peaches, nectarines, etc.) are susceptible to foliar applications of nutrients. It is recommended to perform a field test before applying.

## SECTION 13. DISPOSAL CONSIDERATIONS (BASED ON ACTIVE INGREDIENT)

**Disposal Method:** Consult local and federal guidelines for disposal regulations.
**Empty Container:** Completely empty the container into the application equipment. Rinse with water and empty the rinsate into the application equipment. Then dispose of the container in a sanitary landfill or by incineration if allowed by local authorities.

## SECTION 14. TRANSPORT INFORMATION

**UN number:** Not applicable.
**UN proper shipping name:** Not applicable.
**UN classification:** Not applicable.
**Packing group:** Not applicable.
**Marine pollutant:** Not applicable.
**DOT (US):** Not regulated.
**ICAO/IATA (Ground and Air Packages):** Not regulated.
**International transportation:** Not regulated.
**TDG Canadian transportation:** Not regulated.
NOTE: The shipping classification information in this section (Section 14) is meant as a guide to the overall classification of the product. However, transportation classifications may be subject to change with changes in package size. Consult shipper requirements under 49 CFR, IATA and IMDG to assure regulatory compliance.

## SECTION 15. REGULATORY INFORMATION

**SARA 302 Components**: No chemicals in the product are subject to the reporting requirements of SARA Title III, Section 302.
**Section 313 EPA Supplier Notification Requirement:** This product contains the following EPCRA Section chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372): Cobalt compounds, Copper compounds, Manganese compounds and Zinc compounds.

**SARA 311/312 Hazards:** None
**CERCLA:** Cobalt compounds, Copper compounds, Manganese compounds and Zinc compounds are listed.
**NFPA Hazard Rating** *(scale: 0-minimal, 1-slight, 2-moderate, 3-serious, 4-severe):*
Health – 2; Fire – 0; Reactivity – 0; Special - none
**HMIS Codes** *(scale: 0-minimal, 1-slight, 2-moderate, 3-serious, 4-severe):*
Flammability (red) – 0; Reactivity (yellow) – 0; Health (blue) – 2

## SECTION 16. OTHER INFORMATION

**EMPLOYER RESPONSIBILITIES:**

Employers must ensure that the SDSs are readily accessible to employees for all hazardous chemicals in their workplace. This may be done in many ways. For example, employers may keep the SDSs in a binder or on computers as long as the employees have immediate access to the information without leaving their work area when needed and a back-up is available for rapid access to the SDS in the case of a power outage or other emergency. Furthermore, employers may want to designate a person(s) responsible for obtaining and maintaining the SDSs. If the employer does not have an SDS, the employer or designated person(s) should contact the manufacturer to obtain one.

**REFERENCES:**

Occupational Safety and Health Administration (OSHA), 29 CFR 1910.1200(g) and Appendix D.
http://www.osha.gov/dsg/hazcom/index.html
United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), fourth revised edition, United Nations, 2011. http://www.unece.org/trans/danger/publi/ghs/ghs_rev04/04files_e.html
European Community (EC) Directive 1999/45/EC.
http://eur-lex.europa.eu/legal- content/EN/TXT/?uri=celex:31999L0045