

SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Seed+[™] Graphite

Product number: 6011756

Grades: Nutrient supplement.

Product use: Seed treatment.

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

Carcinogenicity (Category 1A), H350

Specific target organ toxicity – repeated exposure, inhalation (Category 2) H373

GHS Label elements, including precautionary statements

Pictograms:



Signal word:

Danger

Hazard statement(s):

H320 Causes eye irritation.

H350 May cause cancer.

H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statement(s):

P102 Keep out of reach of children.

P201+P202 Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust.

P264 Wash skin thoroughly after handling.

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

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.

P308+P313 If exposed or concerned; Get medical advice/attention.

P314	Get medical advice/attention if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulation.

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

Chronic exposure may cause dry skin or skin irritation.

Prolonged and/or massive exposure to dust containing respirable crystalline silica may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances: Proprietary multimineral mixture

Hazardous components:

Relevant Ingredients*	CAS #	Concentration % w/w
Talc	14807-96-6	28
Graphite	7782-42-5	7
Crystalline silica	14464-46-1	< 3
Cobalt compound	NA	0.070 Cobalt (Co)
Iron compound	NA	1.0 Iron (Fe)
Manganese compound	NA	0.70 Manganese
Zinc compound	NA	2.0 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. 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 32°F (0°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
Talc	14807-96-6	2 mg/m ³ (respirable dust)	2 mg/m ³ (respirable dust)	Not Listed
Graphite	7782-42-5	15 mg/m ³ TWA (synthetic, total dust); 5 mg/m ³ TWA (synthetic, respirable fraction)	2 mg/m ³ TWA (all forms except graphite fibers, respirable fraction)	Not Listed
Crystalline silica	14464-46-1	0.1 mg/m ³ (respirable dust)	0.025 mg/m ³ (respirable dust)	Not Listed
Cobalt compound	NA	Not available	0.02 mg/m ³ as Co	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) 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 dust 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 dust 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:	Gray
Odor:	Characteristic odor
pH:	Not applicable
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:	Not applicable
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: None known.

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: May be harmful, due to presence of micronutrients.

Acute oral LD₅₀: Acute toxicity estimate (ATE) of the mixture 3056 mg/kg body weight (rat).

Skin irritation/corrosion: No data available.

Eye damage/irritation: Irritating to eye.

Respiratory sensitization: Dust may cause cough and irritation of nose and throat.

Skin sensitization: No data available.

Carcinogenicity: Crystalline silica (quartz): IARC evidence for carcinogenicity (Group 1); ACGIH suspected carcinogen (A2); NTP respirable crystalline silica "known to be a human carcinogen". Cobalt compounds are classified as A3 (proven for animals) by ACGIH, 2A (probable for humans) by IARC and reasonably anticipated to be a carcinogen by NTP.

Reproductive toxicity: No data available.

Specific target organ toxicity – single exposure: No data available.

Specific target organ toxicity – repeated exposure: Prolonged and/or massive exposure to dust containing respirable crystalline silica may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.

Aspiration hazard: No data available.

SECTION 12. ENVIRONMENTAL INFORMATION

Ecotoxicity: At recommended rates Seed+™ Graphite 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.

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. 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

US Federal Regulations

Toxic Substances Control Act (TSCA): All components of the mixture on the TSCA inventory are designated “active”.

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, Manganese compounds and Zinc compounds.

SARA 311/312 Hazards: None

CERCLA: Cobalt compounds, Manganese compounds and Zinc compounds are listed.

NFPA Hazard Rating (*scale: 0-minimal, 1-slight, 2-moderate, 3-serious, 4-severe*):

Health – 1; 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) – 1

State Regulations

California Proposition 65 Warning: This product can expose you to chemicals, including crystalline silica and cobalt sulfate, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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>

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