



Material Safety Data Sheet

Aventine™ Complete

Manufactured for:
CHS
5500 Cenex Drive
Inver Grove Heights, MN
55077

Emergency: 800-424-9300

Information: 651-355-6000
Website: www.chsinc.com

SECTION 1 CHEMICAL PRODUCT IDENTIFICATION

Product Name: Aventine™ Complete 6-12-2+1.0Zn-0.05Mn-0.05Cu-0.30Fe
Chemical Description: Chelated solution derived from Copper, Iron, Manganese and Zinc Ethylenediaminetetraacetic acid (EDTA)
Synonyms/Other: N-P-K Mixed Liquid Blended Fertilizer with Chelated Micronutrients
TSCA/CAS#: This product is a mixture – there is no specific CAS number
MSDS CODE: 11034
Product Use: Starter Fertilizer
Preparation/Revision Date: 08/23/2013

Date of First Issue:	August 23, 2013	Revision No.:	1.0
Revision Date:	NA	Changes:	NA

SECTION 2 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

No significant immediate hazards for emergency response are known.

Appearance and odor: Dark red liquid with a bland odor.

POTENTIAL HEALTH EFFECTS (see section 11 for additional information)

Primary Route(s) of Exposure: Eye contact, skin contact and inhalation.

Acute Exposure

- **Eye Contact:** Eye contact may cause mild irritation.
- **Skin Contact:** Skin contact may cause slight irritation.
- **Inhalation:** Exposure to an excessive concentration of vapor, mist or aerosol may cause respiratory tract discomfort and/or irritation.
- **Ingestion:** This product has a low order of acute toxicity.

Chronic Exposure: EDTA and its sodium salts have been reported to cause birth defects in some animal studies in the presence of maternal toxicity.

Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by IARC, NTP, ACGIH or OSHA.

Medical conditions Aggravated:

No data available.

POTENTIAL ENVIRONMENTAL EFFECTS:

(See Section 12 for additional information) This product is not considered to be harmful to aquatic life, based on available data.



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SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENTS</u>	<u>% (w/w)</u>	<u>CAS Number</u>
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Proprietary Mixture [See product label for derivation and guaranteed analysis]

SECTION 4 FIRST AID MEASURES

Although this product is not considered a hazardous material, the following measures are generally recommended following human exposure to chemical products.

Eye Contact: Check for and remove contact lenses. Flush immediately with copious amounts of water or normal saline (minimum of 15 minutes), holding eyelids apart to ensure complete irrigation of the eye and eyelid tissue. Take exposed individual to a health care professional, preferably an ophthalmologist, for further evaluation.

Skin Contact: Remove contaminated clothing, shoes and equipment. Wash exposed area with plenty of soap and water. Repeat washing. If redness or irritation occurs, seek medical attention. Wash contaminated clothing before reuse.

Inhalation: No adverse effects anticipated. If necessary, remove victim to fresh air and loosen clothing. Get medical attention.

Ingestion: If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Note to Physician: Attending physician should treat exposed patients symptomatically.

SECTION 5 FIRE FIGHTING MEASURES

Flash Point: Not applicable.

Flammable Limits: Not applicable.

Autoignition Temperature: Not determined.

Extinguishing Media: Use any means suitable for extinguishing surrounding fire. Use water spray to cool fire-exposed containers, to dilute liquid, and control vapor.

Firefighting Procedures: General guidelines as this material won't burn without driving off water: Not considered to be a fire hazard. Evacuate area and fight fire from a safe distance. Fire fighters must wear MSHA/NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

Unusual Fire & Explosion Hazards: This solution is not considered to be an explosion hazard.

Byproducts of Combustion: Thermal decomposition products may release toxic and/or hazardous fumes and gases, including nitrogen oxides, carbon oxides and metal oxide fumes.

Explosion Data: Not determined. This solution is not considered to be an explosion hazard.

NFPA 704 Hazard Rating -

Health: 1	Fire: 0	Instability: 0	Other: None	
[0-Minimal]	1-Slight	2-Moderate	3-High	4-Extreme]



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SECTION 6 ACCIDENTAL RELEASE MEASURES

- Spill/Leak:** Wear appropriate personal protective equipment. Safely stop source of spill. Initially minimize area affected by the spill or leak. Block any potential routes to water systems (e.g., sewers, streams, lakes, etc.). Restrict non-essential personnel from area. Spill or leak residuals may have to be collected and disposed of. Clay, soil or commercially available absorbents may be used to recover any material that can not readily be recovered as pure product.
- Cleanup:** Determine if waste containing this product can be handled by available industrial effluent system or other on-site waste management unit. If off-site management is required, contact a company experienced in industrial waste management. This product is not specifically listed in 40 CFR 261 as a Resource Conservation and Recovery Act (RCRA) waste. However, spill or leak residuals may meet the criteria of a characteristic hazardous waste under RCRA. Check the characteristic of used, spill or leak material to be disposed of to verify RCRA exempt.

SECTION 7 HANDLING AND STORAGE

- Handling Procedures:** Keep containers closed when not in use. Do not transfer to unmarked containers. Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld, or use for any other purposes. Return totes to reclamation centers for proper cleaning and reuse. Transfer product using chemical-resistant plastic or stainless steel tanks, pumps, valves, etc. Wash thoroughly after handling.
- Storage Procedures:** This material is suitable for any general chemical storage areas. Isolate from food or feed. Store in PVC, PE, stainless steel or bitumized tanks.
- Additional Information:** Containers should not be opened until ready for use. It is recommended that products be retested if stored more than 2 years. Under ideal storage conditions, the shelf-life is almost indefinite.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

- Exposure Limits:** There are no known exposure limits applicable to this product or its components.
- Eye Protection:** Eye protection is strongly recommended. If material is handled such that it could be splashed into the eyes, wear safety glasses with side shields or vented/splash proof goggles (ANSI Z87.1 or approved equivalent).
- Skin Protection:** Wear impervious gloves such as neoprene or nitrile rubber to avoid skin sensitization and absorption.
- Respiratory Protection:** Use of respiratory protection is generally not required. However, if use conditions generate vapor, mist or aerosol and adequate ventilation (e.g., outdoor or well-ventilated area) is not available, use a NIOSH-approved organic vapor respirator with mist and fume filters to reduce potential for inhalation exposure.
- Ventilation System:** Special ventilation is usually not required under normal use conditions. If vapor or mist is generated when the material handled, adequate ventilation in accordance with good engineering practice must be provided to maintain concentrations below the specified exposure. Eyewash stations and showers should be available in areas where this material is used and stored.
- Other:** Consumption of food and drink should be avoided in work areas where product is present. Always wash hands and face with soap and water before eating, drinking or smoking.



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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State / Appearance / Odor:	clear dark red liquid, bland odor
Bulk Density:	not applicable
Cloud Point:	not determined
Crystallization Point:	<15 °F (<-10°C) - do not store below this temperature
Melting Point:	not applicable
Evaporation Rate (Butyl Acetate=1):	not determined
Odor Threshold:	not determined
pH:	6 – 7 (1% solution)
Pour Point:	not determined
Solubility in water:	completely miscible
Specific Gravity (H₂O=1):	~1.206 g/ml
Vapor Density (Air=1):	same as water
Vapor Pressure:	same as water
Viscosity:	not determined
Volatiles (% by weight):	not determined
Other – Decomposition temperature:	>392°F / >200°C (solid); >212°F / >100°C (water loss)
Conditions of Flammability:	not flammable or combustible
Flash Point (Method):	not applicable
Upper Flammable Limit (% by volume):	not applicable
Lower Flammable Limit (% by volume):	not applicable
Auto-Ignition Temperature:	not applicable

< : less than > : greater than ~: approximate

SECTION 10 STABILITY AND REACTIVITY

Stability:	This product is stable at ambient temperatures and atmospheric pressures. It is not self-reactive and is not sensitive to physical impact.
Incompatibilities:	Avoid prolonged storage at elevated temperatures. To avoid crystallization, this product must be stored above -10°C (15°F).
Hazardous Decomposition Products:	Under fire conditions the product may support combustion and decomposes to give off carbon oxides fumes (CO, CO ₂), nitrogen oxides and metal oxide fumes and water vapor.
Hazardous Polymerization:	Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Oral Toxicity:	Not determined.
Dermal Toxicity:	Not determined.
Inhalation Toxicity:	Not determined.
Dermal Sensitization:	Prolonged or repeated contact may make skin more sensitive to other skin sensitizers.
Chronic Toxicity:	Not determined.
Carcinogenicity:	The known components of this material are not listed by IARC, NTP, OSHA or ACGIH as known or suspected carcinogens.
Mutagenicity:	Not determined.
Reproductive Toxicity:	Not determined.
Other:	Not applicable.



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SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity:	Not determined.
Chemical Fate:	The substance is not expected to enter the atmosphere due to its high water solubility.
Biodegradation:	Not determined.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal:	It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristics or listing. Dispose in accordance with all federal, state, and local laws. NOTE – State and local regulations may be more stringent than federal regulations.
Container Disposal:	Containers should be cleaned of residual product before disposal or return. Since emptied containers retain product residue, follow label warnings even after container is emptied. Empty containers should be disposed of or shipped in accordance with all applicable laws and regulations.
Other:	The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can only occur in properly permitted facilities. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state, and local regulations.

SECTION 14 TRANSPORT INFORMATION

Shipping Information:	Not regulated for transport.
Required Labels:	No transport label required.
Environmentally Hazardous Substances [49 CFR 172.101, Appendix A]:	None
Other Shipping Description:	Fertilizing Compounds (Manufactured), Liquid. NMFC Item 68140 Sub 6, LTL Class 70

SECTION 15 REGULATORY INFORMATION

The components are subjected to the following environmental regulatory lists:

CERCLA: None

SARA TITLE III, Section 313 Toxic Chemicals: Zinc compounds (1.0%).



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SECTION 16 OTHER INFORMATION

HMIS RATING – Health: 1 Flammability: 0 Physical Hazards: 0 Other: none
[0 – Minimal 1 – Slight 2 – Moderate 3 – High 4 – Extreme - Chronic Health Hazard (see Section 11)]

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0

NFPA (USA) – Health: 1 Flammability: 0 Reactivity: 0 Specific Hazard:
[0 – Minimal 1 – Slight 2 – Moderate 3 – High 4 – Extreme]



External Information: This product may be formulated in part with components purchased from other companies. In many instances, especially when proprietary or trade secret materials are used CHS Inc. must rely upon information provided by those materials manufacturers or distributors.

Prepared by: [Regulatory Department]

Disclaimer: This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. No warranty of merchantability, fitness for any particular purpose, or any other warranty, express or implied, is made concerning the information herein provided. It is the user's responsibility to satisfy themselves as to the suitability and completeness of such information for their own particular use. We do not accept liability for any loss or damage that may occur from the use of this information not do we offer warranty against patent infringement.

Revisions / Comments: