NFPA HAZARD RATING

0	Least		
1	Slight	**2**	**Health**
2	Moderate	**0**	**Flammability**
3	High	**0**	**Reactivity**
4	Severe		

U.S. TRANSPORT SUMMARY

Not regulated by the U.S. DOT as a hazardous material in less than 650 gallons. See Section 14 for additional information.

SECTION 1: IDENTIFICATION

Product Name: Citri-Che® Copper 5%
EPA Registration #: Exempt
Product ID/Unity #: 10015243, 17146322, 10136133
Common Name: Liquid copper fertilizer
Chemical Description: Ammonium citrate complex of copper
Recommended Uses: Fertilizer product – See product label for full directions for use.
Restrictions for Use: See product label for any potential restrictions on use.

Manufactured For:
WINFIELD SOLUTIONS, LLC
P. O. Box 64589
St. Paul, MN 55164-0589

MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs)

Non-Emergency Business Inquiries: 1-855-494-6343
Mon – Fri 8am – 5pm (Central Standard Time)

FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL:
IN THE U.S. - CHEMTREC 1-800-424-9300 (24 hours)
IN CANADA – PROSAR 1-877-762-4573 (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Clear blue liquid with slight ammonia odor. Inhalation of large concentration of vapor or mist may cause respiratory tract irritation. Causes eye and skin irritation. Harmful if swallowed.

POTENTIAL HEALTH EFFECTS:
Eyes: Causes moderate but temporary eye irritation.
Skin: Causes moderate skin irritation, including redness and itching.
Inhalation: Inhalation of large concentration of vapor or mist may cause respiratory tract irritation and discomfort.
Ingestion: Harmful if swallowed.
Preexisting Conditions: Preexisting respiratory conditions may be aggravated by exposures to vapor or mist.
Chronic Health Effects: None known

Carcinogenicity NTP: Not listed IARC: Not listed OSHA: Not listed

OSHA HCS 2012 CLASSIFICATION: Eye Irritation Category 2A; Skin Irritation Category 2; Acute Oral Toxicity Category 4; Specific Target Organ Toxicant – Single Exposure Category 3

SIGNAL WORD: WARNING

HAZARD STATEMENTS:
Causes serious eye irritation.
Causes skin irritation.
Harmful if swallowed.
May cause respiratory irritation.

Percent of product with unknown toxicity: 0%

PRECAUTIONARY STATEMENTS:
Prevention: Wash hands thoroughly after handling. Wear eye and face protection and protective gloves. Avoid breathing mist, spray or fumes. Use only outdoors in a well-ventilated area. Do not eat, drink or smoke when using this product.

Continued on next page

Response:	**If in eyes:** Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. **If inhaled:** Remove person to fresh air and keep comfortable for breathing. Call a poison control center or doctor for treatment advice if you feel unwell. **If on skin:** Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. **If Swallowed:** Immediately call a poison control center or doctor for treatment advice. Rinse mouth.
Storage:	Store in a well-ventilated and secured place. Keep container tightly closed.
Disposal:	Dispose of contents/container in accordance with Federal, state and local regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	% (wt)	CAS Reg. #
Copper diammonium citrate complex	19.85%	*
Ethylenediaminetetraacetic acid diammonium copper salt solution	4.00%	67989-88-2
Sulfur	2.4%	7704-34-9
Free ammonia	<1.5%	7664-41-7

*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

Inhalation:	Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention or call a poison control center immediately for treatment advice.
Ingestion:	Seek medical attention or call a poison control center immediately for treatment advice. Do not induce vomiting unless instructed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Eyes:	Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if irritation persists.
Skin:	Remove contaminated clothing and wash before re-using. Flush skin with water and then wash with soap and water. Seek medical attention if irritation persists.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water fog, foam, dry chemical, carbon dioxide (CO2), water spray

Special Fire Fighting Procedures: Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Avoid breathing vapors; keep upwind.

Hazardous Combustion Products: Thermal decomposition may include toxic ammonia gas, and/or toxic oxides of copper and nitrogen.

Unusual Fire and Explosion Hazards: Closed containers may explode from vapor expansion in high heat.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

Environmental Precautions: Do not allow spilled product to enter sewers or waterways.

Methods for Containment: Contain spilled product by diking area with sand or earth.

Methods for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite or other appropriate material. Vacuum, scoop or sweep up material and place in a container for disposal. Do not place spilled material back in original container.

Other Information: Spills of this product may require reporting under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as the product contains Ammonia with a reportable quantity (RQ) of 100 lbs. See Section 15 for additional information.

SECTION 7: HANDLING AND STORAGE

Handling: Ensure adequate ventilation during handling and use. Immediately clean up spills that occur during handling. Keep containers closed when not in use. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.
Storage: Store in a secured area away from children, feed and food products. Store in original container only and in a cool, well-ventilated dry place above the minimum storage temperature.
Minimum Storage Temperature: 32°F
Other Precautions: Consult Federal, state and local laws and regulations pertaining to storage.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines Component:	**OSHA PEL**	**ACGIH TLV**	**NIOSH REL**
Ammonia (CAS# 7664-41-7)	35 mg/m3 or 50 ppm 8 hour TWA	24 mg/m3 or 35 ppm 15 min. STEL 17 mg/m3 or 25 ppm 8 hour TWA	27 mg/m3 or 35 ppm 15 min. STEL 18 mg/m3 or 25 ppm 8 hour TWA
Copper dusts & mists (as Cu)	1 mg/m3	1 mg/m3	1 mg/m3
Sulfur (CAS #7704-34-9)	15 mg/m3 (inhalation total); 5 mg/m3 (inhalation respirable)		

Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If airborne concentrations exceed permissible levels or if a pre-existing respiratory condition exists, use a NIOSH approved air-purifying respirator with cartridges/canisters approved for ammonia and general particulates.

Engineering Controls: **Local Exhaust:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.

Protective Gloves: Wear chemically protective gloves.
Eye Protection: Wear chemical goggles or safety glasses and full face shield. Contact lenses are not protective eye devices. An emergency eyewash or water supply should be readily accessible to the work area.
Other Protective Clothing or Equipment: Wear long-sleeve shirt, long pants and shoes plus socks to prevent skin contact.

Work/Hygienic Practices: Never eat, drink, nor use tobacco in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	**Specific Gravity (H_2O=1):**	1.228 (typical)
Vapor Pressure (mm Hg):	Not determined	**Density (lbs/gallon):**	10.25 lbs/gallon (typical)
Vapor Density (Air=1):	Not determined	**Freezing Point:**	Not determined
Solubility in Water (wt %):	100%	**Boiling Point/Range:**	Not determined
Viscosity:	Not determined	**pH:**	7.5 – 8.5
Appearance and odor:	Clear blue liquid with slight ammonia odor	**Flash Point:**	Not combustible

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Contact with strong oxidizers may result in a fire and explosion hazard.
Chemical Stability: Product is stable at ambient temperature and pressure, under normal storage and handling conditions.
Possibility of Hazardous Reactions: Will not occur
Conditions to Avoid: Avoid excessive heat.
Incompatible Materials: Strong bases, acids and oxidizers.
Hazardous Decomposition Products: Thermal decomposition may include ammonia and toxic oxides of copper and nitrogen.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Eye Effects: Contact may cause moderate but temporary irritation. Additional effects may include tearing and/or blurred vision.

Skin Effects: Estimated LD50 = 5,900 mg/kg. Contact may cause moderate irritation. Prolonged or repeated exposure may lead to reddening of skin, rash, dermatitis, or other skin reactions.

Acute Inhalation Effects: LC50 not determined. Based upon component information the product is not expected to be acutely hazardous via inhalation.

Acute Oral Effects: Estimated LD50 = 742 mg/kg

Specific Target Organ Toxicity: Single, short-term exposure to ammonia vapors can cause respiratory tract irritation.

CHRONIC TOXICITY

Chronic Effects: None known

Carcinogenicity: None known

Mutagenicity: None known

Teratogenicity: None known

Reproductive Toxicity: None known

POTENTIAL HEALTH EFFECTS:

Eyes: Causes moderate but temporary eye irritation.

Skin: Causes moderate skin irritation, including redness and itching.

Inhalation: Inhalation of large concentration of vapor or mist may cause respiratory tract irritation and discomfort.

Ingestion: Harmful if swallowed.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Not determined

ECOTOXICITY DATA:

Fish Acute and Prolonged Toxicity: Not determined

Aquatic Invertebrate Acute Toxicity: Not determined

Aquatic Plant Toxicity: Not determined

Bird Acute and Prolonged Toxicity: Not determined

Honeybee Toxicity: Not determined

ENVIRONMENTAL EFFECTS:

Soil Absorption/Mobility: Not determined

Persistence and degradability: Not determined

Bioaccumulative Potential: Not determined

Other adverse effects: Not determined

SECTION 13: DISPOSAL CONSIDERATIONS

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.

Container: Triple rinse and recycle the container or dispose of in accordance with Federal, state and local laws and regulations.

RCRA Characteristics: It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

SECTION 14: TRANSPORT INFORMATION

DOT: (Ground)	This product is not regulated by the U.S. Department of Transportation as a hazardous material for ground shipment in quantities less than 650 gallons. For quantities greater than or equal to 650 gallons: UN3082, Environmentally hazardous substance, liquid, n.o.s. (Ammonia), 9, PG III, RQ
IMDG: (Sea)	Not determined
IATA: (Air)	Not determined
TDG: (Canada)	Not determined

SECTION 15: REGULATORY INFORMATION

TSCA Inventory: All components are either listed or exempt from listing on the TSCA inventory.

SARA Title III Information:

Section 302 - Extremely hazardous substances: Ammonia (CAS# 7664-41-7)

Section 311/312 – Hazard Categories: Immediate (Acute)

Section 313 – The following chemicals are subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:
Copper compounds 23.85%; Ammonia (CAS# 7664-41-7) <1.5%

CERCLA - This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):
Ammonia (7664-41-7) has an RQ of 100 lbs reached with 650 gallons of product.
Copper compounds are considered to be CERCLA hazardous substances though no RQs have been established.

California Proposition 65: This product does not contain any chemicals known to the state of California to cause cancer and/or reproductive harm.

U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI):

Chemical Name	CAS #	State(s)
Ammonia	7664-41-7	MA, NJ, PA
Sulfur	7704-34-9	CT, MA, NJ, PA

Canadian Domestic Substances List: All components are either on the Non-domestic substances list or the domestic substances list.

WHMIS Classification: D2B

SECTION 16: OTHER

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of WinField Solutions' knowledge. WinField Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

Revision Date: February 20, 2014 **Supersedes document dated:** May 24, 2010
Sections Revised: All