Magruder 250511
5-0-20
results due June 15, 2025

Guaranteed Analysis

Total Nitrogen (N) ..... 5.0 %
3.3 % Urea Nitrogen
Soluble Potassium (K_2O) ..... 20 %
Sulfur (S) .....13 %

Derived from: Urea, Urea-triazone solution, Potassium Thiosulfate

Also analyze for:
As (ppm), Cd (ppm), Cr (ppm), Co (ppm), Pb (ppm),
Hg (ppm), Mo (ppm), Ni (ppm), Se (ppm), Cu (%) and Zn (%)

The units above are those required for reporting data from this Magruder sample. They may not be the units required on a commercial fertilizer label.

Note: This Magruder Check Sample material is not to be used in the manufacture of products nor applied to any crops or for other fertilizer uses. It is intended for analytical testing purposes only.

SDS for this product can be found at:
https://www.magrudercheckssample.org/SDS/250511GuarSDS.pdf

SDS for Magruder 250511

SDS Number: 756 **Revision:** January 3, 2020

Section 1: IDENTIFICATION

1.1 Product Name: **Trisert®-K+, 5-0-20**

1.2 Other Identification:

Chemical Family: Aqueous organic salt solution.
Formula: Not applicable – Blend.

1.3 Recommended Use of Chemical: Agricultural liquid fertilizer.

1.4 Manufacturer: Tessenderlo Kerley, Inc.
2910 N. 44th Street, Suite 100
Phoenix, Arizona 85018
Information: (602) 889-8300

1.5 Emergency Contact: Tessenderlo Kerley, Inc. (800) 877-1737
CHEMTREC (800) 424-9300 (Domestic)
(703) 527-3887 (International)

Section 2: HAZARD(S) IDENTIFICATION

2.1 Hazard Classification: Health None

Physical None

2.2 Signal Word: Not applicable

2.3 Hazard Statement(s): Not applicable

2.4 Symbol(s): Not applicable

2.5 Precautionary Statement(s): Not applicable

2.6 Unclassified Hazard(s): Aquatic Toxicity

2.7 Unknown Toxicity Ingredient: None

Section 3: COMPOSITION/INFORMATION on INGREDIENTS

3.1 Chemical Ingredients: (See Section 8 for exposure guidelines)

Chemical	Synonym Common Name	CAS No.	EINECS No.
Urea	Urea	57-13-6	200-315-5
Thiosulfuric acid ($H_2S_2O_3$), dipotassium salt	Potassium thiosulfate	10294-66-3	233-666-8

Tetrahydro-1, 3, 5-triazin-2(1H)-one	Triazone	7098-14-8	230-406-5
Water	Water	7732-18-5	231-791-2

Section 4: FIRST AID MEASURES

4.1 Symptoms/Effects:

Acute: Eye contact may cause eye irritation. Repeated or prolonged skin contact may cause skin irritation. Ingestion may irritate the gastrointestinal tract.

Chronic: No known chronic effects.

4.2 Eyes: Immediately flush with large quantities of water for 15 minutes. Hold eyelids apart during irrigation to ensure thorough flushing of the entire area of the eye and lids. Obtain medical attention if irritation occurs.

4.3 Skin: Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower. Continue rinsing. Obtain medical attention if irritation occurs.

4.4 Ingestion: If victim is conscious, give 2 to 4 glasses of water and induce vomiting by touching finger to back of throat. Obtain medical attention.

4.5 Inhalation: Remove victim from contaminated atmosphere. If breathing is labored, administer Oxygen. If breathing has ceased, clear airway and start CPR. Obtain medical attention.

Section 5: FIRE FIGHTING MEASURES

5.1 Flammable Properties: (See Section 9, for additional flammable properties)

NFPA: Health - 1 Flammability - 0 Reactivity - 0

5.2 Extinguishing Media:

5.2.1 Suitable Extinguishing Media: Not flammable; use media suitable for combustibles involved in fire.

5.2.2 Unsuitable Extinguishing Media: Not applicable.

5.3 Protection of Firefighters:

5.3.1 Specific Hazards Arising from the Chemical:

Physical Hazards: Heating (flames) of closed or sealed containers may cause violent rupture of container due to thermal expansion of compressed gases.

Chemical Hazards: Heating causes release of vapors. Vapors are irritating to eyes, skin and respiratory tract. Heating to dryness may cause the release of Ammonia and Oxides of Carbon.

5.3.2: Protective Equipment and Precautions for Firefighters:

Firefighters should wear self-contained breathing apparatus (SCBA) and full fire-fighting turnout gear. Keep containers/storage vessels in fire area cooled with water spray.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions: Use personal protective equipment specified in Section 8. Isolate the release area and deny entry to unnecessary, unprotected and untrained personnel.

6.2 Environmental Precautions: Keep out of "waters of the United States" because of aquatic Toxicity (See section 12).

6.3 Methods of Containment:

Small Release: Confine and absorb small releases with sand, earth or other inert absorbents.

Large Release: Shut off release if safe to do so. Dike spill area with earth, sand or other inert absorbents to prevent runoff into surface waterways (aquatic toxicity), sewers or storm drains.

6.4 Method for Cleanup:

Small Release: Shovel up absorbed material and place in drums for disposal as a chemical waste.

Large Release: Recover as much of the spilled product as possible and use as originally intended or dispose of as a chemical waste. Treat remaining material as a small release (above).

Section 7: HANDLING and STORAGE

7.1 Handling: Avoid contact with eyes. Use only in a well-ventilated area. Wash thoroughly after handling. Avoid prolonged or repeated breathing of vapors. Avoid prolonged or repeated contact with the skin.

7.2 Storage: Store in well-ventilated area. Do not store combustibles in the area of storage vessels. Keep away from any sources of heat or flame. Store totes and smaller containers out of direct sunlight at moderate temperatures. (See Section 10.5 for materials of construction).

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Guidelines:

Chemical	OSHA PELs		ACGIH TLVs	
	TWA	STEL	TWA	STEL
Urea	None	None	None	None
Thiosulfuric acid ($H_2S_2O_3$), dipotassium salt	None	None	None	None
Tetrahydro-1, 3, 5-triazin-2(1H)-one	None	None	None	None
Water	None	None	None	None

8.2 Engineering Controls: Use adequate exhaust ventilation to prevent inhalation of product vapors. Keep eye wash/safety shower in the area where product is handled.

8.3 Personal Protective Equipment (PPE):

8.3.1 Eye/Face Protection: Chemical goggles and a full face shield.

8.3.2 Skin Protection: Neoprene rubber gloves and apron should be worn to prevent repeated or prolonged contact with the liquid. Wash contaminated clothing prior to reuse.

8.3.3 Respiratory Protection: None generally required. If conditions exist where mist may be generated, a NIOSH/MSHA approved mist respirator should be worn.

8.3.4 Hygiene Considerations: There are no known hazards associated with this product when used as recommended, however common good industrial hygiene practices should be followed, such as washing thoroughly after handling and before eating or drinking.

Section 9: PHYSICAL and CHEMICAL PROPERTIES

9.1 Appearance: Clear, light blue-green liquid.
9.2 Odor: Possible slight amine-like odor.
9.3 Odor Threshold: Not determined
9.4 pH: 9.0 to 12.0 (*Typical*)
9.5 Melting Point/Freezing Point: Salt out temperature < 10°F (-12.2°C).
9.6 Boiling Point: Not determined
9.7 Flash Point: Not applicable
9.8 Evaporation Rate: Not determined
9.9 Flammability: Not applicable
9.10 Upper/Lower Flammability Limits: Not applicable
9.11 Vapor Pressure: Not determined

9.12 Vapor Density:	Not determined
9.13 Relative Density:	1.4 (11.7 lbs/gal) (*Typical*)
9.14 Solubility:	Complete
9.15 Partition Coefficient:	Not applicable
9.16 Auto-ignition Temperature:	Not applicable
9.17 Decomposition Temperature:	Not determined
9.18 Viscosity:	Not determined

Section 10: STABILITY and REACTIVITY

10.1 Reactivity: See Sections 10.4 and 10.5 below.

10.2 Chemical Stability: This is a stable material under normal (ambient) temperature and pressure.

10.3 Possibility of Hazardous Reactions: Strong oxidizers such as nitrates or chlorates cab cause explosive mixtures if heated to dryness.

10.4 Conditions to Avoid: Heat or fire conditions and strong oxidizers and acids or acidic materials.

10.5 Incompatible: Strong oxidizers (See section 10.3) and acids or acidic materials. **This product is not compatible with Copper, Zinc or their alloys including brass, bronze or galvanized materials**. These materials should not be utilized in handling systems or storage containers for this product.

10.6 Hazardous Decomposition Products: Heating of this product will evolve ammonia. Heating to dryness will cause the production of Ammonia and Oxides of Carbon. Ammonia may form flammable mixtures with air (16 to 25% NH_3).

Section 11: TOXICOLOGICAL INFORMATION

11.1 Oral: Acute toxicity Rat, male, LD_{50}: 14,300 mg/kg (urea)(ingredient)
Oral Rat LD_{50}: 8,471 mg/kg (urea)(ingredient)
Oral-Rat LD_{50}: > 2,500 mg/kg (N-SURE® 28-0-0)(ingredient)
Oral Rat, LD_{50}: >5,000 mg/kg (single dose, potassium thiosulfate)(ingredient).

11.2 Dermal: Dermal Rabbit, LD_{50}: >2,000 mg/kg (single dose, potassium thiosulfate)(ingredient).
N-SURE®, 28-0-0 (ingredient) is not a skin sensitizer in guinea pigs by closed patch technique.

11.3 Inhalation: No data available.

11.4 Eyes: No data available.

11.5 Chronic/Carcinogenicity: Not listed in NTP, IARC or by OSHA.

11.6 Teratology: No data available.

11.7 Reproduction: Reproductive testing with urea (ingredient) indicated no toxic effects.

11.8 Mutagenicity: N-SURE® (ingredient) is not mutagenic in an Ames Assay using Salmonella typhimurium.

Section 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity: Acute 96 hr. LC_{50} , sheepshead minnow: > 1,000 mg/L (potassium thiosulfate)
Acute 96 hr. LC_{50}: mysid shrimp: 89 mg/L (potassium thiosulfate)
Acute toxicity, fish, LC_{50}: >9,100 mg/l, 96 hr. exp. (urea)
Acute toxicity, Daphnia, EC_{50}: >10,000 mg/l, 24 hr. exp. (urea)

12.2 Persistence & Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Other Adverse Effects: None

Section 13: DISPOSAL CONSIDERATIONS

Consult federal, state and local regulations for disposal regulations.

Section 14: TRANSPORT INFORMATION

14.1 Basic Shipping Description:

14.1.1 Proper Shipping Name: Trisert®-K+, 5-0-20-13S (not regulated by DOT)
14.1.2 Hazard Classes: Not applicable
14.1.3 Identification Number: Not applicable
14.1.4 Packing Group: Not applicable
14.1.5 Hazardous Substance: No
14.1.6 Marine Pollutant: No

14.2 Additional Information:

14.2.1 Other DOT Requirements:

14.2.1.1 Reportable Quantity: No
14.2.1.2 Placard(s): Not applicable
14.2.1.3 Label(s): Not applicable

14.2.2 USCG Classification: Not determined

14.2.3 International Transportation:

14.2.3.1 IMO:	Not regulated
14.2.3.2 IATA:	Not regulated
14.2.3.3 TDG (Canada):	Not regulated
14.2.3.4 ADR (Europe):	Not regulated
14.2.3.5 ADG (Australia):	Not regulated

14.2.4 Emergency Response Guide: Not applicable

14.2.5 ERAP - Canada: Not applicable

14.2.6 Special Precautions: Not applicable

Section 15: REGULATORY INFORMATION

15.1 U.S. Federal Regulations:

15.1.1 OSHA: This product is not considered hazardous under the criteria of the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200).

15.1.2 TSCA: Product is contained in USEPA Toxic Substance Control Act Inventory

15.1.3 CERCLA: Reportable Quantity No

15.1.4 SARA Title III:

15.1.4.1 Extremely Hazardous Substance (EHS): No

15.1.4.2 Section 312 (Tier II) Ratings:

Immediate (acute)	No
Fire	No
Sudden Release	No
Reactivity	No
Delayed (chronic)	No

15.1.4.3 Section 313 (FORM R): Not applicable

15.1.5 RCRA: Not applicable

15.1.6 CAA (Hazardous Air Pollutant/(HAP): Not applicable

15.2 International Regulations:

15.2.1 Canada:

15.2.1.1 WHMIS: Not determined

15.2.1.2 DSL/NDSL: Not listed

15.3 State Regulations:

15.3.1 CA Proposition 65: Not applicable

Section 16: OTHER INFORMATION

REVISIONS: The entire SDS was reformatted to comply with the new Hazard Communication Standard dated March 26, 2012, by Regulatory Affairs of Tessenderlo Kerley, Inc. 12/11/2014.
Revised sections 5, 6, 8, 10, 11, 12, 14 and 15. 6/10/2016.
Revised Section 1. 1/3/2020.

The information above is believed to be accurate and represents the best information currently available to Tessenderlo Kerley, Inc. (TKI). No warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use. Users should make their own investigations to determine the suitability of the information for their particular purpose and on the condition that they assume the risk of their use thereof. TKI reserves the right to revise this Safety Data Sheet periodically as new information becomes available.