



Material Safety Data Sheet

Urea-Triazone Fertilizer Solutions

MSDS Number: 40102 (Revised: 7/18/2007)

6 Pages

Section 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

- 1.1 Product Name** Urea-Triazone fertilizer solutions
Chemical Family Aqueous, organic salt solution
Synonyms N-SURE[®], Trisert-N+, FORMOLENE PLUS[®]
N-SURE[®]-PRO, 30-0-0; Urea, Triazone
Formula N/A - blend
- 1.2 Manufacturer** Tessenderlo Kerley Inc.
2255 N. 44th Street, Suite 300
Phoenix, Arizona 85008-3279
Information (602) 889-8300
- 1.3 Emergency Contact** (800) 877-1737 (Tessenderlo Kerley)
(800) 424-9300 (CHEMTREC)

Section 2: COMPOSITION, INFORMATION ON INGREDIENTS

2.1 Chemical Ingredients (% by wt.)

N-SURE[®] (28-0-0), Trisert-N+ (30-0-0), FORMOLENE PLUS[®] (30-0-0) and N-SURE[®]-PRO (30-0-0) are proprietary blends of urea (CAS # 57-13-6), Triazone (CAS # 7098-14-8) and water (CAS # 7732-18-5)
(See Section 8 for exposure guidelines)

Section 3: HAZARDS IDENTIFICATION
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NFPA: **Health - 1** **Flammability - 0** **Reactivity - 0**

<p style="text-align: center;">EMERGENCY OVERVIEW</p> <p>Contact with solution or mist may cause eye irritation. Repeated/prolonged skin contact with solution or mist may cause irritation. Ingestion may irritate gastrointestinal tract. Excessive heating may cause ammonia gas to evolve.</p>

Section 3: HAZARDS IDENTIFICATION (Cont.)**3.1 POTENTIAL HEALTH EFFECTS**

EYE: Contact with the eyes by product mist or solution may cause irritation or a burning sensation.

SKIN CONTACT: Prolonged or repeated contact with product mist or solution may cause skin irritation.

SKIN ABSORPTION: Absorption is unlikely to occur.

INGESTION: Ingestion of product solution may cause irritation of the gastrointestinal tract to include nausea, vomiting and diarrhea. These blends are considered to have a low toxicity to humans.

INHALATION: Inhalation of product mist may cause irritation of the nose, throat and respiratory tract.

CHRONIC EFFECTS/CARCINOGENICITY: Not listed as a carcinogen by NTP, IARC or OSHA.

Section 4: FIRST AID MEASURES

4.1 EYES: Immediately flush with large quantities of water for 15 minutes. Hold eyelids apart during irrigation to insure thorough flushing of the entire area of the eye and lids. Obtain medical attention.

4.2 SKIN: Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower. Obtain medical attention if irritation occurs.

4.3 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.

4.4 INHALATION: Remove victim from contaminated atmosphere. If breathing is labored, administer oxygen. If breathing has ceased, clear airway and start mouth to mouth resuscitation. If heart has stopped beating, external heart massage should be applied. Obtain medical attention.

Section 5: FIRE FIGHTING MEASURES**5.1 FLAMMABLE PROPERTIES**

FLASH POINT: Not flammable

METHOD USED: COC and TCC

5.2 FLAMMABLE LIMITS

LFL: NA

UFL: NA

5.3 EXTINGUISHING MEDIA: As appropriate for combustibles involved in fire.

5.4 FIRE & EXPLOSIVE HAZARDS: Heating to dryness may cause the release of ammonia and carbon dioxide. Ammonia, NH₃, (16-25%) may form flammable mixtures with air.

Keep containers/storage vessels in fire area cooled with water spray. Heating may cause the release of ammonia vapors.

Section	5:	FIRE FIGHTING MEASURES (Cont.)
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5.5 FIRE FIGHTING EQUIPMENT: 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
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6.1 Small releases: Confine and absorb small releases on sand earth or other inert absorbent. Use water spray to dilute to weak fertilizer solution.

6.2 Large releases: Confine area to qualified personnel. Shut off release if safe to do so. Dike spill area to prevent runoff into sewers, drains or surface waterways (potential aquatic toxicity). Recover as much of the solution as possible. Treat remaining material as a small release (above).

Section	7:	HANDLING and STORAGE
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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 areas. Do not store combustibles in the area of storage vessels. Keep away from any sources of heat or flame. Store tote and smaller containers out of direct sunlight at moderate temperatures [less than 105°F (41°C)]. (See Section 10.4 for materials of construction)

Section	8:	EXPOSURE CONTROLS, PERSONAL PROTECTION
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8.1 RESPIRATORY PROTECTION: None generally required. If conditions exist where mist may be generated, a NIOSH/MSHA approved mist respirator should be worn.

8.2 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 EYE PROTECTION: Chemical goggles and a full face shield. DO NOT WEAR CONTACT LENSES.

8.4 EXPOSURE GUIDELINES:

	OSHA		ACGIH	
	<u>TWA</u>	<u>STEL</u>	<u>TLV</u>	<u>STEL</u>
None	N/A	NA	NA	NA

8.5 ENGINEERING CONTROLS: Use adequate exhaust ventilation to prevent inhalation of product vapors.

Section	9:	PHYSICAL and CHEMICAL PROPERTIES
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	<u>N-SURE®</u>	Trisert-N+	<u>FORMOLENE PLUS®</u>	<u>N-SURE-PRO</u>
9.1 APPEARANCE:	clear, blue-gr liq.	clear, lite blue liq.	clear, colorless liquid	clear,
9.2 ODOR:	-----May have a slight amine odor-----			
9.3 BOILING POINT:	219°F (104 °C)	214°F (101°C)	219°F (104 °C)	214°F (101°C)
9.4 VAPOR PRESSURE:	-----Not Determined-----			
9.5 VAPOR DENSITY:	-----Not determined-----			
9.6 SOLUBILITY IN WATER:	-----Complete-----			
9.7 SPECIFIC GRAVITY:	1.29 (10.7 lbs/gal)	1.26 (10.5 lbs/gal)	1.28 (10.66 lbs/gal)	1.26 (10.5 lbs/gal)
9.8 MELTING POINT:	-----Salt out temperature less than 0° F (-18°C)-----			
9.9 pH:	-----Typically 9.0 - 10.5-----			
9.10 VOLATILE:	-----Not applicable-----			

Section	10:	STABILITY and REACTIVITY
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10.1 STABILITY: This is a stable material

10.2 HAZARDOUS POLYMERIZATION: Will not occur

10.3 HAZARDOUS DECOMPOSITION PRODUCTS: Heating this product will evolve ammonia. Heating to dryness will cause the production of ammonia, and oxides of carbon. Ammonia (16-25%) may form flammable mixtures with air.

10.4 INCOMPATIBILITY: Strong oxidizers such as nitrates, nitrites or chlorates can cause explosive mixtures if heated to dryness. Avoid contact with Acids or acid materials. The products N-SURE®, Trisert-N+, N-SURE-PRO and FORMOLENE PLUS® are not compatible with copper, zinc or their alloys (i.e. bronze, brass, galvanized metals, etc.). These materials of construction should not be used in piping, handling systems or storage containers for this product. (SEE Section 7.2, Storage)

Section	11:	TOXICOLOGICAL INFORMATION
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11.1 ORAL: Oral-Rat LD₅₀: > 2,500 mg/Kg

11.2 DERMAL: N-SURE® is not a skin sensitizer in guinea pigs by closed patch technique

11.3 INHALATION: Data not available

11.4 CHRONIC/CARCINOGENICITY: No evidence available

11.5 TERATOLOGY: Data not available

11.6 REPRODUCTION: Data not available

11.7 MUTAGENICITY: N-SURE® is not mutagenic in an Ames Assay using Salmonella typhimurium.

Section 12: ECOLOGICAL INFORMATION

No data available.

Section 13: DISPOSAL CONSIDERATIONS
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The products N-SURE®, Trisert-N+, N-SURE®-PRO or FORMOLENE PLUS® are not considered hazardous waste under Federal Hazardous Waste Regulations, 40 CFR 261. Consult state and local regulations for different or more restrictive disposal regulations.

Section 14: TRANSPORT INFORMATION
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14.1 DOT Shipping Name:	urea, triazone fertilizer solution
14.2 DOT Hazard Class:	NA
14.3 UN/NA Number:	NA
14.4 Packing Group:	NA
14.5 DOT Placard:	NA
14.6 DOT Label(s):	NA
14.7 IMO Shipping Name:	urea, triazone solution
14.8 RQ (Reportable Quantity):	NA
14.9 RR STCC Number:	28-713-15

Section 15: REGULATORY INFORMATION

15.1 OSHA:	This product is listed as a hazardous material under criteria of the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200.		
15.2 SARA TITLE III:	a.	EHS (Extremely Hazardous Substance) List:	No
	b.	Section 311/312, (Tier I,II) Categories:	Yes
		Immediate (acute)	No
		Fire	No
		Sudden release	No
		Reactivity	No
		Delayed (chronic)	No
	c.	Section 313 (Toxic Release Reporting-Form R):	No
		<u>Chemical Name</u> <u>CAS Number</u>	<u>Concentration</u>
		NA	

Section	15: REGULATORY INFORMATION (Cont.)
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d. TPQ (Threshold Planning Quantity):	No
15.3 CERCLA/SUPERFUND: RQ (Reportable Quantity)	No
15.4 TSCA (Toxic Substance Control Act) Inventory List:	Yes
15.5 RCRA (Resource Conservation and Recovery Act) Status:	NA
15.6 WHMIS (Canada) Hazard Classification:	NA
15.7 DOT Hazardous Material: (See Section 14)	No
15.8 CAA Hazardous Air Pollutant (HAP)	No

Section	16: OTHER INFORMATION
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REVISIONS: The entire MSDS was reformatted to comply to ANSI Standard Z400.1-1993, by Technical Services-Tessengerlo Kerley, Inc.

Address updated, 4/30/99

Product name change only (Trisert-N+), 3/31/00

Revised Section 8.3, Eye Protection, and company logo, 5/6/02

Revision Section 2.1 CAS #; 8/5/03

<p>THE INFORMATION PUBLISHED IN THIS MATERIAL SAFETY DATA SHEET HAS BEEN COMPILED FROM OUR EXPERIENCE AND OSHA, ANSI, NFPA, DOT, ERG, AND CHRIS. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THIS INFORMATION FOR THE ADOPTION OF NECESSARY SAFETY PRECAUTIONS. WE RESERVE THE RIGHT TO REVISE MATERIAL SAFETY DATA SHEETS PERIODICALLY AS NEW INFORMATION BECOMES AVAILABLE.</p>
