

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED FOR:

LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286

24-Hour Emergency Phone: 1-800-424-9300

Medical Emergencies: 1-866-944-8565

U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: AWAKEN® ST

CHEMICAL NAME: Zinc Ammonium Acetate

CHEMICAL FAMILY: Seed Treatment

EPA REG. NO.: not applicable

MSDS Number: 7102608-10-LPI

MSDS Revisions: Sections 1, 4, 13

Date of Issue: 07/27/10

Supersedes: 03/11/08

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – CAUTION - May be harmful if swallowed, inhaled or absorbed through skin. May cause eye and skin irritation. Avoid contact with eyes, skin and clothing. Avoid contact with open cuts or sores. Avoid breathing vapors. Use with adequate ventilation. Eye protection and gloves are suggested when handling undiluted product. Wash thoroughly after handling and using this product. In case of contact, flush with water. Get medical attention for eyes. This blended liquid seed treatment is derived from Anhydrous Ammonia, Acetic Acid, Potassium Nitrate, Urea Ammonium Nitrate Solution, Sodium Borate, Copper Sulfate, Ferrous Sulfate, Manganese Sulfate, Sodium Molybdate, Zinc Oxide, and Zinc Sulfate. Nausea and vomiting could be expected upon large dose ingestion. The acute ingestive effects are described as nausea, chills, and diarrhea. Eye or skin contact with these products could cause irritation (particularly in sensitive persons), and respiratory irritation could be expected from the unprotected inhalation of fertilizer mists. Product users should avoid prolonged or repeated skin contact by wearing impervious gloves, long sleeve shirt, long pants, socks and rubber boots. Goggles for eye protection are recommended.

This product is a clear dark green-colored liquid with slightly sweet non-offensive odor.

3. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Total Nitrogen (N)	6.00	Mixture	none established
Soluble Potash (K ₂ O)	1.00	Mixture	none established
Zinc (Zn)	5.00	Mixture	none established
Micro ingredients: B, Cu, Fe, Mn, Mo	0.781	Mixture	none established
Fertilizer salts and inert ingredients	87.219		

4. FIRST AID MEASURES

If in eyes: Immediately flush eyes with plenty of water. Continue flushing for at least 15 minutes and call a physician if irritation persists.
If on skin: Flush affected skin with water. Remove all contaminated clothing. Launder clothing before reuse.
If inhaled: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician if indicated.
If swallowed: Drink plenty of water if conscious. Call a physician or poison control center immediately for advice on inducing vomiting. Do not induce vomiting or give anything by mouth to an unconscious person.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: **1-866-944-8565**.

5. FIRE FIGHTING MEASURES

FLASH POINT (°F/Test Method): Does not flash.
FLAMMABLE LIMITS (LFL & UFL): Not established
EXTINGUISHING MEDIA: Considered non-combustible, use medium appropriate to surrounding fire. Dry chemical, carbon dioxide (CO₂), foam, water spray or fog.
HAZARDOUS COMBUSTION PRODUCTS: May include but are not limited to oxides of carbon and oxides of sulfur, ammonia, and oxides of nitrogen.
SPECIAL FIRE FIGHTING PROCEDURES: Use water spray to cool containers exposed to fire. Remain upwind. Avoid breathing smoke. Wear self-contained breathing apparatus and full protective gear.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Containers may burst due to pressure build-up of aqua ammonia.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Ventilate area. Contain spill, absorb liquid with clay or other absorbent material. Sweep up material and place in container for possible land application according to label use or for proper disposal. Check local, state and federal regulations for proper disposal.

CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

HANDLING: Open the container carefully. Contents may be under pressure and has a distinct odor of ammonia. Eye protection and gloves are suggested when handling undiluted product. Use with adequate ventilation.
STORAGE: Keep container tightly closed when not in use. A poorly sealed container may adversely affect product quality. Store in original container only. Store in a dry place above 40°F. Avoid freezing. If product freezes, allow it to warm and then mix thoroughly before use. Do not use food or drink containers for mixing or storage. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Not normally required. If ammonia odor is too strong use local or mechanical ventilation.
RESPIRATORY PROTECTION: Not normally required, if ammonia vapors are too strong wear a NIOSH approved respirator for anhydrous ammonia.
EYE PROTECTION: Chemical goggles or shielded safety glasses.
SKIN PROTECTION: Wear protective clothing: long-sleeved shirts and pants, shoes plus socks. Wear rubber or chemical-resistant gloves.

Ammonia	OSHA PEL 8 hr TWA 35 mg/m ³	ACGIH TLV-TWA 17 mg/m ³
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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Clear dark green-colored liquid with slightly sweet non-offensive odor
SPECIFIC GRAVITY (Water = 1): 1.187g/ml
VAPOR PRESSURE: Not established
PERCENT VOLATILE (by volume): Not established
Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

SOLUBILITY: Soluble
pH: 6.0 – 6.5 (neat)

BULK DENSITY: 9.91 lbs/gal.
BOILING POINT: 212°F/100°C
EVAPORATION RATE: Not established

10. STABILITY AND REACTIVITY

STABILITY: Stable
INCOMPATIBILITY: Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: May include but are not limited to oxides of carbon and oxides of sulfur, ammonia, and oxides of nitrogen.
HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Excessive heat. Keep containers tightly closed.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀ (rat): Ammonia: 350 mg/kg
Eye Irritation (rabbit): Causes mild irritation
Inhalation LC₅₀ (rat): 2000 ppm (4 hr).
Carcinogenic Potential: None listed in OSHA, NTP, IARC or ACGIH

Acute Dermal LD₅₀ (rabbit): not established
Skin Irritation (rabbit): Causes mild irritation
Skin Sensitization (guinea pig): not established.

12. ECOLOGICAL INFORMATION

Material is toxic to fish and other aquatic organisms.
 Do not contaminate water supplies.

13. DISPOSAL CONSIDERATIONS

Wastes may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent), adding rinse water to spray tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by appropriate authorities. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at <http://www.acrecycle.org/>. Do not contaminate water, food or feed by storage or disposal.

14. TRANSPORT INFORMATION

DOT Shipping Description: NOT REGULATED BY USDOT
Freight Classification: FERTILIZING COMPOUNDS (MANUFACTURED FERTILIZERS), NOI, LIQUID (NMFC 68140, SUB 6; CLASS 70)
 Consult appropriate ICAO/IATA and IMDG regulations for shipment requirements in the Air and Maritime shipping modes

15. REGULATORY INFORMATION

NFPA & HMIS Hazard Ratings:	<table border="0"> <tr> <td colspan="2">NFPA</td> <td colspan="2">HMIS</td> </tr> <tr> <td>1</td> <td>Health</td> <td>0</td> <td>Least</td> </tr> <tr> <td>0</td> <td>Flammability</td> <td>1</td> <td>Slight</td> </tr> <tr> <td>1</td> <td>Instability</td> <td>2</td> <td>Moderate</td> </tr> <tr> <td></td> <td></td> <td>3</td> <td>High</td> </tr> <tr> <td></td> <td></td> <td>4</td> <td>Severe</td> </tr> </table>	NFPA		HMIS		1	Health	0	Least	0	Flammability	1	Slight	1	Instability	2	Moderate			3	High			4	Severe	<table border="0"> <tr> <td>1</td> <td>Health</td> </tr> <tr> <td>0</td> <td>Flammability</td> </tr> <tr> <td>1</td> <td>Reactivity</td> </tr> <tr> <td>H</td> <td>PPE</td> </tr> </table>	1	Health	0	Flammability	1	Reactivity	H	PPE
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SARA Hazard Notification/Reporting

SARA Title III Hazard Category: Immediate Y Fire N Sudden Release of Pressure N
Delayed N Reactive N

Reportable Quantity (RQ) under U.S. CERCLA: Ammonia (CAS: 7664-41-7) 100 pounds

SARA, Title III, Section 313: Ammonia (CAS: 7664-41-7)

RCRA Waste Code: Not listed

CA Proposition 65: Not listed

16. OTHER INFORMATION

MSDS STATUS: Sections 1, 4, and 13 revised

PREPARED BY: Registrations and Regulatory Affairs

REVIEWED BY: Environmental/ Regulatory Services

®Awaken is a registered trademark of Loveland Products Inc.

U.S Patent Nos. 4,352,688; 5,637,553

Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.regulatory-info-lpi.com>

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