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WESTERN

FARM SERVICE

The Best People.
The Best Products.
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MATERIAL SAFETY DATA SHEET NO. 417

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME First Choice ^(R) Ultra Pro
Chemical Name Ammonium sulfate
Common Name, Synonyms Ammonium sulfate solution (enhancer)
MANUFACTURER Western Farm Service, Inc.
EMERGENCY TELEPHONE NUMBERS Information (209) 436-0450 8am-5pm PST M-F
CHEMTREC (800) 424-9300 24 hours every day

2. COMPOSITION/INFORMATION ON INGREDIENTS

Solution contains the following INGREDIENTS

Chemical Name	CAS#	
Ammonium sulfate	7783-20-2	Refer to Section 8 for
Water	7732-18-5	exposure guidelines

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Hazy, colorless to light tan liquid. Very slight odor

CAUTION! Moderately toxic if absorbed through skin
May irritate eyes, skin

OSHA HAZARD CATEGORY - IRRITANT

CERCLA RATINGS (SCALE 0-3)

HEALTH = 1 FIRE = 0 REACTIVITY = 0 PERSISTENCE = 0

PRIMARY ROUTE(S) OF ENTRY Skin or eye contact is the most likely exposure. Ingestion is possible. Inhalation of this solution is unlikely unless unusual conditions of use result in aerosol production.

TARGET ORGANS Eyes, skin

3. HAZARDS IDENTIFICATION (con't)

POTENTIAL HEALTH EFFECTS

Eyes	May cause irritation to eyes
Skin	Normally no irritation to skin. May be moderately toxic if absorbed through skin
Inhalation	May cause irritation to mucous membranes, coughing, or difficulty in breathing
Ingestion	May cause slight gastrointestinal irritation. Large doses of this solution may cause nausea, vomiting, stomach pain or cramps, diarrhea

SYMPTOMS OF OVEREXPOSURE

Acute	Refer to potential health effects above
Chronic	Repeated or prolonged contact with irritants may cause conjunctivitis or dermatitis.
Notes to Physician	In the case of inhalation, keep under medical supervision until there is no risk of acute pulmonary edema or microbial infection. Persons with chronic respiratory or skin disease may be at increase risk from exposure.

4. FIRST AID MEASURES

Eyes	Flush gently but thoroughly for 15 minutes with large amounts of clean water, occasionally lifting upper and lower lids. Seek medical attention.
Skin	Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If redness or rash develops and persists, seek medical attention. Wash or clean contaminated clothing and shoes before wearing again.
Inhalation	If respiratory symptoms develop, remove person to fresh air immediately. Seek medical attention if discomfort persists. Begin artificial respiration or CPR (cardiopulmonary resuscitation) if required. Seek medical attention immediately.
Ingestion	Seek medical attention immediately. If immediate help is not available, and person is conscious, give 8 to 16 ounces of water to drink and make person vomit. Do not force an unconscious person to drink or vomit.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION DATA

Flashpoint Not flammable
Flammable Limits Not flammable

Ammonia may evolve from this solution at high temperatures.
Flammable limits of ammonia gas in air (by volume) are Lower 16%,
Upper 25%

Autoignition Temperature Not applicable
Extinguishing Media Water spray or fog or extinguishing agents
suitable to the surrounding fire

SPECIAL FIRE FIGHTING PROCEDURES

Fire fighting procedures are based on possible escaping ammonia gases.
Keep unauthorized personnel away. Wear full protective clothing and self-
contained breathing apparatus. Stay upwind. Stop spill/release if it can
be done without risk. Apply water spray to knock down and absorb ammonia
vapors. Control runoff waters. Ventilate closed spaces before entering.
Always stay away from the ends of tanks.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Ammonium sulfate solutions are used as fire retardants.
Fire can evaporate product to dryness leaving crystals of ammonium
sulfate.
At high temperatures this solution may release toxic fumes of ammonia,
and nitrogen and sulfur oxides.

NFPA RATING		NFPA SCALE
Health Hazard	1	0 Least 1 Slight
Flammability	0	2 Moderate 3 High
Reactivity	0	4 Extreme

6. ACCIDENTAL RELEASE MEASURES

First Choice Ultra Pro is formulated for use on plants. However, large
spills could possibly damage vegetation or cause illness in animals.
Contamination of waterways could possibly cause fish kills. Dike spill
area to prevent spread and runoff into drains, storm sewers, and ditches
that lead to waterways. Keep children, animals, and unauthorized
personnel away from spills.

Pump spilled material into suitable containers for removal. Flush area
with water, contain and remove cleanup liquid. Small amounts of spilled
solution may be absorbed using appropriate absorbent material. As
conditions warrant, notify proper authorities, downstream sewer and water
treatment operations, and other downstream users about potentially
contaminated water.

7. HANDLING AND STORAGE

Hygienic Practices It is advisable to wash promptly if skin becomes contaminated; before eating, drinking, using tobacco, or chewing gum; before using toilet facilities; and at the end of the work shift before leaving worksite.

Storage Store in cool, well-ventilated areas. If product is packaged in steel, keep at temperatures below 17 $\text{\textcircled{F}}$ (76. $\text{\textcircled{F}}$ C). If product is packaged in plastic, keep at temperatures below 15 $\text{\textcircled{F}}$ (65. $\text{\textcircled{F}}$ C).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits No exposure limits have been set for this solution.

Ventilation None required under normal conditions.

Eyes Chemical protective goggles should be used where splashing may occur and when transferring solutions.

Skin Wear rubber or neoprene gloves for transfer operations or where splashing may occur. If irritation occurs, impervious clothing and gloves should be worn.

Respiratory None required under normal conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES (typical)

Boiling Point	21 $\text{\textcircled{F}}$ (10 $\text{\textcircled{F}}$ C)
Freezing Point	<3 $\text{\textcircled{F}}$ (. C)
Vapor Pressure	Not known
Vapor Density (air = 1)	Not known
Percent Volatile (by Volume)	Not known
Evaporation Rate	Not known
Solubility in Water	Complete
pH	6.0
Salt-out Temperature	<2 $\text{\textcircled{F}}$ (-6. $\text{\textcircled{F}}$ C)
Bulk Density	10.18 lbs/gal
Specific Gravity (T $\text{\textcircled{F}}$ O=1)	1.222 @ 6 $\text{\textcircled{F}}$ (2 $\text{\textcircled{F}}$ C)
Appearance and Odor	Hazy, colorless to light tan liquid Very slight odor

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions of use and storage
Hazarous Polymerization	Will not occur
Incompatiblility	Ammonium sulfate crystals can sensitize strong oxidizers such as chlorates, nitrates, or nitrites, making them more reactive in fire conditions.
Hazardous Decomposition Products	At high temperatures may release toxic fumes of ammonia, and nitrogen and sulfur oxides.
Conditions to Avoid	Avoid temperatures above 17. F (76. C) or 15. F (65. C) if stored in plastic.

11. TOXICOLOGICAL INFORMATION

Published health information about ingredients includes the following:

Ammonium sulfate	TDLo = 1500 mg/kg (oral, man) caused nausea or vomiting, hypermotility, diarrhea, other changes
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POTENTIAL CARCINOGEN DATA (IARC, NTP, OSHA)

None found for this solution

FOR HEALTH EMERGENCIES CALL YOUR LOCAL POISON CENTER

12. ECOLOGICAL INFORMATION

No data found

First Choice Ultra Pro is formulated for use on plants. However, large spills could possibly damage vegetation. Contamination of waterways could possibly cause fish kills. Prevent spread and runoff into drains, storm sewers, and ditches that lead to waterways.

13. DISPOSAL CONSIDERATIONS

If uncontaminated, recover and reuse as product. If contaminated with other materials, the nature and extent of contamination may require use of specialized disposal methods. Consult local, county, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations.

14. TRANSPORTATION INFORMATION

DOT Proper Shipping Name Not applicable
DOT Hazard Class This solution not regulated by DOT
ID No. Not listed
Packaging Group Not applicable
NA ERG No. Not applicable

Label/Placard Required None

Freight Description Fertilizing compound (manufactured) liquid

FOR TRANSPORTATION EMERGENCIES CALL CHEMTREC 1-800-424-9300

15. REGULATORY INFORMATION

Reportable Quantity - CERCLA None established

SARA Title III (EPCRA) Ammonium sulfate solution is subject to
the reporting requirements of Section 313
(40 CFR Part 372)

CAS#	Chemical name	Percent by weight
7783-20-2	Ammonium sulfate	38

EPA NATIONAL RESPONSE CENTER 1-800-424-8802

16. OTHER INFORMATION

DATE PREPARED April 14, 1997
Revised May 11, 1997: Additions to Sections
1,5, and 9
Revised July 24, 1997: Sections 3 and 15

NAME OF RESPONSIBLE PARTY Western Farm Service, Inc.
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NOTICE

All information appearing in this document is based on data provided by third party sources and is compiled to comply with the Federal Hazard Communication Standard and the California Hazardous Substances Information and Training Act. The information is believed to be accurate as of the preparation date but is not warranted as being the final authority in the use of this product. This information does not purport to be legal or medical advice.

Western Farm Service, Inc., makes no warranty of merchantability, fitness for any purpose or otherwise, express or implied, concerning this product or its uses which extend beyond the use of the product under normal conditions in accord with the statements made on the label.

FIRST CHOICE ^(F) is a registered trademark of Western Farm Service, Inc.