



TETRA AMMONIUM CHLORIDE SOLID

This MSDS complies with the style format specified by ANSI Z400 1-1993

SECTION 1: CHEMICAL PRODUCT - COMPANY IDENTIFICATION

TETRA Technologies, Inc. (281) 367-1983
 25025 I-45 North (800) 327-7817
 The Woodlands, Texas 77380

(800) 424-9300 **CHEMTREC (24-Hour Emergency Response)**
(800) 222-1222 **POISON CONTROL**

SUBSTANCE: Ammonium Chloride
SYNONYM: Sal Ammoniac
CHEMICAL FAMILY: Inorganic Salt
MSDS CREATION DATE: 04 MAR 96
MSDS REVISION DATE: 10 MAR 04

SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	RTECS NUMBER	PERCENTAGE
Ammonium Chloride	12125-02-9	BP4550000	> 99%

PROBABLE CONTAMINANT: Trace Sodium Chloride

SECTION 3: HAZARDS IDENTIFICATION

NFPA RATINGS: (SCALE 0-4): HEALTH=1 FIRE=0 REACTIVITY=0

EMERGENCY OVERVIEW: Odorless, white crystals, granules or powder. Causes respiratory tract and eye irritation. Avoid breathing dust and contact with eyes, skin and clothing. May be harmful if swallowed. Store in tightly closed containers. Wash thoroughly after handling. Use only with adequate ventilation.

POTENTIAL HEALTH EFFECTS:

INHALATION: May cause irritation to upper respiratory tract.
SKIN CONTACT: May cause irritation.
EYE CONTACT: May cause irritation.
INGESTION: May cause nausea and vomiting; burning to mouth and stomach.
CARCINOGEN STATUS:
 OSHA: No NTP: No IARC: No

SECTION 4: FIRST AID MEASURES

INHALATION: Remove to fresh air immediately. Get medical attention.
SKIN CONTACT: Remove contaminated clothing. Wash affected area with large amounts of soap and water.
EYE CONTACT: Flush with large amounts of water. Get medical attention.
INGESTION: If conscious, give large amounts of water. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARD: Negligible fire hazard when exposed to heat or flame.
EXTINGUISHING MEDIA: Extinguish using agent suitable for type of surrounding fire.
FIREFIGHTING: Move container from fire area if you can do it without risk. Do not scatter spilled material with high-pressure water streams. Dike fire control water for later disposal. Avoid breathing vapors or dusts.



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HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition products may include toxic fumes of ammonia, hydrogen chloride, chlorine, and nitrogen oxides.

SECTION 6: ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL SPILL: Sweep up and place in clean, dry containers for disposal. Do not flush spilled material into sewer. Restrict access.

REPORTABLE QUANTITY (RQ): 5,000 pounds (2,270 kg) of pure ammonium chloride
If the release of this substance is reportable under CERCLA Section 102a/103, the National Response Center must be notified immediately at (800) 424-8802 or (202) 426-2675 in the metropolitan Washington, D.C. area (40 CFR 302.6).

WATER SPILL: Add suitable agent to neutralize spilled material to pH 7.

SECTION 7: HANDLING AND STORAGE

Observe all federal, state, and local regulations when storing this substance. Protect against physical damage. Store in a cool, dry location in a tightly closed container away from incompatible substances.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS: Established by OSHA/ACGIH/NIOSH:

ACGIH TWA (fume) / NIOSH 10 hr TWA (fume)	ACGIH STEL (fume) / NIOSH STEL (fume)
10 mg/m ³	20 mg/m ³

VENTILATION: Provide local exhaust ventilation system to meet published exposure limits.

EYE PROTECTION: Safety glasses/goggles with side shields.

EMERGENCY WASH FACILITIES: Where there is possibility of exposure, the employer should provide an eye wash fountain and a safety shower within the immediate work area for emergency use

GLOVES/CLOTHING: Chemical resistant gloves and clothing.

RESPIRATOR: None required where adequate ventilation conditions exists. If airborne concentration is high, use an appropriate respirator or dust mask.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

DESCRIPTION: Odorless, white crystals, granules or powder.
MOLECULAR WEIGHT: 53.49
MOLECULAR FORMULA: NH₄Cl
MELTING POINT: dissociates at 640° F (338° C); sublimes without melting
SPECIFIC GRAVITY: 1.53
WATER SOLUBILITY: Appreciable (~28% @ 25°C); % volatiles by volume: 0

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Stable under normal temperatures and pressures.

CONDITIONS TO AVOID: Moisture and heat

INCOMPATIBILITIES: strong oxidizing agents, strong acids, strong bases, lead and silver compounds.

HAZARDOUS DECOMPOSITION: Thermal decomposition products may include toxic fumes of ammonia, hydrogen chloride, chlorine, and nitrogen oxides.

POLYMERIZATION: Has not been reported to occur under normal temperatures and pressures.



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SECTION 11: TOXICOLOGICAL INFORMATION

TOXICITY DATA: Ammonium Chloride

LD₅₀: 1,650 mg/kg, oral, rat

LD₅₀: 485 mg/kg, ipr, mouse

CARCINOGEN STATUS: None.

LOCAL EFFECTS: Irritant - inhalation, eye, skin

ACUTE TOXICITY LEVEL: Moderately toxic by ingestion.

SECTION 12: ECOLOGICAL INFORMATION

Highly toxic to aquatic life.

SECTION 13: DISPOSAL INFORMATION:

Observe all federal, state and local regulations when disposing of this substance.

SECTION 14: TRANSPORT INFORMATION

Shipping Class 9: Applies where more than 5000 lbs. in a single container

Shipping Name-ID: RQ, Environmentally Hazardous Substance, Solid, n.o.s. (contains Ammonium Chloride), UN 3077

Packing Group: III

Labeling Requirements: Environmental Hazardous Substance, Solid, n.o.s. (contains Ammonium Chloride)

US DOT Vessel Stowage Requirements: A

US DOT Emergency Guide Number: 31

SECTION 15: REGULATORY INFORMATION

TSCA STATUS:	Yes
EINECS STATUS:	Yes
CERCLA SECTION 102a/103:	Yes (5,000 pounds RQ)
SARA SECTIONS 302, 304, 313	No
SARA HAZARD CATEGORIES, SECTIONS 311/312	
ACUTE HAZARD:	Yes
OSHA Process Safety:	No
California Proposition 65:	No

SECTION 16: OTHER INFORMATION

Individuals handling this product should be informed of the recommended safety precautions and should have access to this information.

This information relates to the specific product designated and may not be valid for such product used in combination with any other materials or in any other processes. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability, or completeness. It is the users' responsibility to satisfy themselves as to the suitability and completeness of such information for their own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

TETRA Technologies, Inc. reserves the right to refuse shipment of this product to any consumer who fails to demonstrate the ability to consistently handle and use it safely and in compliance with all applicable laws, rules



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and regulations. Such demonstration may require on-site inspection of any or all storage, processing, packaging and other handling systems that come in contact with it.

Customers are responsible for compliance with local, state and federal regulations that may be pertinent in the storage, application and disposal of this product.