



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### Ammonium Chloride

#### SECTION 1: IDENTIFICATION

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**Product Name:** Ammonium Chloride

**CAS Number:** 12125-02-9

**Chemical Name:**

**Synonyms:** Sal ammoniac; Ammonium muriate

**Company**

Silver Fern Chemical, Inc.  
2226 Queen Anne Avenue North  
Suite #C  
Seattle WA 98109, USA

**Business Contact**

Customer Service: 206-282-3376  
[info@silverfernchemical.com](mailto:info@silverfernchemical.com)

**24 Hour Emergency Contact**

Infotrac 800-535-5053  
Outside USA & Canada 352-323-3500

#### SECTION 2: HAZARD IDENTIFICATION

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**Emergency Overview**

**Appearance:** White powder.

**WARNING!** CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. HARMFUL IF SWALLOWED OR INHALED.

**Target Organs:** Eyes, skin

**Potential Health Effects**

**Skin Contact:** Causes irritation to skin. Symptoms include redness, itching, and pain.

**Eye Contact:** Causes irritation, redness, and pain.

**Ingestion:** Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.



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#### SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

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CAS#	Chemical Name	Percent	EINECS/ELINCS
12125-02-9	Ammonium Chloride	99 - 100%	235-186-4

#### SECTION 4: FIRST AID MEASURES

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**Eyes:** In case of contact, rinse opened eye for several minutes under running water. Then consult a doctor.

**Skin:** In case of contact, immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

**Ingestion:** Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

#### SECTION 5: FIRE FIGHTING MEASURES

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**Suitable extinguishing agents:** Product is not flammable. Use fire fighting measures that suit the surrounding fire.

**Special hazards arising from the substance or mixture:** In case of fire, the following can be released: Nitrogen oxides (NOx), Hydrogen chloride (HCl), Ammonia.

**Protective equipment:** Wear self-contained respirator, wear fully protective impervious suit.



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#### SECTION 6: ACCIDENTAL RELEASE MEASURES

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**General Information:** See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

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**Spills/Leaks:** Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities.

#### SECTION 7: HANDLING AND STORAGE

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**Handling:** Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Prevent formation of dust.

**Storage:** Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

#### SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

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**Engineering Controls:** Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.



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#### Exposure Limits

**Chemical Name: ACGIH(TLV),STEL:**

Ammonium Chloride,10 mg/m<sup>3</sup>(TWA),20 mg/m<sup>3</sup> Fume.

#### General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

**Eye protection:** Safety glasses.

**Body protection:** Protective work clothing.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**Physical State:** Solid

**Appearance:** White crystalline

**Odor:** Odorless.



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**pH:** Not applicable.

**Change in condition**

**Melting point/Melting range:**340°C(644F)

**Boiling point/Boiling range:**520°C(968F)

**Vapor Pressure:**1 mm Hg @ 160C

**Vapor Density (Air=1):**1.9

**Evaporation Rate (BuAc=1):**Not available

**Solubility:** 29.7g/100g water @ 0C (32F)

**Specific Gravity:** 1.53g/cm<sup>3</sup>.

**Molecular Formula:**NH<sub>4</sub>Cl

**Molecular Weight:**53.49

## SECTION 10: STABILITY AND REACTIVITY

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**Chemical Stability:** Stable under ordinary conditions of use and storage.

**Incompatibilities:** Concentrated acids, strong bases, silver salts, potassium chlorate, ammonium nitrate, bromine trifluoride and iodine heptafluoride. Ammonium chloride reacts explosively with potassium chlorate or bromine trifluoride, and violently with bromine pentafluoride, ammonium compounds, nitrates, and iodine heptafluoride. Explosive nitrogen trichloride may result from reaction of ammonium chloride and hydrogen cyanide.

**Conditions to Avoid:** Heat, moisture, incompatibles.

**Hazardous Decomposition Products:** Involvement in a fire causes decomposition to form hydrogen chloride and



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ammonia.

**Hazardous Polymerization:** Will not occur.

#### SECTION 11: TOXICOLOGICAL INFORMATION

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**Acute toxicity:**

**Oral rat LD50 :** 1650 mg/kg Investigated as a mutagen

**Primary irritant effect:**

**On the skin:** Irritant to skin and mucous membranes.

**On the eye:** Irritating effect.

**Sensitization:** No sensitizing effects known.

**Other information (about experimental toxicology):**

Mutagenic effects have been observed on tests with laboratory animals.

**Subacute to chronic toxicity**

Ammonium chloride is severely irritating to the eyes. It irritates the skin, digestive and upper respiratory tracts on contact. Reportedly high concentrations may cause convulsions or tremors.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.



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#### SECTION 12: ECOLOGICAL INFORMATION

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**Toxicity:** No further relevant information available.

**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

#### SECTION 13: DISPOSAL CONSIDERATIONS

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**Waste treatment methods**

Recommendation consults state, local or national regulations to ensure proper disposal.

**Unclean packaging:**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

#### SECTION 14: TRANSPORT INFORMATION

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Not a hazardous material for transportation

**DOT regulations:**



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**Hazard class:** None

**Land transport ADR/RID (cross-border)**

**ADR/RID class:** None

**Maritime transport IMDG:**

**IMDG Class:** None

**Marine pollutant:** No

**Air transport ICAO-TI and IATA-DGR**

**ICAO/IATA Class:** None

**Special precautions for user** Not applicable

**Transport /Additional information:** Not dangerous according to the above specifications.

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

## SECTION 15: REGULATORY INFORMATION

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**Hazard symbols:** Xn Harmful

**Risk phrases:** 22 Harmful if swallowed. 36 Irritating to eyes.

### National regulations

All components of this product are listed in the U.S, Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory. All components of this product are listed on DSL.





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#### Information about limitation of use:

For use only by technically qualified individuals. This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: OTHER INFORMATION

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#### Label Hazard Warning:

WARNING! CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. HARMFUL IF SWALLOWED OR INHALED.

#### Label Precautions:

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Wash thoroughly after handling.

Keep container closed.

Use only with adequate ventilation.

#### Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

**Product Use:** Laboratory Reagent.

**Revision Information:** MSDS Section(s) changed since last revision of document include: 12.



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