MATERIAL SAFETY DATA SHEET

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MSDS # 21
AMMONIUM CHLORIDE
Revision B

Issued: September, 1977
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From Genium's MSDS Collection, to be used as a reference.

SECTION 1. MATERIAL IDENTIFICATION

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MATERIAL NAME: AMMONIUM CHLORIDE
OTHER DESIGNATIONS: Amchlor, Ammoneric, Ammonium Muriate, Darommon, Sal Ammonia, Salmiac sal ammoniac, Salammonite, NH_4Cl; CAS #12125-02-9.
MANUFACTURER: Available from many suppliers, including:

Allied Corporation
Columbia Rd. & Park Ave.
Morristown, NJ 07960
(800) 631-8050

SECTION 2. INGREDIENTS AND HAZARDS

	%	HAZARD DATA
AMMONIUM CHLORIDE	ca 100%	8-hr TWA: 10 mg/m^3* STEL: 20 mg/m^3* ---------- Rat, oral: LD50: 1650 mg/kg ---------- Rabbit, eye: 500 mg/24 hr. Severely irritating.

* Current ACGIH TLV and STEL (1985-86) for Ammonium Chloride fumes.

SECTION 3. PHYSICAL DATA

Boiling point, 1 atm ..... 968°F (520°C)
Vapor pressure @ 160.4°, mmHg ..... 1 (sublimes)
Vapor density (Air=1) ..... N/A
Solubility in water @ 20°C, wt % ... 37
Specific gravity @ 20°C ... 1.53
Volatiles, % 100
Evaporation rate ..... N/A
Melting point ..... 640°F (337.8°C)
Molecular weight 53.50

APPEARANCE & ODOR: White, crystalline, somewhat hygroscopic odorless solid.

SECTION 4. FIRE AND EXPLOSION DATA

Flash Point and Method	Autoignition Temp.	Flammability Limits in Air	Lower	Upper
Non-Combustible	N/A	N/A		

EXTINGUISHING MEDIA: Use extinguishing agents that are appropriate for the surrounding fire. Use water spray to cool tank/container.

Firefighters should wear self-contained breathing apparatus and full protective clothing.

SECTION 5. REACTIVITY DATA

Ammonium Chloride is stable at room temperature in closed containers under normal storage and handling conditions. It does not undergo hazardous polymerization.
This material may react explosively with Boron trifluoride, Boron Pentafluoride, Iodine Heptafluoride and Potassium chlorate. The decomposition of ammonium nitrate in the presence of ammonium chloride (0.1%) becomes violent at 175°C and liberates chlorine gas. In the presence of alkalies, ammonia is evolved; while in the presence of acids, hydrogen chloride is evolved.

Thermal decomposition or burning produces ammonia and hydrochloric acid fumes.

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SECTION 6. HEALTH HAZARD INFORMATION

TLV 10 mg/m^3 (see Section 2)

Inhalation of dust or fumes of ammonium chloride may be irritating to the nose, throat and lungs. Prolonged or repeated contact with the skin may cause irritation, while contact with the eyes may cause irritation or burns. This material has low-grade systemictoxicity by ingestion, although ingestion of large amounts can be harmful. Ingestion causes irritation of the mouth and gastrointestinal tract. Diechmann & Gerarde (#60)report that unpublished 6-hr. inhalation studies on laboratory animals in their laboratory indicate that a concentration of 50 mg/m^3 of ammonium chloride vapors induces no signs of intoxication during the exposure. Post mortem examination immediately after exposure demonstrated congestion of the trachea and bronchial mucosa with increased mucous; the lungs were distended and emphysematous with petechial hemorrhages and hyperemia. The liver was enlarged, the spleen brownish-red in color and the adrenal medulla was hemorrhagic. The ACGIH has established a TLV of 10 mg/m^3 to prevent irritation of the respiratory passages.

FIRST AID: EYE CONTACT: Flush eyes, including under eyelids, with running water for at least 15 minutes. Get medical attention if irritation persists. SKIN CONTACT: Wash exposed area with soap and water. Get medical attention if irritation persists. INHALATION: Remove victim to fresh air. Restore and/or support breathing as needed. Get medical assistance (inplant, paramedic, community). INGESTION: Give victim milk or water as quickly as possible. Call a physician or Poison Control Center. Transport to a medical facility. Never give anything by mouth to a person who is unconscious or is having convulsions.

SECTION 7. SPILL, LEAK AND DISPOSAL PROCEDURES

Notify safety personnel of large spills. Evacuate all non-essential personnel. Provide maximum explosion-proof ventilation. Use clean-up procedures that minimize dust and fume generation such as vacuuming and/or wet mopping. Clean-up personnel should wear personal protective equipment to prevent skin and eye contact and inhalation of dust and fumes.

Keep ammonium chloride out of water sources and sewers.

DISPOSAL: Place in suitable containers for disposal by licensed contractor. Follow all Federal, State and Local regulations.

EPA (CWA) Reportable Quantity (RO) in event of spill is 5000 lbs/2270 kgs. (40CFR 116-117).

SECTION 8. SPECIAL PROTECTION INFORMATION

Provide general and local exhaust ventilation (explosion-proof) to meet TLV requirement for ammonium chloride fumes. For emergency or non-routine exposures where the TLV may be exceeded, wear an appropriate NIOSH-approved respirator with full face protection.

When handling this compound, wear protective clothing, impervious gloves and chemical safety goggles to prevent skin and eye contact.

Eyewash stations and safety showers should be accessible to use and handling areas.

Contact lenses pose a special hazard; soft lenses may absorb and all lenses concentrate irritants.

SECTION 9. SPECIAL PRECAUTIONS AND COMMENTS

Store in a cool, dry, well-ventilated area away from fluorides, chlorates, nitrates, silver salts, acids and alkalies. Keep container tightly closed. Protect container from physical damage.

Use only with adequate ventilation. Wash thoroughly before eating, drinking and smoking. Avoid skin and eye contact and inhalation of dust or fumes.

At fire temperatures, ammonium chloride corrodes metals.

DOT CLASSIFICATION: ORM-E, NA 9085

DATA SOURCE(S) CODE (See Glossary) 1, 2, 4-12, 25, 34, 47, 48, 49, 55, 60, 63, 69, 78. R.

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