

Name:

Ammonium Chloride

Synonym:

Ammonium Chloratum; Ammonium Chloridum; Ammonium Muriate; Sal Ammonia; Salmiac

CAS:

12125-02-9

Section 1 - Chemical Product

MSDS Name: Ammonium Chloride

Synonym: Ammonium Chloratum; Ammonium Chloridum; Ammonium Muriate; Sal Ammonia; Salmiac

Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	emsds	EINECS#
12125-02-9	Ammonium chloride	>99.0	235-186-4

Hazard Symbols: XN

Risk Phrases: 22 36

Section 3 - HAZARDS IDENTIFICATION

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:

Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion:

Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Section 4 - FIRST AID MEASURES

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:

Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion:

Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Section 5 - FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Substance is noncombustible. Containers may explode in the heat of a fire. May polymerize explosively when involved in a fire.

Extinguishing Media:

Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Cool containers with flooding quantities of water until well after fire is out.

Section 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions.

Provide ventilation.

Section 7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Use with adequate ventilation.

Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage:

Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture. Store below 40 C.

Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits CAS# 12125-02-9: United Kingdom, WEL - TWA: 10 mg/m³ TWA (fume) United Kingdom, WEL - STEL: 20 mg/m³ STEL (fume) Belgium - TWA: 10 mg/m³ VLE (fumes) Belgium - STEL: 20 mg/m³ VLE (fumes) France - VME: 10 mg/m³ VME (fume) Malaysia: 10 mg/m³ TWA (fume) Netherlands: 10 mg/m³ MAC (smoke) Russia: 10 mg/m³ TWA (fumes) Spain: 10 mg/m³ VLA-ED (fume) Spain: 20 mg/m³ VLA-EC (fume) Personal Protective Equipment Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear impervious gloves.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Crystalline powder

Color: colorless or white

Odor: odorless

pH: 5.0 (10% sol at 25C)

Vapor Pressure: 1 mm Hg @ 160.4C

Viscosity: Not available.

Boiling Point: 520 deg C(sublimes)

Freezing/Melting Point: 328 deg C

Autoignition Temperature: Not available.

Flash Point: Not available.

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature: Not available.

Solubility in water: 39.6% at 176F.

Specific Gravity/Density: 1.53 (Water=1)

Molecular Formula: NH₄Cl

Molecular Weight: 53.4877

Section 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable at room temperature in closed containers under normal storage and handling conditions. Hygroscopic: absorbs moisture or water from the air. Hygroscopic: absorbs moisture or water from the air.

Conditions to Avoid:

Excess heat, exposure to moist air or water.

Incompatibilities with Other Materials:

Acids, bases, bromine trifluoride, nitrates, potassium chlorates, silver salts, carbonates, bromine pentafluoride, lead salts.

Hazardous Decomposition Products:

Ammonia and hydrochloric acid fumes.

Hazardous Polymerization: May occur.

Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 12125-02-9: BP4550000 BP4570000 LD50/LC50:

CAS# 12125-02-9: Draize test, rabbit, eye: 500 mg/24H Mild; Draize test, rabbit, eye: 100 mg Severe; Oral, mouse: LD50 = 1300 mg/kg; Oral, rat: LD50 = 1650 mg/kg.

Carcinogenicity:

Ammonium chloride - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Fish: LC50 = 109.0 mg/L; 48 Hr.; Static conditions Sunfish (fresh water) TLm=6 ppm/96H

Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - TRANSPORT INFORMATION

IATA

Not regulated as a hazardous material.

IMO

Not regulated as a hazardous material.

RID/ADR

Not regulated as a hazardous material.

USA RQ: CAS# 12125-02-9: 5000 lb final RQ; 2270 kg final RQ

Section 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN

Risk Phrases:

R 22 Harmful if swallowed.

R 36 Irritating to eyes.

Safety Phrases:

S 22 Do not breathe dust.

WGK (Water Danger/Protection)

CAS# 12125-02-9: 1

Canada

CAS# 12125-02-9 is listed on Canadas DSL List.

CAS# 12125-02-9 is listed on Canadas Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 12125-02-9 is listed on the TSCA inventory.