

SAFETY DATA SHEET

Preparation Date: 10/17/2014

Revision Date: 10/17/2014

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: A1165
Product Name: AMMONIUM CHLORIDE, GRANULAR, REAGENT, ACS

Other means of identification

Synonyms: Sal ammonia
Sal ammoniac
Ammonium muriate
Amchlor
Ammoneric

CAS #: 12125-02-9
RTECS # BP4550000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Fertilizer compositons. Electroplating agent. Diuretics. Expectorants.
Uses advised against No information available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2A

Label elements

Warning**Hazard statements**

Harmful if swallowed
Causes serious eye irritation

**Hazards not otherwise classified (HNOC)**

Not Applicable

Other hazards

Causes mild skin irritation

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear eye/face protection

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Ammonium Chloride 12125-02-9	12125-02-9	100	*

4. FIRST AID MEASURES**First aid measures****General Advice:**

Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). First aider needs to protect himself. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. If skin irritation persists, call a physician.

Eye Contact:

Flush eye with water for 15 minutes. Get medical attention.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

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Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Irritating to eyes. May cause skin irritation. May cause digestive (gastrointestinal) tract irritation. May cause nausea and vomiting. May cause metabolic acidosis. Central nervous system effects. May cause cardiovascular effects. May affect respiration. May affect the urinary system. It may affect the kidneys.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: Nitrogen oxides, ammonia, hydrogen chloride gas

Specific hazards: The substance itself does not burn, but may decompose upon heating

Special Protective Actions for Firefighters

Specific Methods: No information available.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Avoid dust formation.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Do not let this chemical enter the environment. Prevent entry into waterways, sewers.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

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Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not ingest. Do not breathe vapours/dust. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Hygroscopic. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:

Acids. Oxidizing agents. Alkalis.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Ammonium Chloride - 12125-02-9	None	10 mg/m ³ TWA 20 mg/m ³ STEL	20 mg/m ³ STEL fume 10 mg/m ³ TWA fume	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Ammonium Chloride - 12125-02-9	10 mg/m ³ TWA fume 20 mg/m ³ STEL fume	10 mg/m ³ TWA fume 20 mg/m ³ STEL fume	10 mg/m ³ TWA fume	10 mg/m ³ TWAEV fume 20 mg/m ³ STEV fume

Australia and Mexico

Components	Australia	Mexico
Ammonium Chloride 12125-02-9	20 mg/m ³ STEL 10 mg/m ³ TWA	10 mg/m ³ TWA 20 mg/m ³ STEL

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles.

Skin and body protection: Long sleeved clothing. Chemical resistant apron. Gloves.

Respiratory protection: Wear respirator with dust filter..

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Solid.

Appearance:

Granular. Crystalline. Crystals.
Crystalline block.

Color:

White.

Odor:

Odorless.

Taste

Cooling. Saline.

Formula:

NH₄Cl

Molecular/Formula weight:

53.49

Flash point (°C):

No data available

Flashpoint (°C/°F):

No information available.

Flash Point Tested according to:

Not applicable

Lower Explosion Limit (%):

No information available

Upper Explosion Limit (%):

No information available

Autoignition Temperature (°C/°F):

No information available

pH:

No information available

Melting point/range(°C/°F):

No information available

Boiling point/range(°C/°F):

No information available

Decomposition temperature(°C/°F):

338-340 °C/640.4-644 °F (sublimation)

Specific gravity:

1.5274- 1.567 @ 20 deg. C

Density (g/cm³):

No information available

Bulk density:

No information available

Vapor pressure @ 20°C (kPa):

No information available

Evaporation rate:

No information available

Vapor density:

1.8-1.9

VOC content (g/L):

No information available

Odor threshold (ppm):

No information available

**Partition coefficient
(n-octanol/water):**

No information available

Viscosity:

No information available

Miscibility:

No information available

Solubility:

Insoluble in Acetone
Insoluble in Ether
Insoluble in Ethyl acetate
Soluble in Methanol
Soluble in Water
Solubility in Water:
29.7 g/100ml water at 0 deg. C
75.8 g/100 ml water at 100 deg. C
37.8 lbs./100 lbs. water at 70 deg. F
28.3% (w/w) in water at 25 deg. C
39.5 g/100 ml @ 25 deg. C
Soluble in liquid ammonia

10. STABILITY AND REACTIVITY

Reactivity

10. STABILITY AND REACTIVITY

Reactive with acids

Reactive with oxidizing agents

Can react violently or explosively with ammonium nitrate bromine pentafluoride, iodine heptafluoride Bromine trifluoride, alkalis and their carbonates, and potassium chlorate

Attacks copper and copper compounds

Chemical stability

Stability: Stable at normal conditions

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Avoid dust formation. Incompatible materials.

Incompatible Materials: Acids. Oxidizing agents. Alkalis.

Hazardous decomposition products: Ammonia. Nitrogen oxides (NOx). Hydrogen chloride gas.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation.

Acute Toxicity

Component Information

Ammonium Chloride - 12125-02-9

LD50/oral/rat = 1410 mg/kg Oral LD50 Rat (LOLI; European Chemicals Bureau (IUCALID Dataset)
1650 mg/kg (RTECS; European Chemicals Bureau (IUCALID Dataset)

LD50/oral/mouse = 1300 mg/kg (RTECS)

LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available

LC50/inhalation/rat = No information available

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 1410mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 1300mg/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = No information available

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LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms**Skin Contact:** May cause skin irritation. Mild skin irritation.**Eye Contact:** Causes eye irritation. Moderately irritating to the eyes. It may cause Salt Cataract, increased ocular pressure, and degeneration of the retina.**Inhalation
Ingestion** May cause irritation of respiratory tract.
Harmful if swallowed. May cause digestive (gastrointestinal) tract irritation. Ingestion may cause nausea, vomiting. May cause thirst. May affect behavior/central nervous system (headache, somnolence, confusion, drowsiness, tremor, convulsions, coma), eyes (Mydriasis), cardiovascular system (bradycardia), respiration (respiratory stimulation, apnea, hyperventilation, pulmonary edema). May cause serious metabolic acidosis with hypokalemia. Transient hyperglycemia and glycosuria may also occur. May cause hyperchloremia.**Aspiration hazard** No information available**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Chronic Toxicity** Prolonged or repeated ingestion may cause metabolic acidosis and affect the urinary system (kidneys).
Inhalation: Prolonged or repeated inhalation may cause asthma-like allergy.
Symptoms may include bronchospasm, shortness of breath, wheezing, cough, and/or chest tightness.**Sensitization:** No information available**Mutagenic Effects:** No information available**Carcinogenic effects:** Not considered carcinogenic.

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Ammonium Chloride	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity No data is available**Reproductive Effects:** No information available**Developmental Effects:** No information available**Teratogenic Effects:** No information available**Product code:** A1165**Product name:** AMMONIUM
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Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure No information available
Target Organs: Lungs. Respiratory system. Kidneys.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Ammonium Chloride - 12125-02-9

Freshwater Fish Species Data: 209 mg/L LC50 Cyprinus carpio 96 h static 1

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ammonium Chloride	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not regulated (although listed Table 1 to Appendix A - Hazardous Substances Other Than Radionuclides, it is not regulated for transport in sold quantities, which are below the Reportable Quantity (RQ))

Proper Shipping Name: No information available

Hazard Class: No information available

Subsidiary Risk: Not applicable

Packing Group: None

Marine Pollutant No data available

ERG No: No information available

DOT RQ (lbs): 5000 lbs./2270 kg

TDG (Canada)

UN-No: Not Regulated

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Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

ADR

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available
IMDG Page: No information available
Marine Pollutant No information available
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Classification Code: No information available
Description: No information available

ICAO

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

IATA

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

15. REGULATORY INFORMATION

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15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Ammonium Chloride	Present	Present KE-01645	Present	Present (1)-218	Present	Present	Present 235-186-4

U.S. Regulations

Ammonium Chloride

- Massachusetts RTK:** Present
- New Jersey RTK Hazardous Substance List:** Present
- New Jersey - Discharge Prevention - List of Hazardous Substances:** Present
- Pennsylvania RTK:** Environmental hazard
- Pennsylvania RTK - Environmental Hazard List** Present
- RI RTK - Hazardous Substances List:** Present
- Minnesota - Hazardous Substance List:** Present
- New York Release Reporting - List of Hazardous Substances:**
5000 lb RQ
100 lb RQ
- Louisiana Reportable Quantity List for Pollutants:** 5000lbfinal RQ
2270kgfinal RQ
- California Directors List of Hazardous Substances:** Present
- FDA - Food Additives Generally Recognized as Safe (GRAS):** 21 CFR 184.1138

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Ammonium Chloride	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Ammonium Chloride	5000 lb final RQ 2270 kg final RQ	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Ammonium Chloride	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

D2B Toxic materials

Ammonium Chloride

D2B

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Ammonium Chloride**Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Ammonium Chloride	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Ammonium Chloride	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ammonium Chloride	Not listed	Not listed

EU Classification**R-phrase(s)**

R22 - Harmful if swallowed.

R36 - Irritating to eyes.

S -phrase(s)

S 2 - Keep out of the reach of children.

S22 - Do not breathe dust.

Components	Classification	Concentration Limits:	Safety Phrases
Ammonium Chloride	Xn; R22 Xi; R36	No information	S2 S22

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xi - Irritant.

Xn - Harmful.

**16. OTHER INFORMATION**

16. OTHER INFORMATION

NFPA	HMIS	Personal Protective Equipment
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Health Hazard	2
Fire Hazard	0
Reactivity	0



See Section 8.

Preparation Date: 10/17/2014
Revision Date: 10/17/2014
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Material Safety Data Sheet