

Preparation Date: 01/01/2019

Revision Date: N/A

Revision Number: N/A

1. IDENTIFICATION

Product identifier

Product code: C1515

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 composits. Electroplating agent. Diuretics. Expectorants.

Uses advised against: No information available

Supplier: **Dawn Scientific Inc**
121 Liberty Street, Metuchen, NJ, 08840
Tel : 732-902-6300 | Fax : 973-802-1005
sales@dawnscientific.com | www.dawnscientific.com

Emergency telephone number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

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

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

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

Component	CAS No	Weight-%
Ammonium Chloride	12125-02-9	100

4. FIRST AID MEASURES

First aid measures

General Advice:

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. 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 clothing and shoes. Get medical attention if irritation develops. If skin irritation persists, call a physician.

Eye Contact:

Flush eyes 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.

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

Hazardous combustion products

If it is involved in a fire the following can be released: Nitrogen oxides (NO_x). 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

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 vapors/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

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
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

Component	CAS No	Canada - Alberta	Canada - British	Canada - Ontario	Canada - Quebec
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			Columbia		
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	20 mg/m ³ STEL	None

Australia and Mexico

Component	CAS No	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 (g/mole):

53.49

Flammability (solid, gas)

no data available

Flashpoint (°C/°F):

No information available

Flash Point Tested according to:

Not applicable

Autoignition Temperature (°C/°F):

No information available

Lower Explosion Limit (%):

No information available

Upper Explosion Limit (%):

No information available

Melting point/range(°C/°F):

No information available

Decomposition temperature(°C/°F):

338-340 °C/640.4-644 °F (sublimation)

Boiling point/range(°C/°F):

No information available

Bulk density:

No information available

Density (g/cm³):

No information available

Specific gravity:

1.5274- 1.567 @ 20 deg. C

pH

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

Reactive with strong acids

Reactive with oxidizing agents

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

Attacks copper and copper compounds

Chemical stability

Stability: Stable under recommended storage 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	
CAS No	12125-02-9

LD50/oral/rat = 1650 mg/kg Oral LD50 Rat; 1410 mg/kg
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 = 1410 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = 1300 mg/kg

LD50/dermal/rabbit
Value - Acute Tox = No information available

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 May cause irritation of respiratory tract.

Ingestion 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.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Ammonium Chloride	12125-02-9	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

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

Fish LC50: =209mg/L (96h, Cyprinus carpio) LC50: =725mg/L (24h, Lepomis macrochirus)

Crustacea LC50: =202mg/L (24h, Daphnia magna)

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility in soil No information available

Other adverse effects 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

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ammonium Chloride	12125-02-9	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated

Proper Shipping Name: No information available

Hazard Class No information available

Subsidiary Class No information available

Packing group: No information available

Emergency Response Guide Number No information available

Marine Pollutant No data available

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

Special Provisions No Information available

Symbol(s): No information available

Description: No information available

TDG (Canada)

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

Marine Pollutant No Information available

Description: No information available

ADR

UN Number Not regulated

Proper Shipping Name: No information available

Transport hazard class(es) No information available

Packing group No information available

Subsidiary Risk: No information available

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
Marine Pollutant No information available

RID

UN Number Not Regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Subsidiary Risk: No information available
Packing group No information available

ICAO (air)

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

IATA

UN Number Not Regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Subsidiary Risk: No information available
Packing group No information available
Precautionary Statements - Response No information available
Special Provisions No information available

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
<i>Ammonium Chloride</i>	12125-02-9	PresentACTIVE	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: 0093
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard 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
FDA - 21 CFR - Total Food Additives 178.1010, 184.1138 (also listed as Ammonia (also includes Ammonium chloride))
- List Sourced from EAFUS

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)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Ammonium Chloride	12125-02-9	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	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 de minimis
Ammonium Chloride	12125-02-9	5000 lb final RQ 2270 kg final RQ	None	None	None	None

U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Ammonium Chloride	12125-02-9	Not Applicable	Not Applicable

Canada**WHMIS 2015 - GHS Classifications**

WHMIS 2015 Hazard Classification Information:

Component
Ammonium Chloride
12125-02-9 (100)

WHMIS 2015 Hazard Classification
Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.;
Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Combustible Dust - Category 1: May form combustible dust concentrations in air (factors such as combustibility and explosiveness of dusts including composition and shape and size of particles could cause substance to belong to 'Combustible dust' hazard class)

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Ammonium Chloride	12125-02-9	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Ammonium Chloride	12125-02-9	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ammonium Chloride	12125-02-9	Not listed

EU Classification**EU GHS - SV - CLP 1272/2008**

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Ammonium Chloride	12125-02-9	Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation.017-014-00-8

EU - CLP (1272/2008)**R-phrases(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

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Ammonium Chloride	12125-02-9	Xn; R22 Xi; R36	No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC**Indication of danger:**

Xi - Irritant

Xn - Harmful

Xi**Xn**

16. OTHER INFORMATION

Preparation Date: 01/01/2019
Revision date N/A
Prepared by: -

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. Dawn Scientific Inc Chemicals & Laboratory Products, 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, Dawn Scientific Inc assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet