

# spectrum

chemicals & laboratory products

A Division of Spectrum Chemical Mfg. Corp.

Dear Customer,

## This File Contains Both The ANSI Material Safety Data Sheet and The GHS Safety Data Sheet For The Same Product

Spectrum is currently transitioning all chemical product labeling from the ANSI<sup>1</sup> format to the GHS<sup>2</sup> format (see note below). In order to ensure that you receive complete labeling during the transition, we have included both the ANSI MSDS and the GHS SDS in a single file. The ANSI MSDS is given first, followed by the GHS SDS. Please use whichever matches the container label.

### Why It Matters:

The complete precautionary labeling for this chemical consists of BOTH the label on the container AND the matching Material Safety Data Sheet (for ANSI labels) or Safety Data Sheet (for GHS labels). Both elements of the labeling [Label + (M)SDS] are written to be read and understood together, so as to provide complete precautionary information. It is intended for you to read and understood BOTH before handling or using the chemical.

### Picking the Right One: 2 Easy Ways To Tell Whether Your Container Has an ANSI Label or a GHS Label

- 1) GHS labels: any pictogram displayed in the upper left-hand corner will be inside a red diamond. ANSI labels: pictograms, if present, will be inside individual black boxes.
- 2) GHS labels: on the bottom of the right-hand panel of the label, locate the Lot Number. Directly to the left will be a string of control characters, followed by a single letter. For GHS labels, the string of characters will end in "GHS:"

**Label in ANSI Format**

**CAUTION!**  
MAY BE HARMFUL IF SWALLOWED  
MAY CAUSE EYE AND SKIN IRRITATION  
MAY AFFECT BEHAVIOR AND  
METABOLISM

Do not taste or swallow. Avoid contact with eyes, skin and clothing. Avoid breathing mist or vapor. Avoid prolonged or repeated exposure. Use with adequate ventilation. Wash thoroughly after handling.

**FIRST AID:** In case of contact, flush affected area with plenty of water for at least 15 minutes. Remove contaminated clothing and/or jewelry. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If irritation persists, call a physician.

**KEEP FROM CHILDREN**



**BE159      SIZ SY**  
**Benzyl Benzoate**  
(Benzoic Acid  
Phenylmethyl Ester)  
U.S.P.  
CAS 120-51-4

CAUTION: For manufacturing, processing or repacking. Read and understand the label and Material Safety Data Sheet (MSDS) prior to use.  
For chemical emergency, call (800)424-9300.  
www.SpectrumChemical.com

$C_{11}H_{12}O_2$       F.W. 212.24

Assay	99.0-100.5%
Specific Gravity @ 25°C	1.116-1.120
Freezing Temperature	Min. 18.0°C
Refractive Index @ 20°C	1.565-1.570
Acidity	To pass test

**MAXIMUM LIMITS**

Aldehyde	0.05%
Residual Solvents	To pass test

**FLUSHED WITH NITROGEN**

Lot No. XQ###

SPECTRUM CHEMICAL MFG. CORP.      Gardena, CA 90248 • New Brunswick, NJ 08901

CORPORATE OFFICES  
14422 South San Pedro Street  
Gardena, California 90248  
PHONE 310.516.8000  
FAX 310.516.9843

**Label in GHS Format**

**WARNING!**

- May irritate if swallowed • May cause central nervous system effects based on animal data
- Do not use or handle • Wear protective gloves
- After handling
- **POISON AND IRRITANT!** Call a POISON CENTER or doctor/physician if you feel unwell. Avoid mouth.
- **KEEP FROM CHILDREN**

**SPECTRUM**

BE159      SIZ SY

**Benzyl Benzoate**

(Benzoic Acid Phenylmethyl Ester)

U.S.P.

CAS 129-51-4

CAUTION: For industrial use only. Do not use for food or feed. Do not use for medical purposes. Do not use for cosmetic purposes. Do not use for pharmaceutical purposes. Do not use for food or feed. Do not use for medical purposes. Do not use for cosmetic purposes. Do not use for pharmaceutical purposes.

Chemical Emergency: (800) 424-9086

www.SpectrumChemical.com

$C_{15}H_{14}O_2$       F.W. 212.24

Assay ..... 99.0-100.5%

Specific Gravity @ 25°C ..... 1.115-1.120

Freezing Temperature ..... Min. 18.0°C

Refractive Index @ 20°C ..... 1.568-1.570

Acidity ..... To pass test

**MAXIMUM LIMITS**

Aldehyde ..... 0.05%

Residual Solvents ..... To pass test

**LIGHT SENSITIVE:** Keep tightly closed in light-resistant containers.

**FLUSHED WITH NITROGEN**

**Lot No. XQ####**

<sup>1</sup> American National Standards Institute

<sup>2</sup> Globally Harmonized System for Hazard Communication

Sincerely,

Regulatory Affairs

## MATERIAL SAFETY DATA SHEET

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



See Section 8.

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product code:	A1165
Product Name:	AMMONIUM CHLORIDE, GRANULAR, REAGENT, ACS
Chemical Name:	No information available
Synonyms:	Sal ammonia Sal ammoniac Ammonium muriate Amchlor Ammoneric
Recommended use:	Fertilizer composits. Electroplating agent. Diuretics. Expectorants.
CAS #:	12125-02-9
RTECS #	BP4550000
Formula:	NH <sub>4</sub> Cl
CI#:	Not available
Supplier:	Spectrum Chemicals and Laboratory Products, Inc. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000
Order Online At:	<a href="https://www.spectrumchemical.com">https://www.spectrumchemical.com</a>
Emergency Telephone Number:	CHEMTREC: 1-800-424-9300
Contact Person:	Ibad Tirmiz (East Coast)
Contact Person:	Martin LaBenz (West Coast)

### 2. HAZARDS IDENTIFICATION

## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

WARNING! IRRITANT

Irritating to eyes

May be harmful if swallowed

**Odor:**  
Odorless.

**Physical state:**  
Solid.

**Appearance:**  
Granular. Crystalline. Crystals.  
Crystalline block.

**Color:**  
White.

### OSHA Regulatory Status

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

### POTENTIAL HEALTH EFFECTS

#### Principal Routes of Exposure:

Ingestion. Inhalation.

#### Acute Potential Health Effects:

##### 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:

May be harmful if swallowed. May cause digestive (gastrointestinal) tract irritation. May cause nausea and vomiting. May cause metabolic acidosis. May cause central nervous system effects. May affect the cardiovascular system. It may affect the kidneys. May affect respiration.

#### Chronic Potential Health Effects:

##### Component

Ammonium Chloride  
12125-02-9 (100)

##### Carcinogen Status:

No information available

#### Target Organs:

Lungs. Respiratory system. Kidneys.

#### Mutagenic Effects:

No information available

#### Teratogenic Effects:

No information available

**Aggravated Medical Conditions:** No information available

See Section 11 for additional Toxicological Information

### POTENTIAL ENVIRONMENTAL EFFECTS

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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

### 4. FIRST AID MEASURES

<b>General Advice:</b>	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.
<b>Skin Contact:</b>	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.
<b>Eye Contact:</b>	Flush eye with water for 15 minutes. Get medical attention.
<b>Inhalation:</b>	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Ingestion:</b>	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.
<b>Notes to Physician:</b>	Treat symptomatically

### 5. FIRE-FIGHTING MEASURES

#### Flammable Properties

<b>Flashpoint (°C/°F):</b>	The product is not flammable.
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**Flash Point Tested according to:**  
Not applicable

<b>Lower Explosion Limit (%):</b>	No information available
<b>Upper Explosion Limit (%):</b>	No information available

<b>Autoignition Temperature (°C/°F):</b>	No information available
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<b>Suitable Extinguishing Media:</b>	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.
<b>Unsuitable Extinguishing Media:</b>	No information available.
<b>Hazardous Combustion Products:</b>	Nitrogen oxides, ammonia, hydrogen chloride gas
<b>Specific hazards:</b>	The substance itself does not burn, but may decompose upon heating.
<b>Special Protective Equipment for Firefighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
<b>Specific Methods:</b>	No information available.

## 6. ACCIDENTAL RELEASE MEASURES

### 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 for Cleaning Up:

Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### 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.

### Storage

#### 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

### 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.

### 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.

## National occupational exposure limits

### United States

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

### Canada

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

### Australia and Mexico

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid.	<b>Appearance:</b> Granular. Crystalline. Crystals. Crystalline block.	<b>Color:</b> White.
<b>Odor:</b> Odorless.	<b>Taste</b> Cooling. Saline.	<b>Molecular/Formula weight:</b> 53.49
<b>Flash point (°C):</b> No data available	<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available
<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Melting point/range(°C/°F):</b> No information available	<b>Boiling point/range(°C/°F):</b> No information available
<b>pH:</b> No information available	<b>Specific gravity:</b> 1.5274- 1.567 @ 20 deg. C	<b>Density (g/cm3):</b> No information available
<b>Decomposition temperature(°C/°F):</b> 338-340 °C/640.4-644 °F (sublimation)	<b>Bulk density:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> 1.8-1.9	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Miscibility:</b> 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

<b>Stability:</b>	Stable at normal conditions
<b>Conditions to avoid:</b>	Heat. Avoid dust formation. Incompatible materials.
<b>Incompatible Materials:</b>	Acids. Oxidizing agents. Alkalis.
<b>Hazardous decomposition products:</b>	Ammonia. Nitrogen oxides (NOx). Hydrogen chloride gas.
<b>Possibility of Hazardous Reactions:</b>	Can react violently or explosively with ammonium nitrate bromine pentafluoride, iodine heptafluorideBromine trifluoride, alkalis and their carbonates, and potassium chlorate Attacks copper and copper compounds
<b>Polymerization:</b>	Hazardous polymerisation does not occur



**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Component Information

*Ammonium Chloride - 12125-02-9*

**LD50/oral/rat** = 1410 mg/kg Oral LD50 Rat (LOLI; European Chemicals Bureau ( IUCILID Dataset)

1650 mg/kg (RTECS; European Chemicals Bureau ( IUCILID Dataset)

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

**LD50/dermal/rat** = No information available

**LD50/dermal/rabbit** = 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

**LC50/inhalation/rat** No information available

**LC50/Inhalation/mouse** No information available

**LD50/dermal/rabbit** No information available

**LD50/dermal/rat** No information available

**LD50/oral/mouse** = 1300mg/kg

**LD50/oral/rat** = 1410mg/kg

#### Local Effects

**Skin irritation:** Causes skin irritation. Mild skin irritation.

**Eye irritation:** Causes eye irritation. Moderate eye irritation. It may cause Salt Cataract, increased ocular pressure, and degeneration of the retina.

**Inhalation:** May cause irritation of respiratory tract.

**Ingestion:** May be 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.

**Sensitization:** No information available

### Chronic Toxicity

**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..

**Carcinogenic effects:** Not considered carcinogenic

**Product code:** A1165

**Product name:** AMMONIUM  
CHLORIDE, GRANULAR, REAGENT,  
ACS

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

**Mutagenic Effects:** No information available

**Reproductive Effects:** No information available

**Teratogenic Effects:** No information available

**Target Organs:** Lungs. Respiratory system. Kidneys.

## 12. ECOLOGICAL INFORMATION

### ECOTOXICITY

**Toxicity to terrestrial and aquatic plants and animals:** Information given is based on data on the components and the ecotoxicology of similar products

**Ecotoxicity effects:** Aquatic environment.

**Aquatic toxicity:**

*Ammonium Chloride - 12125-02-9*

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

**Mobility:** No information available

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

## 13. DISPOSAL CONSIDERATIONS

**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

**Packing Group:** None

**Subsidiary Risk:** Not applicable

**Marine Pollutant:** No data available

**Product code:** A1165

**Product name:** AMMONIUM  
CHLORIDE, GRANULAR, REAGENT,  
ACS

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<b>ERG No:</b>	No information available
<b>DOT RQ (lbs):</b>	5000 lbs./2270 kg
<b>TDG (Canada)</b>	
<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Description:</b>	No information available
<b>ADR</b>	
<b>UN-No:</b>	No information available
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Classification Code:</b>	No information available
<b>Description:</b>	No information available
<b>CEPIC Tremcard No:</b>	No information available
<b>IMO / IMDG</b>	
<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Description:</b>	No information available
<b>IMDG Page:</b>	No information available
<b>Marine Pollutant</b>	No information available
<b>MFAG:</b>	No information available
<b>Maximum Quantity:</b>	No information available
<b>RID</b>	
<b>UN-No:</b>	No information available
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Classification Code:</b>	No information available
<b>Description:</b>	No information available
<b>ICAO</b>	
<b>UN-No:</b>	No information available
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Description:</b>	No information available
<b>IATA</b>	
<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Description:</b>	No information available

## 15. REGULATORY INFORMATION

### International Inventories

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

Product code: A1165

Product name: AMMONIUM  
CHLORIDE, GRANULAR, REAGENT,  
ACS

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**Ammonium Chloride**  
D2B

**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**

The MSDS format complies with ANSI Z400.1/Z129.1-2010 standards.

Preparation Date: 17-Oct-2014

Product code: A1165

Product name: AMMONIUM  
CHLORIDE, GRANULAR, REAGENT,  
ACS

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**Reason for revision:** Not applicable

**Prepared by:** Sonia Owen

**Literature reference:** No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) 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 MSDS. The physical properties reported in this MSDS 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 MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

# 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 compositions. 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

**Product code:** A1165

**Product name:** AMMONIUM  
CHLORIDE, GRANULAR, REAGENT,  
ACS

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## 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

## 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 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 <sup>3</sup> TWA 20 mg/m <sup>3</sup> STEL	20 mg/m <sup>3</sup> STEL fume 10 mg/m <sup>3</sup> TWA fume	None

##### **Canada**

Components	Alberta	British Columbia	Ontario	Quebec
Ammonium Chloride - 12125-02-9	10 mg/m <sup>3</sup> TWA fume 20 mg/m <sup>3</sup> STEL fume	10 mg/m <sup>3</sup> TWA fume 20 mg/m <sup>3</sup> STEL fume	10 mg/m <sup>3</sup> TWA fume	10 mg/m <sup>3</sup> TWA <sub>EV</sub> fume 20 mg/m <sup>3</sup> STEV fume

##### **Australia and Mexico**

Components	Australia	Mexico
Ammonium Chloride 12125-02-9	20 mg/m <sup>3</sup> STEL 10 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA 20 mg/m <sup>3</sup> 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:**

NH<sub>4</sub>Cl

**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/cm<sup>3</sup>):**

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 ( IUCILID Dataset)

1650 mg/kg (RTECS; European Chemicals Bureau ( IUCILID 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** 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.

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

**Product code:** A1165

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## 14. TRANSPORT INFORMATION

<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class:</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Description:</b>	No information available

### ADR

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

### IMO / IMDG

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

### RID

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

### ICAO

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

### IATA

<b>UN-No:</b>	Not Regulated
<b>Proper Shipping Name:</b>	No information available
<b>Hazard Class:</b>	No information available
<b>Subsidiary Risk:</b>	No information available
<b>Packing Group:</b>	No information available
<b>Description:</b>	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.
<i>Ammonium Chloride</i>	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:
<i>Ammonium Chloride</i>	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>
<i>Ammonium Chloride</i>	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
<i>Ammonium Chloride</i>	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.

**Xi****Xn****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**