

# SAFETY DATA SHEET

Preparation Date: 03/03/2015

Revision Date: 03/03/2015

Revision Number: G1

**Product identifier**

**Product code:** A1220  
**Product Name:** AMMONIUM OXALATE, MONOHYDRATE, CRYSTAL, REAGENT, ACS

**Other means of identification**

**Synonyms:** Ethanedioic acid diammonium salt, monohydrate  
Ammonium oxalate  
Diammonium oxalate monohydrate  
Ammonium oxalate hydrate  
Diammonium oxalate  
Oxalic acid, diammonium salt  
Oxalate of ammonia  
**CAS #:** 6009-70-7  
**RTECS #** RO2750000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** Electrolytic detinning of iron.  
**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
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

**Label elements**

**Product code:** A1220

**Product name:** AMMONIUM OXALATE,  
MONOHYDRATE, CRYSTAL,  
REAGENT, ACS

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## Warning

### Hazard statements

Harmful if swallowed  
Harmful in contact with skin  
Causes skin irritation  
Causes serious eye irritation  
May cause respiratory irritation



### Hazards not otherwise classified (HNOC)

Not Applicable

### Other hazards

Not available

### Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wear protective gloves/protective clothing/eye protection/face protection

### Precautionary Statements - Response

Specific measures (see .? on this label)  
Specific treatment (see .? on this label)  
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 ON SKIN: Wash with plenty of soap and water  
Call a POISON CENTER or doctor/physician if you feel unwell  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash before reuse  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

### Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed  
Store locked up

### 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 Oxalate, Monohydrate 6009-70-7	6009-70-7	100	*

## 4. FIRST AID MEASURES

### First aid measures

#### **General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

#### **Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. 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.

#### **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**

Causes serious eye irritation. Eye contact may result in redness or pain. Causes skin irritation. Skin contact may result in redness, pain, inflammation, itching, scaling. Irritating to respiratory system. Coughing. Dyspnea (Shortness of breath and difficulty breathing). Harmful if swallowed. Harmful in contact with skin. Central nervous system effects. Drowsiness. Seizures. Twitching. May affect the cardiovascular system. May affect the liver. It may affect the kidneys. Causes digestive (gastrointestinal) tract irritation. Vomiting. May cause purging.

### **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

#### **Specific hazards:**

When heated to decomposition it emits toxic fumes

### **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. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

### 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. 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. Keep away from incompatible materials.

#### **Safe Handling Advice:**

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

### Conditions for safe storage, including any incompatibilities

#### **Technical Measures/Storage Conditions:**

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:**

Strong oxidizing agents. Strong acids. Sodium Hypochlorite.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### **National occupational exposure limits**

#### **United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Ammonium Oxalate, Monohydrate - 6009-70-7	None	None	None	None

#### **Canada**

Components	Alberta	British Columbia	Ontario	Quebec
Ammonium Oxalate, Monohydrate - 6009-70-7	None	None	None	None

#### **Australia and Mexico**

Components	Australia	Mexico
Ammonium Oxalate, Monohydrate 6009-70-7	None	None

### 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. Safety glasses with side-shields.
- Skin and body protection:** Long sleeved clothing. Chemical resistant apron. Gloves.
- Respiratory protection:** Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent. .
- 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

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<b>Physical state:</b> Solid.	<b>Appearance:</b> Crystals.	<b>Color:</b> White.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 142.11
<b>Formula:</b> C <sub>2</sub> H <sub>8</sub> O <sub>4</sub> N <sub>2</sub> •H <sub>2</sub> O	<b>Flash point (°C):</b> No data available	<b>Flashpoint (°C/°F):</b> No information available.
<b>Flash Point Tested according to:</b> Not 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>pH:</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>Decomposition temperature(°C/°F):</b> 70°C/158°F	<b>Bulk density:</b> No information available
<b>Specific gravity:</b> 1.5	<b>Vapor pressure @ 20°C (kPa):</b> No information available	<b>Density (g/cm<sup>3</sup>):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<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>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Soluble in hot water Partially soluble in cold water Insoluble in Ammonia Slightly soluble in alcohol Solubility in Water: 1g/20mL at room temperature; 2.54g/100mL at 0°C; 11.8g/100mL at 50°C; 1g/2.6mL at boiling water	

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with acids  
Reactive with oxidizing agents

### Chemical stability

**Stability:** Stable under recommended storage conditions

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:** Strong oxidizing agents. Strong acids. Sodium Hypochlorite.

**Hazardous decomposition products:** Ammonia. Nitrogen oxides (NO<sub>x</sub>).

### Other Information

**Corrosivity:** No information available

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**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 Oxalate, Monohydrate - 6009-70-7*

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

**LD50/oral/mouse** = No information available

**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** = No information available

**LD50/oral/mouse =**

**Value - Acute Tox Oral** = No information available

**LD50/dermal/rabbit**

**VALUE-Acute Tox Dermal** = 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:** Causes skin irritation.

**Eye Contact:** Causes serious eye irritation.

**Inhalation** Causes respiratory tract (nose, throat, lung) irritation with coughing and shortness of breath.

**Ingestion** Causes digestive (gastrointestinal) tract irritation. May cause vomiting and severe purging. Ingestion of large amounts (high concentrations) of oxalic acid salts may cause have a corrosive effect on the mucous membranes of the oropharynx and perhaps the esophagus. It may also affect behavior/central nervous system (tetany, seizures, muscle twitching, drowsiness, stupor, coma) and cause cardiovascular collapse. May also affect the liver, and cause kidney damage resulting in oliguria, anuria, hematuria, elevated liver enzymes, and liver necrosis.

**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 exposure may cause cracking of the skin, dermatitis, and slow healing ulcers. Finger nails may become brittle and yellowish.  
Prolonged or repeated inhalation may cause bronchitis to develop with cough, phlegm and/or shortness of breath.  
Prolonged or repeated ingestion may lead to kidney stones and kidney damage and may affect liver..

**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 Oxalate, Monohydrate	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

**Specific Target Organ Toxicity**

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

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

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**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 Oxalate, Monohydrate	None	None	None	None

### 14. TRANSPORT INFORMATION

**DOT**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** None  
**ERG No:** No information available  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** 5000 lbs/2270 kg

**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  
**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

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#### 14. TRANSPORT INFORMATION

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

##### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Ammonium Oxalate, Monohydrate	Not Listed The monohydrate form (CAS no. 6009-70-7) is exempt from TSCA 8(b) Inventory listing since it is a hydrate. However, the anhydrous form (CAS no.1113-38-8) is listed on the TSCA 8(b) inventory	Not present	Present	Present (1)-391	Present	Present	Not present

##### U.S. Regulations

Ammonium Oxalate, Monohydrate

Massachusetts RTK: Present

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

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*Ammonium Oxalate, Monohydrate*

**Pennsylvania RTK:** Environmental hazard

**Pennsylvania RTK - Environmental Hazard 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

**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 Oxalate, Monohydrate	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 Oxalate, Monohydrate</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 Oxalate, Monohydrate</i>	Not Applicable	Not Applicable

**Canada**

**WHMIS hazard class:**

D2B Toxic materials

**Ammonium Oxalate, Monohydrate**

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.

**Inventory**

Components	Canada (DSL)	Canada (NDSL)
Ammonium Oxalate, Monohydrate	Not Listed	Not Listed

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

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REAGENT, ACS

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## EU Classification

### R-phrases(s)

R-phrases(s)

R21/22 - Harmful in contact with skin and if swallowed.

### S -phrase(s)

S 2 - Keep out of the reach of children.

S24/25 - Avoid contact with skin and eyes.

Components	Classification	Concentration Limits:	Safety Phrases
Ammonium Oxalate, Monohydrate	R:21/22	C>=5%	S:(2)-24/25

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

### Indication of danger:

Xn - Harmful.

## 16. OTHER INFORMATION

## 16. OTHER INFORMATION

**Preparation Date:** 03/03/2015  
**Revision Date:** 03/03/2015  
**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 Safety Data Sheet**