1. IDENTIFICATION

Product identifier

Product code: AM122  
Product Name: AMILORIDE HYDROCHLORIDE, USP

Other means of identification

Synonyms: 3,5-Diamino-N-(aminoiminomethyl)-6-chloropyrazinecarboxamide hydrochloride  
N-Amidino-3,5-diamino-6-chloropyrazinecarboxamide
CAS #: 17440-83-4
RTECS #: Not available
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Antikaliuretic-diuretic agent.
Uses advised against: No information available

Supplier: Spectrum Chemical Mfg. Corp  
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)

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 3</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
</tbody>
</table>

Label elements

Product code: AM122  
Product name: AMILORIDE HYDROCHLORIDE, USP
**Danger**

**Hazard statements**
Toxic if swallowed
Causes skin irritation
Causes serious eye irritation

**Hazards not otherwise classified (HNOC)**
Not Applicable

**Other hazards**
May cause electrolyte imbalance

**Precautionary Statements - Prevention**
Do not eat, drink or smoke when using this product
Wear protective gloves
Wear eye/face protection
Wash face, hands and any exposed skin thoroughly after handling

**Precautionary Statements - Response**
*Specific treatment (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
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

**Precautionary Statements - Storage**
Store locked up

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

---

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amiloride Hydrochloride</td>
<td>17440-83-4</td>
<td>100</td>
<td>*</td>
</tr>
</tbody>
</table>
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). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

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. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention.

Ingestion: Toxic if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

|----------|---------------------------------------------------------------------------------------------------------------------------------|

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: Dry chemical. Carbon dioxide (CO2). Water spray. Foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical


Specific hazards: May be combustible at high temperatures 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. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Avoid breathing dust. Avoid dust formation. 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. Do not let product enter 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 Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. 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. All equipment used when handling the product must be grounded. Avoid dust formation. Remove all sources of ignition. Keep away from incompatible materials.

Safe Handling Advice Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not breathe vapours/dust. Do not ingest. 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


Incompatible Materials: Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amiloride Hydrochloride 17440-83-4</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</table>

Canada

<table>
<thead>
<tr>
<th>Components</th>
<th>Alberta</th>
<th>British Columbia</th>
<th>Ontario</th>
<th>Quebec</th>
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</thead>
<tbody>
<tr>
<td>Amiloride Hydrochloride 17440-83-4</td>
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<td>None</td>
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</table>

Australia and Mexico

<table>
<thead>
<tr>
<th>Components</th>
<th>Australia</th>
<th>Mexico</th>
</tr>
</thead>
</table>

Product code: AM122
Product name: AMILORIDE HYDROCHLORIDE, USP
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:** Safety glasses with side-shields or Goggles
- **Skin and body protection:** Chemical resistant apron. Long sleeved clothing. Gloves.
- **Respiratory protection:** Wear respirator with dust filter. Be sure to use an approved/certified respirator or equivalent.
- **Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state:</td>
<td>Solid</td>
</tr>
<tr>
<td>Odor:</td>
<td>Odorless</td>
</tr>
<tr>
<td>Formula:</td>
<td>C6H8ClN7O.HCl.2H2O</td>
</tr>
<tr>
<td>Flashpoint (°C/°F):</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower Explosion Limit (%):</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/range(°C/°F):</td>
<td>285-288°C/ 545-550.4°F</td>
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<tr>
<td>Decomposition temperature(°C/°F):</td>
<td>286°C/ 546.8°F</td>
</tr>
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<td>Vapor pressure @ 20°C (kPa):</td>
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<tr>
<td>VOC content (g/L):</td>
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</tr>
<tr>
<td>Viscosity:</td>
<td>No information available</td>
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<tr>
<td>Appearance:</td>
<td>Powder</td>
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<td>Taste</td>
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<tr>
<td>Flammability:</td>
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<tr>
<td>Flash Point Tested according to:</td>
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<tr>
<td>Upper Explosion Limit (%):</td>
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<td>Boiling point/range(°C/°F):</td>
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<tr>
<td>Density (g/cm3):</td>
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<td>Odor threshold (ppm):</td>
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<tr>
<td>Miscibility:</td>
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<tr>
<td>Flourescent</td>
<td>Yellow. Greenish-Yellow.</td>
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<td>Molecular/Formula weight:</td>
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<td>Color:</td>
<td>6 / 12</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
Reactive with strong oxidizing agents

**Chemical stability**

Stability: Sensitive to light. Exposure to light accelerates decomposition. Stable under recommended storage conditions.

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

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

**Incompatible Materials:** Strong oxidizing agents.

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

**Other Information**

**Corrosivity:** Non-corrosive in presence of glass.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Eyes. Inhalation. Ingestion.

Acute Toxicity

Component Information

Amiloride Hydrochloride - 17440-83-4
LD50/oral/rat = No information available
LD50/oral/mouse = 56 mg/kg
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
LD50/oral/rat =
VALUE- Acute Tox Oral = No information available
LD50/oral/mouse =
Value - Acute Tox Oral = 56mg/kg
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 May cause respiratory tract irritation.
Ingestion

Toxic if swallowed. May cause hyperkalemia. Warning signs or symptoms of Hyperkalemia include paresthesias, muscular weakness, fatigue, flaccid paralysis of extremeties, bradycardia, ECG abnormalities (not usually associated with mild Hyperkalemia), shock. May affect electrolytes. May cause transient hyperglycemia (diabetes mellitus). It may affect the kidneys and liver.

Aspiration hazard

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity

No information available

Sensitization:

No information available

Mutagenic Effects:

No information available

Carcinogenic effects:

Not considered carcinogenic

<table>
<thead>
<tr>
<th>Components</th>
<th>IARC</th>
<th>ACGIH - Carcinogens</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
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<tbody>
<tr>
<td>Amiloride Hydrochloride</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

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:

No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects:

No data available.

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Product code: AM122

Product name: AMILORIDE HYDROCHLORIDE, USP
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

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amiloride Hydrochloride</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

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): 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
Description: No information available

ADR

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

IMO / IMDG

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

RID

UN-No: Not Regulated
Proper Shipping Name: No information available
14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class:</td>
</tr>
<tr>
<td>No information available</td>
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<tr>
<td>Subsidiary Risk:</td>
</tr>
<tr>
<td>No information available</td>
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<tr>
<td>Packing Group:</td>
</tr>
<tr>
<td>No information available</td>
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<tr>
<td>Classification Code:</td>
</tr>
<tr>
<td>No information available</td>
</tr>
<tr>
<td>Description:</td>
</tr>
<tr>
<td>No information available</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>KOREA KECL</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amiloride Hydrochloride</td>
<td>Not Listed</td>
<td>Not present</td>
<td>Not present</td>
<td>Not present</td>
<td>Not present</td>
<td>Not present</td>
<td>Not present</td>
</tr>
</tbody>
</table>

**U.S. Regulations**

**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)

<table>
<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amiloride Hydrochloride</td>
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<td>Not Listed</td>
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</table>

**CERCLA/SARA**

<table>
<thead>
<tr>
<th>Components</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amiloride Hydrochloride</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</tbody>
</table>

**U.S. TSCA**

<table>
<thead>
<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amiloride Hydrochloride</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

Product code: AM122

Product name: AMILORIDE HYDROCHLORIDE, USP
Canada

WHMIS hazard class:
D1B  Toxic materials

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

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
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<tbody>
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<table>
<thead>
<tr>
<th>Components</th>
<th>CEPA Schedule I - Toxic Substances</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
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<tr>
<td>Amiloride Hydrochloride</td>
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</tbody>
</table>

EU Classification

R-phrase(s)
R25 - Toxic if swallowed.
R36/38 - Irritating to eyes and skin.

S-phrase(s)
none

<table>
<thead>
<tr>
<th>Components</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
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<tbody>
<tr>
<td>Amiloride Hydrochloride</td>
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<td>No information</td>
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</tbody>
</table>

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

Indication of danger:
Xi - Irritant.

16. OTHER INFORMATION

Product code: AM122
Product name: AMiloride Hydrochloride, USP
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