



THE POWER OF THREE<sup>3</sup>

**PHARMCO-AAPER**

AND COMMERCIAL ALCOHOLS

**Product Information (203) 740-3471**

**Emergency Assistance CHEMTREC 1-800-424-9300**

## Material Safety Data Sheet

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Ammonium Chloride

**OTHER/GENERIC NAMES:** None

**PRODUCT USE:** Industrial

**MANUFACTURER:**

Manufacturer: PHARMCO-AAPER.

58 Vale Road

Brookfield, Connecticut 06804, USA

Phone (203) 740-3471

Fax (203) 740-3481

1101 Isaac Shelby Drive

Shelbyville, KY 40065

Phone (502) 633-0650

Fax (502) 633-0685

Emergency Contact:

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CHEMTREC 1-800-424-9300

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

**INGREDIENT NAME CAS NUMBER WEIGHT %**

Ammonium chloride 12125-02-9 >99

Trace impurities and additional material names not listed above may appear in Section 15 of this MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

**OSHA Hazard Communication Standard:** *This product is considered hazardous under the OSHA Hazard*

*Communication Standard.*

### 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Odorless white crystals. May cause irritation to skin, eyes, respiratory tract and gastrointestinal tract. Not flammable.

**POTENTIAL HEALTH HAZARDS**

**SKIN:** May cause skin irritation, especially under prolonged contact.

**EYES:** May irritate or burn eyes.

**INHALATION:** Inhalation of product dust may irritate the nose, throat and lungs.

**INGESTION:** Although low in toxicity, ingestion can be harmful. May irritate the mouth, esophagus and stomach.

**DELAYED EFFECTS:** None known.

**Ingredients found on one of the three OSHA designated carcinogen lists are listed below.**

**INGREDIENT NAME NTP STATUS IARC STATUS OSHA LIST**

No ingredients listed in this section.

#### **4. FIRST AID MEASURES**

**SKIN:** Wash with plenty of water. Get medical attention for irritation.

**EYES:** Flush promptly with plenty of water for at least 15 minutes. Get medical attention.

**INHALATION:** Remove to fresh air. Get medical attention for any symptoms.

**INGESTION:** Drink large amounts of water to dilute the material. Do not induce vomiting. Get medical attention.

**ADVICE TO PHYSICIAN:** Treat symptomatically.

#### **5. FIRE FIGHTING MEASURES**

##### **FLAMMABLE PROPERTIES**

**FLASH POINT:** Not applicable.

**FLASH POINT METHOD:** Not applicable.

**AUTOIGNITION TEMPERATURE:** Not applicable.

**UPPER FLAME LIMIT (volume % in air):** Not applicable.

**LOWER FLAME LIMIT (volume % in air):** Not applicable.

**FLAME PROPAGATION RATE (solids):** Not applicable.

**OSHA FLAMMABILITY CLASS:** Not applicable.

##### **EXTINGUISHING MEDIA:**

Any agent suitable for surrounding fire.

##### **UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Decomposes at 340C to form toxic and corrosive ammonia and hydrogen chloride gases.

##### **SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:**

Wear NIOSH-approved self-contained breathing apparatus with full facepiece as toxic gases may be present.

#### **6. ACCIDENTAL RELEASE MEASURES**

**IN CASE OF SPILL OR OTHER RELEASE:** (See section 8 for recommended personal protective equipment.)

Shovel up dry chemical into an empty container and cover. Flush residue with plenty of water.

**Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.**

#### **7. HANDLING AND STORAGE**

**NORMAL HANDLING:** (See section 8 for recommended personal protective equipment.)

Avoid eye contact or prolonged skin contact. Avoid breathing dust or fumes.

##### **STORAGE RECOMMENDATIONS:**

Store in a cool, dry, well-ventilated area away from acids, alkalies, nitrites and nitrates.

#### **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

##### **ENGINEERING CONTROLS:**

Local exhaust if dusty conditions prevail or if TLV is exceeded.

##### **PERSONAL PROTECTIVE EQUIPMENT**

**SKIN PROTECTION:** Wear long-sleeve shirt and trousers and gloves for routine product use.

Cotton

gloves are sufficient for dry product; wear impervious gloves when handling solutions.

**EYE PROTECTION:** Wear chemical safety goggles and hard hat (or other head covering). Do not wear

contact lenses.

##### **RESPIRATORY PROTECTION:**

Where required, use a NIOSH-approved respirator for product dusts, mists or vapors, as applicable.

**ADDITIONAL**

**RECOMMENDATIONS:**

Provide eyewash and shower stations convenient to workplace.

**EXPOSURE GUIDELINES**

**INGREDIENT NAME ACGIH TLV OSHA PEL OTHER LIMIT**

Ammonium chloride 10 mg/m<sup>3</sup> – TWA

20 mg/m<sup>3</sup> – STEL

(as NH<sub>4</sub>Cl fume)

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1 = Limit established by General Chemical Corporation.

2 = Workplace Environmental Exposure Level (AIHA).

3 = Biological Exposure Index (ACGIH).

**OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:**

Ammonia: Hydrogen chloride:

25 ppm TWA – ACGIH TLV 5 ppm Ceiling – OSHA & ACGIH

35 ppm STEL – ACGIH TLV

50 ppm TWA – OSHA PEL

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** White crystals

**PHYSICAL STATE:** Solid

**MOLECULAR WEIGHT:** 53.49

**CHEMICAL FORMULA:** NH<sub>4</sub>Cl

**ODOR:** Odorless

**SPECIFIC GRAVITY (water = 1.0):** 1.529

**SOLUBILITY IN WATER (weight %):** 27% @ 20C

**pH:** 5.5 (1% solution)

**BOILING POINT:** Decomposes at ~340C

**MELTING POINT:** Decomposes at ~340C

**VAPOR PRESSURE:** Not applicable

**VAPOR DENSITY (air = 1.0):** Not applicable

**EVAPORATION RATE:** Not applicable **COMPARED TO:** Not applicable

**% VOLATILES:** Not applicable

**FLASH POINT:** Not applicable

(Flash point method and additional flammability data are found in Section 5.)

## 10. STABILITY AND REACTIVITY

**NORMALLY STABLE? (CONDITIONS TO AVOID):**

Stable under normal conditions. Avoid heat – decomposes to release ammonia and hydrogen chloride gases.

**INCOMPATIBILITIES:**

Alkalies – ammonia is released.

Acids – hydrogen chloride is released.

Nitrites – potentially explosive combinations may be formed.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Ammonia and hydrogen chloride (hydrochloric acid) gases.

**HAZARDOUS POLYMERIZATION:**

Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**IMMEDIATE (ACUTE) EFFECTS:**

LD<sub>50</sub> (oral-rat): 1650 mg/kg

Rabbit-eye / 100 mg / severe

**DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:**

Data not available.

**OTHER DATA:**

None.

**12.ECOLOGICAL INFORMATION**

6 ppm / 96 hr / sunfish TLm / fresh water

**13.DISPOSAL CONSIDERATIONS****RCRA**

**Is the unused product a RCRA hazardous waste if discarded?** No

**If yes, the RCRA ID number is:** Not applicable

**OTHER DISPOSAL CONSIDERATIONS:**

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

**14.TRANSPORT INFORMATION**

**US DOT HAZARD CLASS:** Not regulated (non-bulk)

**US DOT ID NUMBER:**

**PROPER SHIPPING NAME:**

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

**15.REGULATORY INFORMATION****TOXIC SUBSTANCES CONTROL ACT (TSCA)**

**TSCA INVENTORY STATUS:** Listed on the TSCA Inventory.

**OTHER TSCA ISSUES:** None

**SARA TITLE III/CERCLA**

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

**INGREDIENT NAME SARA/CERCLA RQ (lb) SARA EHS TPQ (lb)**

Ammonium chloride 5000 ----

**Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification**

**to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.**

**SECTION 311 HAZARD CLASS:** Immediate

**SARA 313 TOXIC CHEMICALS:**

The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements.

CAS numbers and weight percents are found in Section 2.

**INGREDIENT NAME COMMENT**

No ingredients listed in this section.

**STATE RIGHT-TO-KNOW**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

**INGREDIENT NAME WEIGHT % COMMENT**

No ingredients listed in this section.

**ADDITIONAL REGULATORY INFORMATION:**

None

**WHMIS CLASSIFICATION (CANADA):**

Not determined

**FOREIGN CHEMICAL CONTROL INVENTORY STATUS:**

Listed on Canadian DSL and European EINECS.

**16.OTHER INFORMATION**

The information contained herein is based on data considered to be accurate. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. It is the user's obligation to determine the conditions of safe use of the product.