

## 1: Identification

### Product Identifier

Product name: **Ammonium chloride**

Stock number: 12361

CAS Number:

12125-02-9

EC number:

235-186-4

Index number:

017-014-00-8

Relevant identified uses of the substance or mixture and uses advised against.

Identified use: SU24 Scientific research and development

### Details of the supplier of the safety data sheet

#### Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company

Johnson Matthey Catalog Company, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department


Emergency telephone number:

During normal hours the Health, Safety and Environmental Department at (800) 343-0660. After normal hours call Carechem 24 at (866) 928-0789.

## 2: Hazard(s) Identification

### Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

 GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2 H319 Causes serious eye irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xn; Harmful

R22: Harmful if swallowed.

Xi; Irritant

R36: Irritating to eyes.

Information concerning particular hazards for human and environment: Not applicable

Hazards not otherwise classified No information known.

### Label elements

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labeled according to the CLP regulation.

### Hazard pictograms



GHS07

### Signal word Warning

#### Hazard statements

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

#### Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P264 Wash thoroughly after handling.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor.../if you feel unwell.

P337+P313 If eye irritation persists: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### WHMIS classification

D2B - Toxic material causing other toxic effects



### Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH 1 Health (acute effects) = 1

FIRE 0 Flammability = 0

REACTIVITY 1 Physical Hazard = 1

### Other hazards

#### Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

## 3: Composition/information on ingredients

### Chemical characterization: Substances

CAS# Description:

12125-02-9 Ammonium chloride

Product name: **Ammonium chloride**

(Contd. of page 1)

Identification number(s):  
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**4: First-aid measures**

**Description of first aid measures**

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.

**After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek medical treatment.

**Information for doctor**

**Most important symptoms and effects, both acute and delayed** No further relevant information available.

**Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**5: Fire-fighting measures**

**Extinguishing media**

Suitable extinguishing agents Product is not flammable. Use fire fighting measures that suit the surrounding fire.

**Special hazards arising from the substance or mixture**

If this product is involved in a fire, the following can be released:

Nitrogen oxides (NOx)

Hydrogen chloride (HCl)

Ammonia

**Advice for firefighters**

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

**6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

**Ensure adequate ventilation**

**Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

**Methods and material for containment and cleaning up:** Dispose contaminated material as waste according to item 13.

**Prevention of secondary hazards:** No special measures required.

**Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7: Handling and storage**

**Handling**

**Precautions for safe handling**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Prevent formation of dust.

**Information about protection against explosions and fires:** The product is not flammable

**Conditions for safe storage, including any incompatibilities**

**Storage**

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:**

Store away from water/moisture.

Store away from oxidizing agents.

**Further information about storage conditions:**

This product is hygroscopic.

Store under dry inert gas.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Protect from humidity and water.

**Specific end use(s)** No further relevant information available.

**8: Exposure controls/personal protection**

**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

**12125-02-9 Ammonium chloride (100.0%)**

REL (USA) Short-term value: 20 mg/m<sup>3</sup>

Long-term value: 10 mg/m<sup>3</sup>

TLV (USA) Short-term value: 20 mg/m<sup>3</sup>

Long-term value: 10 mg/m<sup>3</sup>

EL (Canada) Short-term value: 20 mg/m<sup>3</sup>

Long-term value: 10 mg/m<sup>3</sup>

EV (Canada) Short-term value: 20 mg/m<sup>3</sup>

Long-term value: 10 mg/m<sup>3</sup>

fume

**Additional information:** No data

(Contd. on page 3)  
USA

Product name: Ammonium chloride

(Contd. of page 2)

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

**9: Physical and chemical properties**

**Information on basic physical and chemical properties**

**General information**

**Appearance:**

**Form:** Various forms (powder/flake/crystalline/beads, etc.)

**Color:** White

**Odor:** Odorless

**Odor threshold:** Not determined.

**pH-value:** Not applicable.

**Change in condition**

**Melting point/Melting range:** 340 °C (644 °F) (subl)

**Boiling point/Boiling range:** Not determined

**Sublimation temperature / start:** Not determined

**Flammability (solid, gaseous)** Not determined.

**Ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Auto igniting:** Not determined.

**Danger of explosion:** Not determined.

**Explosion limits:**

**Lower:** Not determined

**Upper:** Not determined

**Vapor pressure at 30 °C (86 °F):** <1.3 hPa (<1 mm Hg)

**Density at 20 °C (68 °F):** 1.53 g/cm<sup>3</sup> (12.768 lbs/gal)

**Relative density** Not determined.

**Vapor density** Not applicable.

**Evaporation rate** Not applicable.

**Solubility in / Miscibility with**

**Water at 20 °C (68 °F):** 376 g/l

**Partition coefficient (n-octanol/water):** Not determined.

**Viscosity:**

**dynamic:** Not applicable.

**kinematic:** Not applicable.

**Other information** No further relevant information available.

**10: Stability and reactivity**

**Reactivity** No information known.

**Chemical stability** Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:** Decomposition will not occur if used and stored according to specifications.

**Possibility of hazardous reactions** Reacts with strong oxidizing agents

**Incompatible materials:**

Water/moisture

Oxidizing agents

**Hazardous decomposition products:**

Nitrogen oxides

Hydrogen chloride (HCl)

Ammonia

**11: Toxicological information**

**Information on toxicological effects**

**Acute toxicity:**

Harmful if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

**LD/LC50 values that are relevant for classification:**

Oral | LD50 | 1650 mg/kg (rat)

**Skin irritation or corrosion:** May cause irritation

**Eye irritation or corrosion:** Causes serious eye irritation.

**Sensitization:** No sensitizing effects known.

**Germ cell mutagenicity:** No effects known.

**Carcinogenicity:** No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**Reproductive toxicity:** No effects known.

**Specific target organ system toxicity - repeated exposure:** No effects known.

**Specific target organ system toxicity - single exposure:** No effects known.

**Aspiration hazard:** No effects known.

**Subacute to chronic toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**12: Ecological information**

**Toxicity**

**Aquatic toxicity:** No further relevant information available.

(Contd. on page 4)  
USA

Product name: Ammonium chloride

(Contd. of page 3)

**Persistence and degradability** No further relevant information available.  
**Bioaccumulative potential** No further relevant information available.  
**Mobility in soil** No further relevant information available.  
**Additional ecological information:**  
**General notes:**  
 Do not allow material to be released to the environment without proper governmental permits.  
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
 Avoid transfer into the environment.  
**Results of PBT and vPvB assessment**  
**PBT:** Not applicable.  
**vPvB:** Not applicable.  
**Other adverse effects** No further relevant information available.

**13: Disposal considerations**

**Waste treatment methods**  
**Recommendation** Consult state, local or national regulations to ensure proper disposal.  
**Uncleaned packagings:**  
**Recommendation:** Disposal must be made according to official regulations.

**14: Transport information**

<b>UN-Number</b> DOT, ADN, IMDG, IATA	Not applicable
<b>UN proper shipping name</b> DOT, ADN, IMDG, IATA	Not applicable
<b>Transport hazard class(es)</b> DOT, ADR, ADN, IMDG, IATA Class	Not applicable
<b>Packing group</b> DOT, IMDG, IATA	Not applicable
<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
<b>Transport/Additional information:</b>	
<b>DOT</b>	
<b>Marine Pollutant (DOT):</b>	No
<b>UN "Model Regulation":</b>	-

**15: Regulatory information**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**National regulations**  
 All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance inventory.  
 All components of this product are listed on the Canadian Domestic Substances List (DSL).  
**SARA Section 313 (specific toxic chemical listings)** Substance is not listed.  
**California Proposition 65**  
**Prop 65 - Chemicals known to cause cancer** Substance is not listed.  
**Prop 65 - Developmental toxicity** Substance is not listed.  
**Prop 65 - Developmental toxicity, female** Substance is not listed.  
**Prop 65 - Developmental toxicity, male** Substance is not listed.  
**Information about limitation of use:**  
 For use only by technically qualified individuals.  
 This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.  
**Other regulations, limitations and prohibitive regulations**  
**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.** Substance is not listed.  
**REACH - Pre-registered substances** Substance is listed.  
**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:** Health, Safety and Environmental Department.

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 DOT: US Department of Transportation  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 HMIS: Hazardous Materials Identification System (USA)  
 WHMIS: Workplace Hazardous Materials Information System (Canada)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 vPvB: very Persistent and very Bioaccumulative  
 ACGIH: American Conference of Governmental Industrial Hygienists (USA)  
 OSHA: Occupational Safety and Health Administration (USA)  
 NTP: National Toxicology Program (USA)  
 IARC: International Agency for Research on Cancer  
 EPA: Environmental Protection Agency (USA)