

### SECTION-1: Identification of the substance / mixture and the company / undertaking

<b>Catalogue Number</b>	CO-K-00017
<b>Product Name</b>	Ammonium chloride
<b>CAS No.</b>	12125-02-9
<b>Category</b>	Solutions
<b>Synonyms</b>	Sal ammoniac
<b>Brand</b>	Clearsynth Labs Ltd.
<b>Identified uses</b>	Laboratory Chemicals
<b>Uses advised against</b>	Not available
<b>Company</b>	Clearsynth Labs Ltd. Mumbai, India
<b>Emergency Phone #</b>	+91-22-245045900
<b>REACH No.</b>	Not available

### SECTION 2: Hazards identification

**Disclaimer:** This is sample MSDS. Please email [sales@clearsynth.com](mailto:sales@clearsynth.com) for more details.

#### 2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Serious eye damage/eye irritation (Category 2)

Acute toxicity (Category 4)

#### 2.2 Label Elements

**Signal Word:** Warning



#### Hazard Statement(s)

Code	Statement
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H402	Not available

H320	Not available
H371	Not available
H372	Not available
H316	Not available
H335	Not available
H361	Not available
H401	Not available
H411	Toxic to aquatic life with long lasting effects.

**Precautionary Statement(s)**

Code	Statement
P264	Wash hands thoroughly after handling.
P264+P265	Not available
P270	Not available
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P317	Not available
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present
P330	Not available
P337+P317	If eye irritation persists: Get medical help.
P501	Dispose of contents/container in accordance with local/regional/national/international regulation
P273	Not available
P260	Not available
P308+P316	Not available
P319	Get medical help if you feel unwell.
P405	Store locked up.
P203	Not available
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P318	Not available

P332+P317	If skin irritation occurs: Get medical help.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P391	Not available

### SECTION 3: Composition / information on ingredients

#### 3.1 Substance

Component : Ammonium chloride

CAS Number : 12125-02-9

Molecular Formula :  $\text{ClH}_4\text{N}$

Molecular Weight : 53.49

Parent Chemical : -

Synonyms : Sal ammoniac

Concentration : Not available

### SECTION 4: First aid measures

#### SECTION 4: First-aid measures

##### 4.1 Description of first aid measures

- General advice: Remove contaminated clothing and shoes. Seek medical attention if symptoms persist or are severe.
- Inhalation: Move person to fresh air. If breathing is difficult, seek medical attention.
- Skin contact: Wash with plenty of water. Get medical attention if irritation develops.
- Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.
- Ingestion: Rinse mouth. Do not induce vomiting unless directed by medical personnel. Seek medical attention.

##### 4.2 Most important symptoms/effects, acute and delayed

- May cause irritation to eyes, skin, and respiratory tract.
- No data available for delayed effects.

##### 4.3 Indication of immediate medical attention and special treatment needed

- Treat symptomatically.
- No data available on specific antidotes.

### SECTION 5: Firefighting measures

#### SECTION 5: Fire-fighting measures

##### 5.1 Suitable extinguishing media

- Use extinguishing measures appropriate to surrounding fire.

##### 5.2 Special hazards arising from the substance or mixture

- Thermal decomposition may release irritating and/or toxic fumes.
- Hazardous combustion products: Not available.

##### 5.3 Advice for firefighters

- Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Cool containers with water spray if exposed to fire.

#### 5.4 Further information

- Not available.

### SECTION 6: Accidental release measures

#### SECTION 6: Accidental release measures

##### 6.1 Personal precautions, protective equipment and emergency procedures

- Avoid breathing dust/mist. Avoid contact with eyes and skin.
- Use appropriate personal protective equipment (see Section 8).
- Ensure adequate ventilation.

##### 6.2 Environmental precautions

- Prevent further leakage or spillage if safe to do so.
- Avoid release to the environment. Do not allow to enter drains/surface waters.

##### 6.3 Methods and materials for containment and cleaning up

- For solids: Sweep up or vacuum without generating dust; place in suitable, closed container for disposal.
- For solutions: Absorb with inert material and place in suitable container for disposal.
- Wash spill area after material pickup is complete.

##### 6.4 Reference to other sections

- Disposal considerations: see Section 13.

### SECTION-7: Handling and storage

#### SECTION 7: Handling and storage

##### 7.1 Precautions for safe handling

- Avoid contact with eyes, skin, and clothing.
- Avoid breathing dust/mist.
- Use with adequate ventilation.
- Practice good industrial hygiene.

##### 7.2 Conditions for safe storage, including any incompatibilities

- Store in a tightly closed container in a cool, dry, well-ventilated place.
- Protect from moisture.
- Incompatible materials: Not available.

##### 7.3 Specific end use(s)

- Not available.

### SECTION 8: Exposure controls / personal protection

#### SECTION 8: Exposure controls/personal protection

##### 8.1 Control parameters

- Occupational exposure limits: Not available.

### 8.2 Exposure controls

- Engineering controls: Provide adequate ventilation. Use local exhaust where dust/mist may be generated.
- Personal protective equipment (PPE):
- Eye/face protection: Safety glasses with side shields or chemical splash goggles.
- Skin protection: Protective gloves. Wear protective clothing as appropriate.
- Respiratory protection: If ventilation is inadequate or exposure is likely, use appropriate respiratory protection.
- Hygiene measures: Wash hands after handling. Remove contaminated clothing and wash before reuse.
- Environmental exposure controls: Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available
IR spectrum	No data available
pH	No data available
Solubility	No data available

Property	Value
a) Physical State	No data available
b) Color	No data available
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available
h) Melting Point / Freezing Point	No data available
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available

Property	Value
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

### SECTION 10: Stability and reactivity

#### SECTION 10: Stability and reactivity

##### 10.1 Reactivity

- Not available.

##### 10.2 Chemical stability

- Stable under recommended storage conditions.

##### 10.3 Possibility of hazardous reactions

- Not available.

##### 10.4 Conditions to avoid

- Excessive heat.  
- Moisture (if supplied/handled as solid).

##### 10.5 Incompatible materials

- Not available.

##### 10.6 Hazardous decomposition products

- Irritating and/or toxic fumes may be released upon decomposition.  
- Specific decomposition products: Not available.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

- Acute toxicity: Ammonium chloride is an eye, skin, and respiratory system irritant with a low-grade systemic toxicity by ingestion. Potential symptoms of overexposure to fumes are irritation of eyes, skin, and respiratory system; cough, dyspnea, pulmonary sensitization. Large doses of ammonium chloride may cause metabolic acidosis secondary to hyperchloremia, especially in patients with impaired renal function. Other adverse effects of excessive ammonium chloride dosage include rash, headache, hyperventilation, bradycardia, progressive drowsiness, mental confusion, and phases of excitement alternating with coma. Calcium-deficient tetany, hyperglycemia, glycosuria, twitching, hyperreflexia, and EEG abnormalities have also been reported. Most of these adverse effects are secondary to ammonia toxicity resulting from inability of the liver to convert the ammonium ion to urea. Acute exposure in mice by intravenous administration resulted in hyperventilation and clonic movements which were followed sometimes by tonic extensor convulsions, but usually by profound coma; death was preceded by convulsions, but survivors made complete and rapid recovery. The ingestion of ammonium chloride in doses of around 500-1000 mg/kg bw/day, for periods ranging from 1 to 8 days, has induced metabolic acidosis in mice, guinea-pigs, rats, rabbits, and dog. Pulmonary edema, central nervous system dysfunction, and renal changes are reported to have occurred after ingestion of ammonium chloride.

- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: Ten percent ammonium chloride solution has induced immediate "salt cataract" in rabbits and rise in intraocular pressure; hemorrhages have appeared in iris and fibrin in anterior chamber, but the reaction subsided and ultimately cornea and lens were left clear.
- Respiratory or skin sensitization: Potential symptoms of overexposure to fumes are irritation of eyes, skin, respiratory system; cough, dyspnea, pulmonary sensitization.
- Germ cell mutagenicity: Negative in the Ames test using Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537, TA 1538 at doses with and without metabolic activation. Negative in the Ames test using Escherichia coli WP2uvrA with and without metabolic activation.
- Carcinogenicity: No data available.
- Reproductive toxicity: One-sixth molar ammonium chloride was given to mice orally in the drinking water after day 7 during pregnancy and although the offspring were small sized no congenital defects were found. In other study mice were given 600 mg/kg orally at 8 and 10 am and 12 and 1 pm on day 10 of gestation and produced 7% ectrodactyly in the offspring.
- STOT-single exposure: No data available.
- STOT-repeated exposure: The effects of ammonium chloride (NH<sub>4</sub>Cl) on arterial blood gas tension, resting ventilation, and ventilatory responses to CO<sub>2</sub> and hypoxia were studied in healthy male subjects; NH<sub>4</sub>Cl induced chronic metabolic acidosis with reduction in plasma bicarbonate.
- Aspiration hazard: No data available.

#### Likely routes of exposure

- Ammonium chloride is an eye, skin, and respiratory system irritant with a low-grade systemic toxicity by ingestion.

#### Symptoms related to the physical, chemical and toxicological characteristics

- Potential symptoms of overexposure to fumes are irritation of eyes, skin, respiratory system; cough, dyspnea, pulmonary sensitization.

## SECTION 12: Ecological information

### SECTION 12: Ecological information

#### 12.1 Toxicity

- Not available.

#### 12.2 Persistence and degradability

- Not available.

#### 12.3 Bioaccumulative potential

- Not available.

#### 12.4 Mobility in soil

- Not available.

#### 12.5 Results of PBT and vPvB assessment

- Not available.

#### 12.6 Endocrine disrupting properties

- Not available.

#### 12.7 Other adverse effects

- Not available.

### SECTION 13: Disposal considerations

#### SECTION 13: Disposal considerations

##### 13.1 Waste treatment methods

- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains or the environment.
- Contaminated packaging: Dispose of as unused product unless cleaned.

##### 13.2 Additional information

- Not available.

### SECTION 14: Transport information

#### SECTION 14: Transport information

- UN number: Not available.
- UN proper shipping name: Not available.
- Transport hazard class(es): Not available.
- Packing group: Not available.
- Environmental hazards: Not available.
- Special precautions for user: Not available.
- Transport in bulk according to IMO instruments: Not available.

### SECTION 15: Regulatory information

#### SECTION 15: Regulatory information

##### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- Not available.

##### 15.2 Chemical safety assessment

- Not available.

### SECTION 16: Other information

#### SECTION 16: Other information

- Product name: Ammonium chloride
- CAS No.: 12125-02-9
- Synonyms: Sal ammoniac
- Supplier: Clearsynth Labs Ltd., Mumbai, India
- Emergency phone: +91-22-245045900

#### Disclaimer

- The information provided is believed to be accurate based on available data, but no warranty is expressed or implied. Users are responsible for determining suitability for their particular application and for compliance with applicable regulations.

#### Revision information

- Revision date: Not available
- Version: Not available

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