SDS-AMMONIUMCHLO 11 Nov 2026

# SAFETY DATA SHEET

## AMMONIUM CHLORIDE

**CAS No.: 12125-02-9**

*This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.*

## 1. IDENTIFICATION

**GHS Product identifier**

AMMONIUM CHLORIDE
Sal Ammoniac; Salmiac
**CAS:** 12125-02-9

**Other means of identification**

Not relevant

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

Relevant uses: flux for metal tinning/galvanizing/soldering, nitrogen fertilizer raw material, dry-cell battery electrolyte component, textile dyeing auxiliary, chemical intermediate. For industrial/commercial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

**Supplier's details**

**SURAJ CHEMICALS**
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Email: sales@surajchemicals.com | Website: www.surajchemicals.com
GST No: 33ACEPV8190L1ZZ

**Emergency phone number**

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## 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

**GHS:**
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

| | |
|---|---|
| Acute Tox. 4 | Acute oral toxicity, Category 4, H302 |
| Eye Irrit. 2 | Eye irritation, Category 2, H319 |

**GHS label elements, including precautionary statements**

**GHS: Warning**

**Hazard statements**

H302 – Harmful if swallowed.
H319 – Causes serious eye irritation.

**Precautionary statements**

P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear eye protection/face protection.
P301+P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/attention.
P501: Dispose of the contents/containers in accordance with local regulations.

**Other hazards which do not result in classification**

Not relevant

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Substances**

**Chemical description:** Ammonium Chloride

In accordance with Annex 4.3.3 of the GHS, the product contains:

| Identification | Chemical Name / Classification | Concentration |
|---|---|---|
| CAS: 12125-02-9 | Ammonium Chloride — Acute Tox. 4: H302; Eye Irrit. 2: H319 – Warning | ≥99.5% (technical grade) |

*To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.*

**Mixtures**

Non-applicable

## 4. FIRST AID MEASURES

**Description of necessary first-aid measures**

Request medical assistance immediately, showing the SDS of this product.

**By inhalation**

Remove the person affected from the area of exposure and provide fresh air. Seek medical attention if discomfort continues.

**By skin contact**

Wash affected skin with plenty of water and soap.

**By eye contact**

Rinse eyes thoroughly with lukewarm water for at least 15 minutes, holding eyelids open. Seek medical attention if irritation persists (H319).

**By ingestion/aspiration**

Rinse mouth with water. Do not induce vomiting. Seek medical attention if a significant quantity is swallowed (H302).

**Most important symptoms/effects, acute and delayed**

Acute and delayed effects are indicated in sections 2 and 11.

**Indication of immediate medical attention and special treatment needed, if necessary**

Not relevant

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**

**Suitable:** Product is non-combustible; use extinguishing media appropriate to the surrounding fire (water spray, foam, dry chemical powder, carbon dioxide)
**Unsuitable:** None known

**Specific hazards arising from the chemical**

Non-flammable, non-combustible solid. On strong heating/decomposition may release hydrogen chloride and ammonia/nitrogen oxide fumes.

**Special protective actions for fire-fighters**

Wear self-contained breathing apparatus where decomposition fumes may be present. Cool fire-exposed containers with water spray.

**Additional provisions**

Use water spray to cool fire-exposed containers. Prevent fire-fighting water from entering drains or watercourses. Approach the fire from upwind where possible.

## 6. ACCIDENTAL RELEASE MEASURES

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

**For non-emergency personnel**

Isolate leaks provided there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (see section 8). Evacuate the area and keep out those who do not have protection.

**For emergency responders**

Wear protective equipment. Keep unprotected persons away. See section 8.

**Environmental precautions**

Prevent large-scale release to drains, watercourses or soil (nitrogen/chloride loading); not classified as an acute environmental hazard in normal use quantities.

**Methods and materials for containment and cleaning up**

Sweep or vacuum up dry material avoiding dust generation; collect in suitable containers for disposal or reuse.

**Reference to other sections**

See sections 8 and 13.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**A. General precautions for safe use**

Avoid generating and inhaling dust. Avoid contact with eyes.

**B. Technical recommendations for the prevention of fires and explosions**

Non-flammable; no special fire/explosion precautions beyond routine housekeeping.

**C. Technical recommendations on general occupational hygiene**

Do not eat, drink or smoke while handling. Wash hands after use.

**D. Technical recommendations to prevent environmental risks**

Avoid unnecessary release to drains and watercourses.

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

**A. Specific storage requirements**

| | |
|---|---|
| Minimum Temp. | 5°C |
| Maximum Temp. | 30°C |
| Maximum time | 24 Months |

**B. General conditions for storage**

Store in a cool, dry, well-ventilated place. Corrosive to some metals in the presence of moisture; store away from mild steel/copper surfaces where practical. For additional information see subsection 10.5.

**Specific end use(s)**

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters**

Substances whose occupational exposure limits have to be assessed in the workplace, per the Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987):

| Identification | Occupational Exposure Limit Type | Value |
|---|---|---|
| Ammonium Chloride (fume)<br>CAS: 12125-02-9 | Time Weighted average concentration (8 hrs) | 10 mg/m³ (total dust, general guidance) |

**Appropriate engineering controls**

It is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding occupational exposure limits, in addition to individual protective equipment (PPE) as needed. Consult the manufacturer's information leaflet for storage, use, cleaning and maintenance of PPE.

**B. Respiratory protection**

Not normally required with adequate ventilation. Use a particulate filter respirator (FFP2/P2) where dust levels are elevated.

**C. Specific protection for the hands**

Protective gloves recommended for prolonged/repeated handling.

**D. Eye and face protection**

Safety goggles or glasses with side shields (H319).

**E. Bodily protection**

Standard work clothing.

**F. Additional emergency measures**

Emergency shower (ANSI Z358-1, ISO 3864-1:2011, ISO 3864-4:2011) and eyewash stations (DIN 12 899, ISO 3864-1:2011, ISO 3864-4:2011) should be available.

**Environmental exposure controls**

Avoid environmental spillage of both the product and its container. See subsection 7.1.D.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Appearance** | |
| Physical state at 20°C | Solid (crystalline powder) |
| Appearance | White crystalline solid |
| Color | White |
| Odor | Odourless |
| Odour threshold | Not relevant * |
| **Volatility** | |
| Boiling point at atmospheric pressure | Sublimes/decomposes at ~338°C |
| Vapour pressure at 20°C | Negligible |
| Evaporation rate at 20°C | Not relevant (solid) |
| **Product Description** | |
| Density / Relative density at 20°C | 1.53 g/cm³ (literature) |
| Dynamic / Kinematic viscosity | Not applicable (solid) |
| Concentration | See section 3 |
| pH | ~4.6–5.5 (5% aqueous solution, weakly acidic; literature) |
| Vapour density at 20°C | Not relevant (solid) |
| Partition coefficient n-octanol/water 20°C | Not applicable (inorganic salt) |
| Solubility in water at 20°C | Soluble, ~297 g/L (literature) |
| Decomposition temperature | ~338°C (sublimes with partial decomposition) |
| Melting point/freezing point | Sublimes rather than melting at atmospheric pressure |
| **Flammability** | |
| Flash Point | Non-applicable (non-combustible solid) |
| Flammability (solid, gas) | Non-flammable |
| Autoignition temperature | Non-applicable |
| Lower / Upper flammability limit | Non-applicable |
| **Particle Characteristics** | |
| Median equivalent diameter | Available on request (grade dependent) |

** Not relevant due to the odourless, non-volatile nature of the solid at ambient temperature.*

**Other information**

| | |
|---|---|
| Explosive properties | Not relevant (non-explosive) |
| Oxidising properties | Non-oxidising |
| Corrosive to metals | Corrosive to mild steel/copper in the presence of moisture (chloride-induced corrosion) |
| Heat of combustion | Not relevant (non-combustible) |
| Surface tension at 20°C | Not relevant (solid) |
| Refraction index | Not relevant (solid) |

## 10. STABILITY AND REACTIVITY

**Reactivity**

Stable under normal conditions. Mildly acidic in aqueous solution; reacts with strong bases releasing ammonia; reacts with strong oxidisers.

**Chemical stability**

Chemically stable under recommended storage conditions.

**Possibility of hazardous reactions**

Contact with strong oxidising agents or nitrites may generate hazardous decomposition products; reaction with strong alkalis releases ammonia gas.

**Conditions to avoid**

| Shock/Friction | Contact with Air | Increase in Temperature | Sunlight | Humidity |
|---|---|---|---|---|
| Not applicable | Not applicable | Sublimes/decomposes at high temperature | Stable | Avoid prolonged exposure to moisture (caking, corrosion) |

**Incompatible materials**

| Strong Oxidising Agents | Strong Bases | Nitrites |
|---|---|---|
| Avoid contact | Releases NH3; avoid contact | Avoid contact (hazardous decomposition) |

**Hazardous decomposition products**

Hydrogen chloride, ammonia and nitrogen oxide fumes on strong heating.

## 11. TOXICOLOGICAL INFORMATION

**Information on toxicological effects**

In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

**A. Ingestion (acute effect)**
Harmful if swallowed (H302); may cause gastrointestinal irritation, nausea and vomiting in quantity.

**B. Inhalation (acute effect)**
Dust may cause irritation of the nose, throat and respiratory tract.

**C. Contact with skin and eyes (acute effect)**
Not classified as a skin irritant; causes serious eye irritation (H319).

**D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)**
Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data.

**E. Sensitizing effects**
Classification criteria for respiratory or skin sensitisation are not met based on available data.

**F. Specific target organ toxicity (STOT) – single exposure**
Classification criteria are not met based on available data.

**G. Specific target organ toxicity (STOT) – repeated exposure**
Classification criteria are not met based on available data.

**H. Aspiration hazard**
Not relevant (solid).

**Product-specific toxicological information**

| Identification | Acute Toxicity | Genus |
|---|---|---|
| Ammonium Chloride<br>CAS: 12125-02-9 | LD50 oral: 1,650 mg/kg (literature) | Rat |

## 12. ECOLOGICAL INFORMATION

**Not classified as hazardous to the aquatic environment under core GHS acute/chronic criteria; contains ammoniacal nitrogen which is toxic to aquatic life at elevated concentrations/pH.**

**Toxicity**

| Identification | Acute Toxicity | Genus |
|---|---|---|
| Ammonium Chloride<br>CAS: 12125-02-9 | LC50 (96h): ~500–600 mg/L (literature range) | Fish |

**Persistence and degradability**

Fully dissociates in water to ammonium and chloride ions, which are naturally occurring species; not persistent as a discrete substance.

**Bioaccumulative potential**

Not expected to bioaccumulate (highly soluble inorganic salt).

**Mobility in soil**

| Koc | Henry | Dry Soil | Moist Soil |
|---|---|---|---|
| Not relevant | Not relevant | Mobile (highly soluble) | Mobile |

**Results of PBT and vPvB assessment**

Non-applicable (inorganic substance).

**Other adverse effects**

Elevated ammoniacal-nitrogen loading from bulk release can be toxic to aquatic life, particularly at higher pH; avoid bulk discharge.

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

Dispose of as general/technical waste in accordance with local regulations, or recover for reuse where practicable. Do not discharge large quantities directly to drains or watercourses.

Refer to national and local regulations on waste management (Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016, as amended).

## 14. TRANSPORT INFORMATION

**Transport of dangerous goods by land (ADR 2023 / RID 2023)**

| | |
|---|---|
| 14.1 UN number | Not regulated |
| 14.2 UN proper shipping name | Not classified as dangerous goods for transport |
| 14.3 Transport hazard class(es) | – |
| 14.4 Packing group | – |
| 14.5 Environmental hazard | No |
| 14.6 Special precautions for user | Physico-chemical properties: see section 9 |
| 14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code) | Not relevant |

**Transport of dangerous goods by sea (IMDG 41-22)**

| | |
|---|---|
| 14.1 UN number | Not regulated |
| 14.2 UN proper shipping name | Not classified as dangerous goods for transport |
| 14.3 Transport hazard class(es) | – |
| 14.4 Packing group | – |
| 14.5 Environmental hazard | No |
| 14.6 Special precautions for user | Physico-chemical properties: see section 9 |
| 14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code) | Not relevant |

**Transport of dangerous goods by air (IATA/ICAO 2024)**

| | |
|---|---|
| 14.1 UN number | Not regulated |
| 14.2 UN proper shipping name | Not classified as dangerous goods for transport |
| 14.3 Transport hazard class(es) | – |
| 14.4 Packing group | – |
| 14.5 Environmental hazard | No |
| 14.6 Special precautions for user | Physico-chemical properties: see section 9 |
| 14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code) | Not relevant |

## 15. REGULATORY INFORMATION

**Safety, health and environmental regulations specific for the product in question**

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

**Other legislation**

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
The Chemical Accidents (Emergency Planning, Preparedness, and Response) Rules, 1996
Public Liability Insurance Act, 1991

## 16. OTHER INFORMATION

**Legislation related to safety data sheets**

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

**Texts of the legislative phrases mentioned in sections 2 and 3**

H302: Harmful if swallowed.
H319: Causes serious eye irritation.

*The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.*

**Advice related to training**

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

**Principal bibliographical sources**

United Nations GHS (Rev. 8); ECHA Classification & Labelling Inventory; publicly available peer-reviewed and regulatory toxicological/ecotoxicological literature for this CAS number.

**Abbreviations and acronyms**

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | COD: Chemical Oxygen Demand | BOD5: 5-day biochemical oxygen demand | BCF: Bioconcentration factor | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

**Disclaimer:** The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

*(This document is computer generated and therefore does not require any signature.)*