

AMMONIUM CARBONATE

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

AMMONIUM CARBONATE
Hartshorn Salt; Sal Volatile
CAS: 506-87-6

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Leavening agent/raising agent precursor, laboratory reagent, smelling salts, textile and leather processing, fire extinguisher powder component, pH buffering agent. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

1.3 Supplier's details:

SURAJ CHEMICALS
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
Email: sales@surajchemicals.com | Website: www.surajchemicals.com
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1.4 Emergency phone number:

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

SECTION 2: HAZARDS IDENTIFICATION

2.1 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).

Skin Irrit. 2	Skin irritation, Category 2, H315
Eye Dam. 1	Serious eye damage, Category 1, H318
STOT SE 3	Respiratory tract irritation, single exposure, Category 3, H335

2.2 GHS label elements, including precautionary statements:

GHS: Danger

Hazard statements:

Skin Irrit. 2: H315 – Causes skin irritation.
Eye Dam. 1: H318 – Causes serious eye damage.
STOT SE 3: H335 – May cause respiratory irritation.

Precautionary statements:

P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection.
P302+P352: IF ON SKIN: Wash with plenty of water.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor.
P332+P313: If skin irritation occurs: Get medical advice/attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards which do not result in classification:

On heating or on prolonged exposure to air, decomposes/sublimes releasing ammonia gas, which is irritating. Not a PBT or vPvB substance.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Ammonium Carbonate
In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 506-87-6	Ammonium Carbonate — Skin Irrit. 2: H315; Eye Dam. 1: H318; STOT SE 3: H335 – Danger	≥ 95% (commercial/technical grade)

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

3.2 Mixtures:

Non-applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

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

By inhalation:

Remove the affected person to fresh air and keep at rest in a position comfortable for breathing. Dust/ammonia fumes may irritate the respiratory tract. If breathing is difficult, seek medical attention.

By skin contact:

Remove contaminated clothing and footwear. Wash skin thoroughly with plenty of water and soap. If irritation persists, seek medical attention.

By eye contact:

Rinse immediately with plenty of water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek immediate medical attention as serious eye damage may occur.

By ingestion/aspiration:

Rinse mouth with water. Do not induce vomiting. Give plenty of water to drink if the person is conscious. Seek medical attention immediately.

4.2 Most important symptoms/effects, acute and delayed:

Irritation of eyes, skin and respiratory tract. Pungent ammonia-like odour on decomposition. See sections 2 and 11.

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

Treat symptomatically. No specific antidote known.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Suitable: Water spray, dry chemical powder, carbon dioxide, foam – use extinguishing media appropriate for the surrounding fire.

Unsuitable: None known.

5.2 Specific hazards arising from the chemical:

Non-combustible solid. On heating, decomposes to release ammonia gas and carbon dioxide; ammonia fumes are irritating and toxic in confined spaces.

5.3 Special protective actions for fire-fighters:

Wear self-contained breathing apparatus and full protective clothing in case of fire. Cool containers with water spray if exposed to heat. Evacuate area if large quantities involved.

Additional provisions:

Avoid inhalation of decomposition fumes (ammonia).

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Ventilate area. Avoid raising dust. Use personal protective equipment as per section 8. Keep unprotected persons away.

For emergency responders:

Wear suitable protective equipment including dust mask/respirator. See section 8.

6.2 Environmental precautions:

Avoid release to drains, water courses or soil. Contain spillage.

6.3 Methods and materials for containment and cleaning up:

Sweep up carefully and place in a suitable, labelled, closed container for disposal or recovery. Avoid generating dust. Wash the spill area with water after removal.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A. General precautions for safe use:

Avoid generation and inhalation of dust. Avoid contact with eyes and skin. Ensure adequate ventilation. Keep away from acids, which cause rapid release of ammonia and carbon dioxide gas.

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

Non-combustible; no special fire-prevention measures required beyond good housekeeping.

C. Technical recommendations on general occupational hygiene:

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

D. Technical recommendations to prevent environmental risks:

Prevent spillage from entering drains or water courses.

7.2 Conditions for safe storage, including any incompatibilities:

A. Specific storage requirements:

Minimum Temp.	Ambient (cool, below 25°C preferred)
Maximum Temp.	30°C
Maximum time	Typical value – refer to current specification sheet

B. General conditions for storage:

Store in tightly closed containers in a cool, dry, well-ventilated place, away from acids and direct sunlight, as the product slowly sublimes/decomposes releasing ammonia. For additional information see subsection 10.5.

7.3 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.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

No specific occupational exposure limit established for ammonium carbonate itself. As the product may decompose to release ammonia, the following limit for ammonia (CAS 7664-41-7) is relevant as a guide, 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
Ammonia (decomposition product) CAS: 7664-41-7	Time Weighted average concentration (8 hrs)	25 ppm
	Short-term exposure limit (15 min)	35 ppm

8.2 Appropriate engineering controls:

Use local exhaust ventilation where dust may be generated. Consult the manufacturer's information leaflet for storage, use, cleaning and maintenance of PPE.

B. Respiratory protection:

Dust mask/respirator (FFP2 or equivalent) where dust or ammonia fumes are present. Use isolation equipment if the contaminant carries additional warnings.

C. Specific protection for the hands:

Protective gloves (nitrile or PVC) recommended. Replace gloves at any sign of damage.

D. Eye and face protection:

Safety goggles/panoramic glasses against dust and splash. Use if there is a risk of dust or splashing.

E. Bodily protection:

Standard chemical-resistant work clothing. Safety footwear – replace at any sign of deterioration.

F. Additional emergency measures:

Emergency shower and eyewash stations should be available in the work area.

Environmental exposure controls:

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Solid (crystalline lumps/powder)
Appearance	White crystalline solid
Color	White
Odor	Pungent, ammonia-like
Odour threshold	Typical value – refer to current specification sheet
Volatility	
Sublimation/decomposition point	≈ 58°C (sublimes/decomposes)
Vapour pressure at 20°C	Typical value – refer to current specification sheet
Evaporation rate at 20°C	Non-applicable (solid)
Product Description	
Molecular weight	≈ 96.09 g/mol
Density / Relative density at 20°C	≈ 1.50 g/cm³
Bulk density	Typical value – refer to current specification sheet
pH (10% aqueous solution)	≈ 8.6 – 9.2 (slightly alkaline)
Solubility in water at 20°C	Soluble, ≈ 100 g/L
Partition coefficient n-octanol/water	Not relevant (inorganic salt)
Melting point/freezing point	Decomposes before melting (see sublimation point)
Flammability	
Flash Point	Non-applicable
Flammability (solid, gas)	Non-flammable
Autoignition temperature	Non-applicable
Lower / Upper flammability limit	Non-applicable
Particle Characteristics	
Median equivalent diameter	Typical value – refer to current specification sheet

* Values marked “Typical value” are not standardized and vary by batch/grade – refer to the current specification sheet.

9.2 Other information:

Explosive properties	Not relevant
Oxidising properties	Non-oxidising
Corrosive to metals	Not relevant
Heat of combustion	Non-applicable (non-combustible)
Viscosity	Non-applicable (solid)
Refraction index	Not relevant

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

Reacts with acids to liberate carbon dioxide and ammonia gas, sometimes vigorously. Slowly decomposes in moist air or on warming, releasing ammonia.

10.2 Chemical stability:

Stable under recommended storage conditions (cool, dry, tightly closed). Slowly sublimes/decomposes on exposure to air or heat.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions leading to excessive temperature or pressure are not expected. Contact with acids releases gas which can build pressure in closed containers.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Promotes slow decomposition	Accelerates decomposition (ammonia release)	Avoid prolonged exposure	Avoid contact with moisture

10.5 Incompatible materials:

Acids	Strong Oxidizers	Alkalis/Caustics	Moisture
Avoid contact – releases NH3/CO2 gas	Avoid contact	Avoid contact	Avoid prolonged exposure

10.6 Hazardous decomposition products:

Ammonia gas, carbon dioxide and water vapour on heating/decomposition.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 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):

May cause irritation of the mouth, throat and gastrointestinal tract. Large doses may cause nausea and vomiting.

B. Inhalation (acute effect):

Dust or decomposition fumes (ammonia) may cause irritation of the nose, throat and respiratory tract.

C. Contact with skin and eyes (acute effect):

Causes skin irritation. Causes serious eye damage.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not listed.

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:

May cause respiratory irritation (H335).

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 Carbonate CAS: 506-87-6	LD50 oral: Not established / limited data available	–
	LD50 dermal: Not established	–

SECTION 12: ECOLOGICAL INFORMATION

Contributes nitrogen load to aquatic systems at high concentrations; not expected to be acutely toxic to aquatic organisms at typical environmental concentrations.

12.1 Toxicity:

Identification	Acute Toxicity	Species	Genus
Ammonium Carbonate CAS: 506-87-6	Data not available	–	–

12.2 Persistence and degradability:

Readily dissociates/decomposes in the environment to ammonium, carbonate and water; not persistent as a discrete chemical species.

12.3 Bioaccumulative potential:

Not expected to bioaccumulate (inorganic salt, log Pow not applicable).

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Not relevant	Not relevant	Highly mobile (soluble)	Highly mobile (soluble)

12.5 Results of PBT and vPvB assessment:

Non-applicable – inorganic substance, PBT/vPvB criteria do not apply.

12.6 Other adverse effects:

Excessive nitrogen input to water bodies may contribute to eutrophication.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Dissolve or mix the material with a combustible solvent and incinerate in a chemical incinerator equipped with an afterburner and scrubber, or dispose of via a licensed waste contractor in accordance with local regulations.
For packaging: recover/recycle if possible; otherwise dispose of as for the product.
Refer to national and local regulations on waste management.

SECTION 14: TRANSPORT INFORMATION

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

14.1 UN number	Not assigned – not regulated as dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
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 assigned – not regulated as dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	Non-hazardous for sea transport
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 assigned – not regulated as dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-hazardous for air transport
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 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)

SECTION 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:

H315: Causes skin irritation.

H318: Causes serious eye damage.

H335: May cause respiratory 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:

The United Nations Economic Commission for Europe (UNECE); publicly available GHS classification references.

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 | 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

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.

END OF SAFETY DATA SHEET