

Safety Data Sheet

SECTION 1: IDENTIFICATION

Product Identifier

Product Name: Ammonium Chloride

Recommended Use of the Chemical and Restrictions on Use

Product Use: Food, Feed, Pharma, Metallurgy

Uses Advised Against: None identified

Supplier Information

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1.4 Emergency Telephone Number: When calling, please provide Access Code 335693.

Call Region: Americas		Call Region: Asia Pacific	
Argentina*	+54 11 5219 8871	China**	+86 4001 2001 74
Brazil*	+55 11 4349 1907	China/Asia Pacific**	+86 4001 2035 72
Chile*	+56 44 8905208	Indonesia*	001 803 015 203 9774
Colombia*	+57 601 344 1317	Japan	+81 368908677
Mexico*	+52 55 41696225	Korea*	080 880 0455
Peru*	+51 1 708 5593	Malaysia	+60 015 4 877 0772
Americas Non-Specific	+1 760 476 3961	Philippines	+63 2 83953471
United States & Canada	+1 866 519 4752	Singapore	+65 3158 6734
Call Region: Europe		Thailand	+66 21056177
Australia*	+61 280363166	Asia Pacific Non-Specific	+1 760 476 3960
Australia (English)*	+61 1 800 686 951	Call Region: Middle East - Africa	
Great Britain	+44 20 35147487	Middle East/Africa	+1 760 476 3959
United Kingdom*	800 680 0425	Call Region: Non-Region Specific	
United Kingdom (English)	+44 8 08 189 0979	New Zealand***	+64 800 451719
Europe Non-Specific	+1 760 476 3962	Non-Region Specific	+1 760 476 3971
Updated 9/12/2022			
* Countries that require a local emergency number			
** Use number in conjunction w/NRCC after the materials have been properly registered w/NRCC			
*** Countries that recommend a local emergency number			

SDS Date of Preparation: Month: 3 Day: 15 Year: 2023

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification:

Acute Toxicity Category 4 (Oral)

Eye Irritation Category 2A

Label Elements:



WARNING!

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

Prevention

P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear eye protection.

Response

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 attention.
P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P330: Rinse mouth.

Disposal

P501: Dispose in accordance with national and local regulations.

Other Hazards: None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	EINECS#	GHS Classification	%
Ammonium Chloride	12125-02-9	235-186-4	Acute Toxicity Category 4 (Oral) Eye Irritation Category 2A	100
Anti-Caking Agents <u>Consists of one or more of the following:</u> Hydrogenated tallow alkyl amine acetate	61790-59-8	263-149-2	Skin Irritation Category 2 Eye Damage Category 1	
Octadecanamine acetate				
Tricalcium phosphate	2190-04-7	218-583-7	Not hazardous	
Pectin	7758-87-4	231-840-8	Not hazardous	
Sodium alginate	9000-69-5	232-553-0	Not hazardous	
	9005-38-3	Not available	Not hazardous	

See Section 16 for further information on GHS Classification if applicable.

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

Eye: Flush with plenty of water for several minutes, holding eyelids open to assure thorough flushing. If contact lenses are present, remove them after the first 5 minutes if easy to do and continue flushing. Obtain medical attention if irritation persists.

Skin: Wash with soap and water. Remove any contaminated clothing and wash it before reuse.

Get medical attention if irritation develops.

Inhalation: If irritation develops, remove person to fresh air. Get medical attention if irritation persists.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. If person is alert, have them rinse their mouth with water. Get medical attention.

Most Important symptoms and effects, both acute and delayed:

Causes eye irritation. May cause mild skin and respiratory irritation. Harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting, thirst, headaches, hyperventilation and drowsiness.

Indication of any immediate medical attention and special treatment needed: No immediate medical attention is required.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media:

Use any media appropriate for the surrounding fire.

Specific Hazards Arising from the Chemical

Unusual Fire and Explosion Hazards: This material is not combustible but will decompose under fire conditions.

Hazardous Combustion Products: When heated to decomposition, nitrogen oxide, hydrogen chloride gas and ammonia gas will be produced.

Special Protective Equipment and Precautions for Fire-Fighters:

Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear appropriate protective equipment. Evacuate area. Avoid creating and breathing dust. Avoid contact with eyes, skin and clothing.

Environmental Precautions:

Avoid release to the environment. Report releases as required by local and national authorities.

Methods and Material for Containment and Cleaning Up:

Sweep spilled material and place in a suitable container for disposal or reuse. Clean up residual material by washing with water.

Reference to Other Sections:

Refer to Section 8 for protective equipment. Refer to Section 13 for disposal guidance.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling:

Avoid contact with the eyes. Avoid prolonged contact with skin and clothing. Avoid creating and breathing dust. Do not swallow. Use with adequate ventilation. Wash thoroughly with soap and water after handling. Remove contaminated clothing and launder before reuse. Do not smoke while handling.

Do not reuse containers. Empty containers retain product residues can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for Safe Storage, Including any Incompatibilities

Keep containers dry. Store in tightly closed containers. Store away oxidizing agents and other incompatible materials.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Chemical Name	Exposure Limits
Ammonium Chloride	10mg/m3 TWA ACGIH TLV (as fume)
Anti-Caking Agents	None Established

Refer to local regulations for specific requirements.

Exposure Controls:

Engineering Controls: Use with adequate general or local ventilation to maintain exposure levels below the exposure limits.

Eye and Face: Chemical safety goggles recommended to avoid eye contact.

Skin: Impervious gloves such as nitrile or polyvinylchloride (PVC).

Respiratory: If the exposure levels are excessive, a local authority approved respirator should be worn. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134 and ANSI Z88.2 or other applicable regulations and standards and good Industrial Hygiene practice.

Protective Clothing: Wear protective clothing if needed to avoid skin contact and contamination of personal clothing.

Work Hygienic Practices: No special requirements.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid	Appearance: White-Off white, crystalline solid
Odor: Odorless	Odor Threshold: Not applicable
pH: 4.3-5.5 (5% aqueous solution)	Relative Density: 900 g/L
Boiling Point: Not applicable	Melting Point: 642° F (399° C)
Vapor Pressure: Not applicable	Water Solubility: 37g / 100g saturated solution @ 20°C
Vapor Density: Not applicable	Evaporation Rate: Not applicable
Viscosity: Not applicable	Pour Point: Not applicable
Flash Point: None	Flammable Limits: LEL: None
Autoignition Temperature: None	Flammable Limits: UEL: None
Percent Volatile: 0%	Flammability (solid/gas): None
Partition Coefficient: n-octanol/water: Not applicable	Decomposition Temperature: 968°F (520°C)
Explosive Properties: None	Oxidizing Properties: None

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Reacts to produce ammonia and hydrogen chloride.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Reacts with alkalis to release ammonia. Reacts with acids to release hydrogen chloride.

Conditions to Avoid: Heating to decomposition may produce nitrogen oxides, hydrogen chloride and ammonia gas.

Incompatible Materials: Avoid strong oxidizing agents, alkalis, acids and nitrates. Corrodes most metals at high temperatures.

Hazardous Decomposition Products: Thermal decomposition may generate nitrogen oxides, hydrogen chloride and ammonia gas.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects:

Eye: Causes irritation with redness, tearing and pain.

Skin: May cause mild skin irritation.

Skin Absorption: No evidence of adverse effects from available information.

Ingestion: May cause gastrointestinal irritation, nausea, vomiting, thirst, headaches, hyperventilation and drowsiness. Large amounts may cause severe metabolic acidosis with symptoms such as headache, drowsiness, vomiting, confusion, thirst and hyperventilation.

Inhalation: May cause irritation of the nose, throat and upper respiratory tract with sneezing, coughing and sore throat.

Chronic Toxicity: None known.

Acute Toxicity Data:

Acute Toxicity Estimate: Oral 1410-1566 mg/kg, Dermal >2000

Ammonium Chloride: Oral rat LD50 1410 mg/kg, Dermal rabbit LD50 >2000 mg/kg

Skin corrosion/irritation: Ammonium chloride is not irritating to rabbit skin.

Eye damage/ irritation: Ammonium chloride is irritating to rabbit eyes (fully reversible with 7 days).

Skin Sensitization: Ammonium chloride did not cause sensitization in a guinea pig maximization test.

Respiratory Sensitization: No data available. Not expected to be a respiratory sensitizer based on human experience.

Germ Cell Mutagenicity: Ammonium chloride was negative in an in vitro mammalian cell gene mutation assay and positive in an in vitro mammalian chromosome aberration test without metabolic activation. Ammonium chloride was negative in an in vivo chromosome aberration micronucleus assay.

Carcinogenicity: None of the components is listed as a carcinogen or suspected carcinogen by ACGIH, IARC, NTP or OSHA. Studies in rats and mice with ammonium chloride were conducted for carcinogenicity or the potential of carcinogenicity by acidification of the urinary tract. The decrease of urine pH was observed, however the incidences of bladder tumor, hyperplasia and calculi were not increased. These studies showed negative results on carcinogenicity in rats and mice.

Developmental / Reproductive Toxicity: Rats were administered 1 mL/kg of a solution of ammonium chloride at 8.9 mg/kg by gavage on days 7 to 10 of gestation. Neither maternal toxicity nor developmental toxicity including teratogenicity was found.

Specific Target Organ Toxicity (Single Exposure): No data available.

Specific Target Organ Toxicity (Repeated Exposure): In an oral repeat dose study, rats were administered ammonium chloride in their feed at 684 mg/kg for 70 days. No treatment related effects were seen. The NOAEL for oral repeated dose toxicity is considered to be 684 mg/kg.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:

Ammonium Chloride: 96 hr LC50 *prosopium williamsoni* 46.27 mg/L, 48 hr EC50 *daphnia magna* 136.6 mg/L, 5 d EC50 *chlorella vulgaris* 1300 mg/L (calculated)

Persistence and Degradability:

Biodegradation is not applicable for inorganic substances such as ammonium chloride.

Bioaccumulative Potential:

Not expected to bioaccumulate.

Mobility in Soil:

No mobility in soil is expected. Ammonium chloride is highly soluble and dissociates into ammonia and chloride ions.

Other Adverse Effects: None known

SECTION 13: DISPOSAL INFORMATION

Waste Treatment Methods

Disposal Method: This material when discarded is not a hazardous waste as that term is defined by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261. Dry material may be landfilled or recycled in accordance with local, state and federal regulations. Dispose in accordance with all local, state and federal regulations.

Empty Container: No special handling or disposal is required.

General Comments: It is the responsibility of the user of this product to characterize wastes generated to determine if the waste meets the definition of hazardous waste. The product uses, transformations, synthesis, mixtures, etc., may render the resulting end product subject to regulation.

SECTION 14: TRANSPORT INFORMATION

	UN Number	UN Proper Shipping Name	Transport Hazard Class(s)	Packing Group	Environmental Hazards
US DOT	None	Not regulated in packages weighing less than 5000 lbs.	None	None	RQ=5000 lbs
IMDG	None	Not regulated	None	None	Not applicable
IATA/ICAO	None	Not regulated	None	None	Not applicable

Special Precautions for User: None

SECTION 15: REGULATORY INFORMATION

Safety, Health and Environment Regulations:

US Regulations:

EPA SARA 311/312 Hazard Classification: Refer to Section 2 for OSHA Hazard Classification.

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None

Protection Of Stratospheric Ozone: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA Section 103: This product has a reportable quantity of 5000 lbs. Release of more than 5,000 pounds of this product to the environment in a 24-hour period requires notification to the National Response Center (800-424-8802 or 202-426-2675). Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

Chemical Inventories:

US TSCA All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory or are exempt.

Canadian CEPA: All of the components are listed on the Canadian DSL or are exempt.

SECTION 16: OTHER INFORMATION

Template ID: DGIJ-RG16-1901_GHS_SDS_English_rev2.2

Revision History: Revised Sections 1, 3, 14, 15 and 16.

References:

- A. NLM ChemID Plus Database
- B. REACH Registration for Ammonium Chloride
- C. NLM Hazardous Substances Databank
- D. OECD SIDS Ammonium Chloride

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