

Material Safety Data Sheet

Ammonium Chloride, GR



Section 1. Product and Company Identification

Product name : Ammonium Chloride, GR
Product code : AX1270
Synonym : Sal Ammoniac
Material uses : Other non-specified industry: Analytical reagent.
Manufacturer : EMD Chemicals Inc.
P.O. Box 70
480 Democrat Road
Gibbstown, NJ 08027
856-423-6300 Technical Service
Monday - Friday: 8:00 - 5:00 PM
Validation date : **12/5/2007.**
Print date : 12/5/2007.
In case of emergency : 800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Section 2. Hazards Identification

Physical state : Solid. (Crystalline solid. Granular solid.)
Odor : Odorless.
OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview : WARNING!
HARMFUL IF SWALLOWED.
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA.
Do not ingest. Avoid contact with skin and clothing. Avoid breathing dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
Routes of entry : Inhalation. Ingestion.
Potential acute health effects
Eyes : Irritating to eyes.
Skin : Irritating to skin.
Inhalation : Irritating to respiratory system.
Ingestion : Toxic if swallowed.
Carcinogenic effects : No known significant effects or critical hazards.
Mutagenic effects : No known significant effects or critical hazards.
Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.
Medical conditions aggravated by over-exposure : Repeated skin exposure can produce local skin destruction or dermatitis. Repeated or prolonged exposure to the substance can produce lung damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated or prolonged exposure to the substance can produce target organs damage.
See toxicological information (section 11)

Continued on Next Page

Section 3. Composition/Information on Ingredients

United States

<u>Name</u>	<u>CAS number</u>	<u>% by Weight</u>
Ammonium Chloride	12125-02-9	100

Section 4. First Aid Measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.
- Skin contact** : Get medical attention immediately. Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Inhalation** : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire Fighting Measures

Flammability of the product : No specific hazard.

Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Not available.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental Release Measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, vacuum or carefully scoop up spilled material and place in an appropriate container for disposal by incineration. Avoid creating dusty conditions and prevent wind dispersal.

Section 7. Handling and Storage

- Handling** : Do not ingest. Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing dust. Wash thoroughly after handling.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Product name

Exposure limits

United States

Ammonium Chloride

ACGIH TLV (United States, 1/2007).

STEL: 20 mg/m³ 15 minute/minutes. Form: FumeTWA: 10 mg/m³ 8 hour/hours. Form: Fume

NIOSH REL (United States, 12/2001).

STEL: 20 mg/m³ 15 minute/minutes. Form: FumeTWA: 10 mg/m³ 10 hour/hours. Form: Fume

OSHA PEL 1989 (United States, 3/1989).

STEL: 20 mg/m³ 15 minute/minutes.TWA: 10 mg/m³ 8 hour/hours.

Consult local authorities for acceptable exposure limits.

- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
Recommended: safety glasses with side-shields
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Body: Recommended: lab coat
- Respiratory** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: nitrile rubber
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 9. Physical and Chemical Properties

- Physical state** : Solid. (Crystalline solid. Granular solid.)
- Color** : White.
- Odor** : Odorless.
- Molecular weight** : 53.49 g/mole
- Molecular formula** : Cl-H4-N
- Melting/freezing point** : Sublimation temperature: 337.55°C (639.6°F)
- Relative density** : 1.53 (Water = 1)
- Vapor density** : 1.8 (Air = 1)

Section 10. Stability and Reactivity

- Stability and reactivity** : The product is stable.
- Incompatibility with various substances** : Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
- Hazardous decomposition products** : These products are halogenated compounds, hydrogen chloride.
- Hazardous polymerization** : Will not occur.

Section 11. Toxicological Information

Toxicity data

United States

<u>Product/ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Ammonium Chloride	LD50	1650 mg/kg	Oral	Rat
	LD50	1300 mg/kg	Oral	Mouse
	LDLo	1500 mg/kg	Oral	Domestic Animals.
	LDLo	1500 mg/kg	Oral	Domestic Animals.

Chronic effects on humans : May cause damage to the following organs: upper respiratory tract, skin, eye, lens or cornea.

Other toxic effects on humans : Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation (lung irritant).

Specific effects

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

Sensitization

Ingestion : No known significant effects or critical hazards.

Inhalation : Irritating to respiratory system.

Eyes : Irritating to eyes.

Skin : Irritating to skin.

Section 12. Ecological Information

Ecotoxicity data

United States

<u>Product/ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
Ammonium Chloride	Oncorhynchus mykiss (LC50)	96 hour/hours	0.08 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	0.11 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	0.16 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	0.21 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	0.25 mg/l
	Pimephales promelas (LC50)	96 hour/hours	0.25 mg/l

Environmental precautions : No known significant effects or critical hazards.

Products of degradation : These products are nitrogen oxides (NO, NO₂ etc.), halogenated compounds.

Toxicity of the products of biodegradation : The products of degradation are as toxic as the product itself.

Section 13. Disposal Considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
DOT Classification	-	CHEMICALS, N.O.S.	-	-		Not available.

PG* : Packing group

Section 15. Regulatory Information

United States

HCS Classification : Toxic material
Irritating material
Target organ effects

U.S. Federal regulations : TSCA 8(b) inventory: Listed

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Ammonium Chloride

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Ammonium Chloride : Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: Ammonium Chloride

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Form R - Reporting requirements	: Ammonium Chloride	12125-02-9	100
Supplier notification	: Ammonium Chloride	12125-02-9	100

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

Continued on Next Page

Section 15. Regulatory Information

State regulations : Pennsylvania RTK: Ammonium Chloride : (environmental hazard, generic environmental hazard)
 Massachusetts RTK: Ammonium Chloride
 New Jersey: Ammonium Chloride

Canada

WHMIS (Canada) : Class D-2B: Material causing other toxic effects (Toxic).
CEPA DSL/CEPA NDSL : CEPA DSL: Ammonium Chloride

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

EU regulations

Hazard symbol/symbols :



Risk phrases : R22- Harmful if swallowed.
 R36- Irritating to eyes.

Safety phrases : S2- Keep out of the reach of children.
 S22- Do not breathe dust.

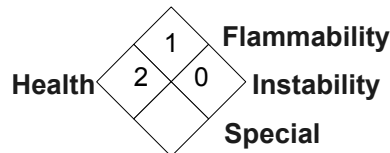
International regulations

International lists : Australia (NICNAS): Ammonium Chloride
 China: Ammonium Chloride
 Germany water class: Ammonium Chloride
 Japan (METI): Ammonium Chloride
 Korea (TCCL): Ammonium Chloride
 Philippines (RA6969): Ammonium Chloride

Section 16. Other Information

Label requirements : WARNING!
 HARMFUL IF SWALLOWED.
 CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
 MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: RESPIRATORY TRACT,
 SKIN, EYE, LENS OR CORNEA.

National Fire Protection Association (U.S.A.) :



Notice to reader

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