

Safety Data Sheet

Ammonium chloride U non food grade

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Version: 3.0

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(30060568/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Ammonium chloride U non food grade

Recommended use of the chemical and restriction on use

Recommended use*: Chemical

Recommended use*: Raw material; auxiliary; inorganic salts; flavours

Unsuitable for use: Not intended for sale to or use by the general public.

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Molecular formula: NH₄Cl

Chemical family: No data available.

Synonyms: AMMONIUM CHLORIDE

AMMONIAC, SALMIAC, AMMONIUM MURIATE, AMCHLOR

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

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Acute Tox.	4 (oral)	Acute toxicity
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Aquatic Acute	3	Hazardous to the aquatic environment - acute

Label elements

Pictogram:



Signal Word:
Warning

Hazard Statement:

H319	Causes serious eye irritation.
H302	Harmful if swallowed.
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P280	Wear eye protection.
P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (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.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth
P337 + P313	If eye irritation persists: Get medical attention.

Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.
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Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. No specific dangers known, if the regulations/notes for storage and handling are considered.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

ammonium chloride

CAS Number: 12125-02-9

Content (W/W): >= 75.0 - <= 100.0%

Synonym: Ammonium chloride

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4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air. If symptoms persist, seek medical advice.

If on skin:

Wash thoroughly with soap and water. If symptoms persist, seek medical advice.

If in eyes:

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Seek medical attention.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause: vomiting, lethargy, confusion, hyperventilation, nausea, headache

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam, water spray, dry powder

Unsuitable extinguishing media for safety reasons:
No data available.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
No particular hazards known.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

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Further information:

Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. In case of fire and/or explosion do not breathe fumes. Large quantities of extinguishing water containing dissolved product should be contained. Contaminated extinguishing water must be disposed of in accordance with official regulations.

Impact Sensitivity:

Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing.

Environmental precautions

Do not empty into drains.

Do not discharge into drains/surface waters/groundwater. This product is regulated by CERCLA ('Superfund').

Methods and material for containment and cleaning up

For small amounts: Sweep/shovel up.

For large amounts: Sweep/shovel up.

Avoid raising dust.

7. Handling and Storage

Precautions for safe handling

Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice. Keep the formation and deposition of dust to a minimum.

Protection against fire and explosion:

See SDS section 5 - Fire fighting measures.

Conditions for safe storage, including any incompatibilities

Segregate from alkalies and alkalizing substances. Segregate from nitrites. Segregate from oxidants. Do not store with: Sodium nitrate

Suitable materials for containers: Polyester resin, glass reinforced (Palatal A410), High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4571, rubberized, enamelled, Paper/Fibreboard

Further information on storage conditions: Protect against moisture.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

The substance mentioned develops if the regulation/notes for storage and handling are not observed.

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Hydrogen chloride	ACGIH, US:	CLV 2 ppm ;
	OSHA Z1:	CLV 5 ppm 7 mg/m3 ;
ammonia	ACGIH, US:	STEL value 35 ppm ;
	ACGIH, US:	TWA value 25 ppm ;
	OSHA Z1:	PEL 50 ppm 35 mg/m3 ;
ammonium chloride	ACGIH, US:	STEL value 20 mg/m3 fumes/smoke ;
	ACGIH, US:	TWA value 10 mg/m3 fumes/smoke ;
	OSHA Z1:	PEL 15 mg/m3 Total dust ;
	OSHA Z1:	PEL 5 mg/m3 Respirable fraction ;

Advice on system design:

Provide local exhaust ventilation to control dust.

Personal protective equipment

Respiratory protection:

Breathing protection if breathable aerosols/dust are formed. Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection:

Chemical resistant protective gloves, Suitable materials, rubber, plastic

Eye protection:

Tightly fitting safety goggles (chemical goggles).

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Handle in accordance with good industrial hygiene and safety practice. Avoid inhalation of dusts. When using, do not eat, drink or smoke. Remove contaminated clothing immediately and clean before re-use or dispose it if necessary.

9. Physical and Chemical Properties

Form:	crystalline, powder	
Odour:	almost odourless	
Odour threshold:	not applicable, odour not perceivable	
Colour:	white	
pH value:	approx. 4.7 (200 g/l, 25 °C)	(DIN ISO 976)
Melting point:	338 °C The substance / product decomposes. Literature data.	

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boiling temperature:	The substance / product decomposes therefore not determined.
Sublimation point:	338 °C The substance / product decomposes.
Flash point:	not applicable
Flammability:	not flammable (Regulation 440/2008/EC, A.10)
Lower explosion limit:	For solids not relevant for classification and labelling.
Upper explosion limit:	For solids not relevant for classification and labelling.
Autoignition:	The substance / product decomposes therefore not determined.
SADT:	Not a substance/mixture liable to self-decomposition according to GHS.
Density:	1.5274 g/cm ³ (20 °C) Literature data.
Bulk density:	600 - 900 kg/m ³ (DIN ISO 697)
Partitioning coefficient n-octanol/water (log Pow):	The value has not been determined because the substance is inorganic.
Self-ignition temperature:	not self-igniting
Thermal decomposition:	To avoid thermal decomposition, do not overheat.
Viscosity, dynamic:	not applicable, the product is a solid
Viscosity, kinematic:	No data available.
Solubility in water:	296 - 298 g/l (20 °C)
Evaporation rate:	The product is a non-volatile solid.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

No corrosive effect on metal.

Oxidizing properties:

not fire-propagating (Regulation 440/2008/EC, A.17)

Chemical stability

The product is chemically stable.

Possibility of hazardous reactions

The product is stable if stored and handled as prescribed/indicated.

Violent reaction under influence of oxidizing agents. Incompatible with bases. Reacts with nitrites.

Conditions to avoid

Avoid heat. Avoid moisture. See SDS section 7 - Handling and storage.

Incompatible materials

nitrites, nitrates, oxidizing agents

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Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: Hydrogen chloride, ammonia

Thermal decomposition:
To avoid thermal decomposition, do not overheat.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact.

Oral

Type of value: LD50
Species: rat (male/female)
Value: 1,410 mg/kg (BASF-Test)

Inhalation

No data available.

Dermal

Type of value: LD50
Species: rat (male/female)
Value: > 2,000 mg/kg (Directive 92/69/EEC, B.3)
No mortality was observed.

Assessment other acute effects

Assessment of STOT single:
Apart from effects causing lethality, no specific target organ toxicity was observed in experimental studies.

Irritation / corrosion

Assessment of irritating effects: Not irritating to the skin. Eye contact causes irritation.

Skin

Species: rabbit
Result: non-irritant
Method: Draize test

Eye

Species: rabbit
Result: Irritant.
Method: BASF-Test

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Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Guinea pig maximization test

Species: guinea pig

Result: Non-sensitizing.

Method: similar to OECD guideline 406

Aspiration Hazard

not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: Repeated oral uptake of the substance did not cause substance-related effects.

Repeated ingestion of large amounts may lead to metabolic acidosis.

Genetic toxicity

Assessment of mutagenicity: In the majority of studies performed with microorganisms and in mammalian cell culture, a mutagenic effect was not found. A mutagenic effect was also not observed in in vivo tests.

Carcinogenicity

Assessment of carcinogenicity: In long-term studies in rats in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Assessment of reproduction toxicity: Study scientifically not justified.

Teratogenicity

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish

LC50 (96 h) 42,91 mg/l Ammonium chloride, Oncorhynchus mykiss (other, other)

Aquatic invertebrates

EC50 (48 h) 136.6 mg/l, Daphnia magna (other, static)

Aquatic plants

EC50 (5 d) 1,300 mg/l (growth rate), Chlorella vulgaris (other, static)

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The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

EC50 (18 d) 2,700 mg/l (biomass), Chlorella vulgaris (other, static)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Chronic toxicity to fish

EC10 (30 d) 4,28 mg/l ammonium chloride, Lepomis macrochirus (other, Flow through.)

Chronic toxicity to aquatic invertebrates

EC10 (70 d) 2,52 mg/l ammonium chloride, aquatic crustacea (other, semistatic)

Assessment of terrestrial toxicity

Toxic effects have been observed in studies with soil living organisms.

Soil living organisms

Toxicity to soil dwelling organisms:

LC50 (14 d) 163 mg/kg, Eisenia foetida (other, artificial soil)

Toxicity to terrestrial plants

No observed effect concentration (84 d) 626 mg/l

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Other terrestrial non-mammals

Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

OECD Guideline 209 aquatic

activated sludge, domestic/EC20 (0.5 h): approx. 850 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Inorganic product which cannot be eliminated from water by biological purification processes. Can be oxidized to nitrate, or be reduced to nitrogen, by microorganisms.

Elimination information

not applicable

Assessment of stability in water

According to structural properties, hydrolysis is not expected/probable.

Study scientifically not justified.

Information on Stability in Water (Hydrolysis)

Study scientifically not justified.

Bioaccumulative potential

Assessment bioaccumulation potential

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Accumulation in organisms is not to be expected.

Bioaccumulation potential

Accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.

Study scientifically not justified.

Adsorption to solid soil phase is possible.

Additional information

Add. remarks environm. fate & pathway:

The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with national, state and local regulations.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

Further information

Specific national features of transport regulations must be observed. They are to be found in the shipping documents.

15. Regulatory Information

Federal Regulations

Registration status:

Food TSCA, US released / exempt

Chemical TSCA, US released / listed

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EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
5000 LBS	12125-02-9	ammonium chloride
Reportable Quantity for release:		5,000 lb

NFPA Hazard codes:

Health: 2 Fire: 1 Reactivity: 0 Special:

HMIS III rating

Health: 2 Flammability: 1 Physical hazard: 0

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Acute Tox.	4 (oral)	Acute toxicity
Aquatic Acute	3	Hazardous to the aquatic environment - acute
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2022/09/10

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