

Safety Data Sheet

Ammonium chloride NA, non food grade / non feed grade

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(30042217/SDS_GEN_CA/EN)

1. Identification

Product identifier used on the label

Ammonium chloride NA, non food grade / non feed grade

Recommended use of the chemical and restriction on use

Recommended use*: Chemical

Recommended use*: Raw material; auxiliary; inorganic salts

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 Canada Inc.

5025 Creekbank Road

Building A, Floor 2

Mississauga, ON, L4W 0B6, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Molecular formula: NH (4) Cl

Chemical family: No data available.

Synonyms: AMMONIUM CHLORIDE

AMMONIAC, SALMIAC, AMMONIUM MURIATE, AMCHLOR

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

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Classification of the product

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

Label elements

Pictogram:



Signal Word:
Warning

Hazard Statement:

| | |
|------|--|
| H319 | Causes serious eye irritation. |
| H302 | Harmful if swallowed. |
| H402 | Harmful to aquatic life. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary Statements (Prevention):

| | |
|------|---|
| P280 | Wear eye and face 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 | If eye irritation persists: |
| P311 | Call a POISON CENTER or physician. |

Precautionary Statements (Disposal):

| | |
|------|---|
| P501 | Dispose of contents and container to hazardous or special waste collection point. |
|------|---|

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 Hazardous Products Regulations (HPR) (SOR/2015-17)

ammonium chloride

CAS Number: 12125-02-9

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Content (W/W): $\geq 99.7 - \leq 100.0\%$

Synonym: Ammonium chloride

Amines, hydrogenated tallow alkyl

CAS Number: 61788-45-2

Content (W/W): $\geq 0.0 - \leq 0.05\%$

Synonym: Hydrogenated tallow alkyl amines

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.

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

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:

ammonia, Hydrogen chloride,

The substances/groups of substances mentioned can be released if the product is involved in a fire.

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Advice for fire-fighters

Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus.

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.

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

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

No special precautions necessary.

Conditions for safe storage, including any incompatibilities

Segregate from alkalis 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

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| | | |
|-------------------|------------|---|
| ammonium chloride | ACGIH, US: | STEL value 20 mg/m ³ fumes/smoke ; |
| | ACGIH, US: | TWA value 10 mg/m ³ fumes/smoke ; |
| | OSHA Z1: | PEL 15 mg/m ³ Total dust ; |
| | OSHA Z1: | PEL 5 mg/m ³ Respirable fraction ; |

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

| | | |
|-------------------|------------|---------------------------------|
| Hydrogen chloride | ACGIH, US: | CLV 2 ppm ; |
| | OSHA Z1: | CLV 5 ppm 7 mg/m ³ ; |

| | | |
|---------|------------|-----------------------------------|
| ammonia | ACGIH, US: | STEL value 35 ppm ; |
| | ACGIH, US: | TWA value 25 ppm ; |
| | OSHA Z1: | PEL 50 ppm 35 mg/m ³ ; |

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: | 4.7 (10 %(m), 25 °C) |
| Melting point: | 338 °C The substance / product decomposes. Literature data. |
| Freezing point: | No data available. |

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| | |
|---|--|
| boiling temperature: | The substance / product decomposes therefore not determined. |
| Boiling range: | No data available. |
| Boiling point: | No data available. |
| 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. |
| Vapour pressure: | 1 mmHg (160 °C) |
| 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 |
| 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.

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.

Inhalation

No data available.

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

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

Chronic Toxicity/Effects

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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)

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.

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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

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:

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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 a licensed facility. Observe all local regulations.

Container disposal:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport Information

Land transport

TDG

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:

Chemical DSL, CA released / listed

NFPA Hazard codes:

Health: 2 Fire: 1 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2022/10/25

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our

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commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET