

Safety Data Sheet

Ammonium carbonate Food Grade (E503i)

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Version: 4.0

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(30042216/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Ammonium carbonate Food Grade (E503i)

Recommended use of the chemical and restriction on use

Recommended use*: food additive(s)

Recommended use*: food additive(s); Raw material

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: | $\{(NH)_4\}(2)CO(3)$ |
| Chemical family: | No data available. |
| Synonyms: | Crystal Ammonia |

2. Hazards Identification

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

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 |

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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. |
|------|---------------------------------------------------------------------|

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.
Irritating to eyes, respiratory system and skin (dust).

3. Composition / Information on Ingredients

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

ammonium hydrogencarbonate

CAS Number: 1066-33-7

Content (W/W): 25.0 - <= 50.0%

Synonym: Ammonium hydrogencarbonate

ammonium carbamate

CAS Number: 1111-78-0

Content (W/W): 25.0 - <= 50.0%

Synonym: No data available.

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4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:

Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

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:

Rinse mouth and then drink 200-300 ml of water. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause:, vomiting, dyspnea, nausea, coughing

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

After inhalation of decomposition products: Pulmonary odema prophylaxis. Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary odema.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, carbon dioxide, foam

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

ammonia, carbon dioxide,

The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered.

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6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Breathing protection required. Ensure suitable air extract/ventilation during cleaning/emptying of process machinery.

Environmental precautions

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.

Spills should be contained and placed in suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Breathing must be protected when large quantities are decanted without local exhaust ventilation. Processing machines must be fitted with local exhaust ventilation. Avoid dust formation.

Protection against fire and explosion:

Store in a cool place. If heated the drums can burst due to pressure build-up.

Conditions for safe storage, including any incompatibilities

Segregate from nitrites and alkaline substances. Storage and transport only combined with food materials or food additives. Separate from flavoring agents.

Do not store with: Sodium nitrate, sodium nitrite

Suitable materials for containers: Aluminium, High density polyethylene (HDPE), glass, Low density polyethylene (LDPE), Stainless steel 1.4541, Stainless steel 1.4571, enamelled, rubberized

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

Storage stability:

Protect against moisture.

Protect from temperatures above: 30 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

No substance specific occupational exposure limits known.

Advice on system design:

Provide local exhaust ventilation to control dust.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) particulate respirator.

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Hand protection:

Chemical resistant protective gloves

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles).

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as necessary to prevent contact. Avoid inhalation of dust. Employees should shower at the end of the shift. Wash soiled clothing immediately.

9. Physical and Chemical Properties

| | | |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------|
| Form: | powder, crystalline | |
| Odour: | ammonia-like | |
| Odour threshold: | No data available., not determined | |
| Colour: | white | |
| pH value: | 9 (100 g/l, 20 °C) | |
| Melting point: | The substance / product decomposes. not applicable | |
| Freezing point: | not applicable | |
| Boiling range: | Study technically not feasible., The substance / product decomposes therefore not determined. | |
| Boiling point: | not applicable | |
| Flash point: | not applicable, the product is a solid | |
| Flammability: | not highly flammable not flammable not self-igniting | (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. | |
| Vapour pressure: | 69 mbar (20 °C) 188 mbar (30 °C) | |
| Density: | approx. 1.6 g/cm3 (20 °C) | |
| Relative density: | 1.6 (20 °C) | |
| Bulk density: | 780 - 830 kg/m3 | |
| Partitioning coefficient n- octanol/water (log Pow): | -2.4 - -0.47 | |
| Self-ignition temperature: | not self-igniting | |
| Thermal decomposition: | > 59 °C To avoid thermal decomposition, do not overheat. | |
| Viscosity, dynamic: | not applicable, the product is a solid | |
| Solubility in water: | 320 g/l (20 °C) | |

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Evaporation rate: negligible, The product is a non-volatile solid.

10. Stability and Reactivity

Reactivity

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
not fire-propagating

Chemical stability

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

Possibility of hazardous reactions

The product is chemically unstable.

Conditions to avoid

Avoid extreme heat.

Incompatible materials

strong alkalies, nitrates

Hazardous decomposition products

Decomposition products:
carbon dioxide, ammonia

Thermal decomposition:
> 59 °C
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.

Oral

Type of value: LD50

Species: rat

Value: > 1,800 - < 2,150 mg/kg (BASF-Test)

Inhalation

Information on: ammonium hydrogencarbonate

Type of value: LC50

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Species: rat (male/female)

Value: > 4.74 mg/l (other)

Exposure time: 4.5 h

An aerosol was tested.

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

Information on: ammonium carbamate

Type of value: LC50

Species: rat (male/female)

Value: 6.6 mg/l (OECD Guideline 403)

Exposure time: 4 h

Product not examined: Value is calculated from the data of the components.

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

Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg

No mortality was observed.

Irritation / corrosion

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

Information on: ammonium carbamate

Assessment of irritating effects: May cause severe damage to the eyes. Not irritating to the skin.

Information on: ammonium hydrogencarbonate

Assessment of irritating effects: Not irritating to the eyes. Not irritating to the skin. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Skin

Species: rabbit

Result: non-irritant

The product has not been tested. The statement has been derived from the properties of the individual components.

Eye

Species: rabbit

Result: non-irritant

Method: OECD Guideline 405

Sensitization

Assessment of sensitization: The chemical structure does not suggest a sensitizing effect.

Aspiration Hazard

No data available.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No known chronic effects.

Genetic toxicity

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Assessment of mutagenicity: No data available concerning mutagenic effects. The chemical structure does not suggest a specific alert for such an effect.

Information on: ammonium hydrogencarbonate

Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture.

Information on: ammonium carbamate

Assessment of mutagenicity: Mutagenicity tests revealed no genotoxic potential. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Carcinogenicity

Information on: ammonium hydrogencarbonate

Assessment of carcinogenicity: The whole of the information assessable provides no indication of a carcinogenic effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: ammonium carbamate

Assessment of carcinogenicity: Did not show carcinogenic effects in animal experiments. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity

Information on: ammonium hydrogencarbonate

Assessment of reproduction toxicity: Study scientifically not justified.

Information on: ammonium carbamate

Assessment of reproduction toxicity: Study scientifically not justified.

Other Information

The product has not been tested. The statement has been derived from the properties of the individual components.

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. The product has not been tested. The statement has been derived from the properties of the individual components.

Toxicity to fish

LC50 (96 h) 61 mg/l, *Oncorhynchus mykiss* (Flow through.)

Literature data.

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Aquatic invertebrates

EC50 (48 h) 63.7 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Nominal concentration.

Aquatic plants

EC50 (72 h) 75.9 mg/l (biomass), Desmodemus subspicatus (DIN 38412 Part 9, static)

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

OECD Guideline 209 aquatic

activated sludge, domestic, non-adapted/EC20 (0.5 h): 1,000 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.

Bioaccumulative potential

Bioaccumulation potential

Accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments

Adsorption to solid soil phase is not expected.

Additional information

Other ecotoxicological advice:

Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with national, state and local regulations. Do not discharge into waterways or sewer systems without proper authorization.

Container disposal:

Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. Dispose of in a licensed facility.

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

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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 TSCA, US released / listed

Food TSCA, US released / listed

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

EPCRA 313:

CAS Number

1111-78-0

Chemical name

ammonium carbamate

CERCLA RQ

5000 LBS

CAS Number

1066-33-7; 1111-78-0

Chemical name

ammonium hydrogencarbonate; ammonium carbamate

State regulations

State RTK

NJ

CAS Number

1066-33-7

1111-78-0

Chemical name

ammonium hydrogencarbonate

ammonium carbamate

PA

1066-33-7

1111-78-0

ammonium hydrogencarbonate

ammonium carbamate

NFPA Hazard codes:

Health: 2

Fire: 0

Reactivity: 0

Special:

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2021/08/09

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