

Safety Data Sheet

Ammonium bicarbonate O Food Grade

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Version: 2.0

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(30061453/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Ammonium bicarbonate O Food Grade

Recommended use of the chemical and restriction on use

Recommended use*: food additive(s)

Recommended use*: process chemical; food additive(s); Raw material; propellant; Laboratory chemicals

Suitable for use in industrial sector: chemical industry

* 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

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Molecular formula: NH_4HCO_3
Synonyms: AMMONIUM BICARBONATE
Ammonium Hydrogen Carbonate

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
Aquatic Acute	3	Hazardous to the aquatic environment - acute

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Label elements

Pictogram:



Signal Word:

Warning

Hazard Statement:

H302 Harmful if swallowed.
H402 Harmful to aquatic life.

Precautionary Statements (Prevention):

P273 Avoid release to the environment.
P270 Do not eat, drink or smoke when using this product.
P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

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

Precautionary Statements (Disposal):

P501 Dispose of contents/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 Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical name</u>
1066-33-7	>= 75.0 - <= 100.0%	ammonium hydrogencarbonate

4. First-Aid Measures

Description of first aid measures

If inhaled:

After inhalation of decomposition products: Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Wash thoroughly with soap and water.

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If irritation develops, seek medical attention.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

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, dyspnea, nausea, coughing

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

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

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

Further information:

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Breathing protection required.

Environmental precautions

This product is regulated by CERCLA ('Superfund').

Methods and material for containment and cleaning up

For residues: Dampen, pick up mechanically and dispose of.

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7. Handling and Storage

Precautions for safe handling

No special measures necessary provided product is used correctly. Avoid dust formation. Ensure suitable air extract/ventilation on process machinery and transportation equipment. Ensure thorough ventilation of stores and work areas. The temperatures which must be avoided are to be considered. Sealed containers should be protected against heat as this results in pressure build-up. Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

See MSDS section 5 - Fire fighting measures.

Conditions for safe storage, including any incompatibilities

Segregate from nitrites and alkaline substances. Segregate from strong acids. Segregate from strong bases. Storage and transport only combined with food materials or food additives.

Do not store with: Sodium nitrate

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

Further information on storage conditions: Keep container tightly closed and dry. Keep only in the original container in a cool, well-ventilated place. Keep at temperature not exceeding 30 °C.

Storage stability:

Keep container dry.

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

Components with occupational exposure limits

No occupational exposure limits known.

The substance mentioned develops if the regulation/notes for storage and handling are not observed. When the product is handled at elevated temperature, the following occupational exposure limit should be noted:

carbon dioxide	OSHA PEL	PEL 5,000 ppm 9,000 mg/m ³ ; TWA value 10,000 ppm 18,000 mg/m ³ ; STEL value 30,000 ppm 54,000 mg/m ³ ;
	ACGIH TLV	TWA value 5,000 ppm ; STEL value 30,000 ppm ;
ammonia	OSHA PEL	PEL 50 ppm 35 mg/m ³ ; STEL value 35 ppm 27 mg/m ³ ;
	ACGIH TLV	STEL value 35 ppm ; TWA value 25 ppm ;

Advice on system design:

Provide local exhaust ventilation to control dust.

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Personal protective equipment

Respiratory protection:

Breathing protection if gases/vapours are formed. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:

Wear chemical resistant protective gloves., Consult with glove manufacturer for testing data.

Eye protection:

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:

Do not breathe dust. At the end of the shift the skin should be cleaned and skin-care agents applied.

9. Physical and Chemical Properties

Form:	crystalline, powder	
Odour:	ammonia-like	
Odour threshold:	not determined	
Colour:	white	
pH value:	8	(other)
	(50 g/l, 20 °C)	
Melting point:	The substance / product decomposes.	
Flammability:	not flammable	(other)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Vapour pressure:	79 mbar (25.4 °C) 526 mbar (50 °C)	
Density:	1.58 g/cm ³ (20 °C)	
Bulk density:	approx. 850 kg/m ³	
Partitioning coefficient n-octanol/water (log Pow):	-2.4 (25 °C)	
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting. Based on its structural properties the product is not classified as self-igniting. not self-igniting not self-igniting	
Thermal decomposition:	> 30 °C To avoid thermal decomposition, do not overheat.	
Viscosity, dynamic:	not applicable	
Solubility in water:	220 g/l (20 °C) Literature data.	

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Evaporation rate: negligible, 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:

Corrosive effects to metal are not anticipated.

Oxidizing properties:

not fire-propagating (other)

Chemical stability

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

Possibility of hazardous reactions

Exothermic reaction. Reacts with nitrates. Reacts with nitrites. Reacts with strong alkalies.

Conditions to avoid

See MSDS section 7 - Handling and storage.

Avoid heat.

Incompatible materials

nitrites, nitrates, strong bases, strong acids

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: ammonia, carbon dioxide

Thermal decomposition:

> 30 °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. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Oral

Type of value: LD50

Species: rat (male/female)

Value: approx. 1,576 mg/kg (BASF-Test)

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Inhalation

Type of value: LC50

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.

Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg (other)

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

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 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: In vitro assay

Result: non-irritant

Method: OECD Guideline 431

Species: rabbit

Result: non-irritant

Method: other

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

Eye

Species: In vitro assay

Result: Non corrosive.

Method: HET-CAM test in vitro

Species: rabbit

Result: non-irritant

Method: other

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

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition. The chemical structure does not suggest a sensitizing effect.

Guinea pig maximization test

Species: guinea pig

Result: Non-sensitizing.

Method: other

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

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. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Genetic toxicity

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

Carcinogenicity

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.

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

Other Information

development of pulmonary edema

Symptoms of Exposure

Overexposure may cause: vomiting, dyspnea, nausea, coughing

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) 63.4 mg/l, *Oncorhynchus mykiss* (Fish test acute, Flow through.)

Aquatic invertebrates

EC50 (48 h) 145.6 mg/l, *Daphnia magna* (Daphnia test acute, static)

Aquatic plants

EC50 (120 h) approx. 1,900 mg/l (growth rate), *Chlorella vulgaris* (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) 3,231 mg/l (other), Chlorella vulgaris (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) 6.3 mg/l, Lepomis macrochirus (other, Flow through.)

Chronic toxicity to aquatic invertebrates

EC10 (70 d) 3.7 mg/l, Daphnia magna (other, semistatic)

Assessment of terrestrial toxicity

No toxic effects have been observed in studies with soil living organisms.

Soil living organisms

Toxicity to soil dwelling organisms:

LC50 (14 d) 241 mg/kg, Eisenia foetida (other, artificial soil)

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

Toxicity to terrestrial plants

No observed effect concentration (84 d) 749 mg/l, terrestrial plants (other)

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

DIN 38412 Part 8 aquatic

bacterium/EC10 (16 h): 1,347 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.

Bioaccumulative potential

Assessment bioaccumulation potential

Accumulation in organisms is not to be expected.

Bioaccumulation potential

Accumulation in organisms is not to be expected.

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Mobility in soil

Assessment transport between environmental compartments

No data available.

Study scientifically not justified.

Adsorption to solid soil phase is not expected.

Additional information

Other ecotoxicological advice:

Do not release untreated into natural waters. At the present state of knowledge, no negative ecological effects are expected.

13. Disposal considerations

Waste disposal of substance:

Test for use in agriculture.

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

Container disposal:

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

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

The product is intended only for transport within the plant Ludwigshafen. Consultation of BASF transport-security unit for transport classification is mandatory.

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

Food TSCA, US released / exempt

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

Reportable Quantity for release: 5,000 lb

State regulations

State RTK

NJ

PA

CAS Number

1066-33-7

1066-33-7

Chemical name

ammonium hydrogencarbonate

ammonium hydrogencarbonate

NFPA Hazard codes:

Health: 2

Fire: 0

Reactivity: 0

Special:

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

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2019/09/18

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