

Safety data sheet

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BASF Safety data sheet

Date / Revised: 27.01.2025

Product: **Ammonium sulfate special grade**

Version: 6.1

(30042199/SDS_GEN_SG/EN)

Date of print: 18.10.2025

1. Substance/preparation and manufacturer/supplier identification

Product name:

Ammonium sulfate special grade

Use: Chemical

Recommended use: fertilizers, Chemical, Intermediate, process chemical, Fire extinguishing compounds, Laboratory chemicals

Manufacturer/supplier:

BASF South East Asia Pte Ltd.

128 Beach Road #18-01

Guoco Midtown, 189773, Singapore

Telephone: +65 8322 4420

Telefax number: +65 6 334-0330

E-mail address: benny.zou@basf.com

Emergency information:

Singapore Emergency Toll-Free Number:

Telephone: 1800-723-1361

International emergency number:

Telephone: +49 180 2273-112

2. Hazard identification

Classification of the substance and mixture:

Acute toxicity: Cat.5 (oral)

Hazardous to the aquatic environment - acute: Cat.3

Label elements and precautionary statement:

Signal Word:

Warning

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Hazard Statement:

H303 May be harmful if swallowed.

H402 Harmful to aquatic life.

Precautionary Statements (Prevention):

P273 Avoid release to the environment.

Precautionary Statements (Response):

P312 Call a POISON CENTER or physician if you feel unwell.

Precautionary Statements (Disposal):

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

Other hazards which do not result in classification:

No specific dangers known, if the regulations/notes for storage and handling are considered.

3. Composition/information on ingredients

Chemical nature

Substance nature: Substance

Ammonium sulphate

CAS Number: 7783-20-2

caprolactam (Content (W/W): < 0.5 %)

CAS Number: 105-60-2

4. First-Aid Measures

General advice:

Remove contaminated clothing.

If inhaled:

After inhalation of dust. Fresh air. If difficulties occur: Seek medical attention. After inhalation of decomposition products: Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

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

On ingestion:

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

Note to physician:

Symptoms: (Further) symptoms and / or effects are not known so far

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Hazards: After inhalation of decomposition products: Risk of pulmonary edema. Symptoms can appear later.

Treatment: After inhalation of decomposition products: Pulmonary odema prophylaxis.

5. Fire-Fighting Measures

Suitable extinguishing media:
water spray, foam, dry powder

Unsuitable extinguishing media for safety reasons:
water jet

Specific hazards:
See SDS section 7 - Handling and storage.

Specific hazards:
At temperatures of 235 °C can be emitted: ammonia

nitrogen oxides, sulfur oxides
The substances/groups of substances mentioned can be released in case of fire.

Further information:
Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

Personal precautions:
Handle in accordance with good industrial hygiene and safety practice. Information regarding personal protective measures, see section 8.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater. Retain and dispose of contaminated wash water.

Methods for cleaning up or taking up:
For large amounts: Sweep/shovel up.
For residues: Sweep/shovel up. Rinse away with water.

7. Handling and Storage

Handling

Handle in accordance with good industrial hygiene and safety practice.

Storage

Segregate from alkalies and alkalizing substances. Segregate from nitrites and alkaline substances.

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Suitable materials for containers: Stainless steel 1.4401, Stainless steel 1.4301 (V2), Aluminium, Polyester resin, glass reinforced (Palatal A410), High density polyethylene (HDPE), glass, Low density polyethylene (LDPE)

Further information on storage conditions: Protect against moisture. The substance/product may cake under the influence of moisture.

Storage stability:

Storage temperature: 20 °C

Storage duration: 24 Months

8. Exposure controls and personal protection

Components with occupational exposure limits

No substance specific occupational exposure limits known.

Personal protective equipment

Respiratory protection:

Breathing protection if breathable aerosols/dust are formed. Particle filter with low efficiency for solid particles (e.g. EN 143 or 149, Type P1 or FFP1)

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. At the end of the shift the skin should be cleaned and skin-care agents applied.

9. Physical and Chemical Properties

Form: crystalline
Colour: white
Odour: odourless
Odour threshold: No data available.

pH value: approx. 5 (pH Meter)
(100 g/l, 20 °C)

melting point (decomposition): approx. 350 °C (other)
The substance / product decomposes.

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onset of boiling:	The substance / product decomposes therefore not determined.	(other)
Flash point:	The substance/product is non-combustible.	(other)
Evaporation rate:	not applicable, The product is a non-volatile solid.	
Flammability (solid/gas):	not flammable	(other)
Lower explosion limit:	not applicable	
Upper explosion limit:	not applicable	
Ignition temperature:	not applicable	
Thermal decomposition:	> 235 °C To avoid thermal decomposition, do not overheat.	(internal method)
Self ignition:	not self-igniting The value has not be determined because of the low risk of self-ignition in consequence of the high flash-point.	Test type: Spontaneous self-ignition at room-temperature. (Method: other) Test type: Self-ignition at high temperatures. (Method: other)
Self heating ability:	It is not a substance capable of spontaneous heating.	
SADT:	No data available.	
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	(other)
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	(other)
Vapour pressure:	0.0000001 hPa (25 °C) Literature data.	(measured)
Density:	1.766 g/cm3 (20 °C)	(OECD Guideline 109)
Relative density:	1.77 (25 °C, 1,013 hPa) Literature data.	(other)
Bulk density:	1,000 kg/m3 (20 °C)	(other)

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Relative vapour density (air):

not applicable, The product is a non-volatile solid.

Solubility in water:

764 g/l
(20 °C)843 g/l
(50 °C)

Partitioning coefficient n-octanol/water (log Pow):

not applicable

Adsorption:

Study scientifically not justified.

Surface tension:

(other)
Based on chemical structure, surface activity is not to be expected.

Viscosity, dynamic:

not applicable

Viscosity, kinematic:

not applicable, the product is a solid

Particle characteristicsParticle size distribution: 560 µm (D50, calculated)
fine particles -

Specific Surface Area:

No data available.

Particle Shape:

No data available.

Dustiness:

No data available.

10. Stability and Reactivity

Conditions to avoid:

See SDS section 7 - Handling and storage.

Thermal decomposition:

> 235 °C (internal method)
To avoid thermal decomposition, do not overheat.

Substances to avoid:

alkaline reactive substances, nitrites

Hazardous reactions:

Generation of ammonia upon exposure to alkaline substances. Reacts with alkalis and nitrites.

Hazardous decomposition products:

ammonia

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Chemical stability:

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

Reactivity:

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

11. Toxicological Information

Routes of exposure

Acute oral toxicity

Experimental/calculated data:

LD50rat (oral): 4,250 mg/kg (BASF-Test)

Acute inhalation toxicity

(by inhalation): Study does not need to be conducted.

Acute dermal toxicity

LD50 rat (dermal): > 2,000 mg/kg

Literature data.

Assessment of acute toxicity

Of low toxicity after single ingestion. Of low toxicity after short-term skin contact.

Information on: Ammonium sulphate

Assessment of acute toxicity

Of low toxicity after single ingestion. Of low toxicity after short-term skin contact.

Symptoms

(Further) symptoms and / or effects are not known so far

Irritation

Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (BASF-Test)

Serious eye damage/irritation rabbit: non-irritant (BASF-Test)

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing. (other)

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

Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in studies with mammals.

Experimental/calculated data:

Ames-test

negative (OECD Guideline 471)

Cytogenetic assay

negative (OECD Guideline 473)

Literature data.

HGPRT assay

CHO cells: negative (OECD Guideline 476)

Carcinogenicity

Assessment of carcinogenicity:

In long-term animal studies in which the substance was given in high concentrations by feed, a carcinogenic effect was not observed.

Experimental/calculated data:

No data available.

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

No data available.

Developmental toxicity

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.

Specific target organ toxicity (single exposure)

The available information is not sufficient for the evaluation of specific target organ toxicity.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

No substance-specific organotoxicity was observed after repeated administration to animals.

Aspiration hazard

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not applicable

Other relevant toxicity information

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

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:

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.

Toxicity to fish:

LC50 (96 h) 53 mg/l, *Oncorhynchus mykiss* (Fish test acute)

Aquatic invertebrates:

EC50 (48 h) 121.7 mg/l, *Ceriodaphnia* sp. (Daphnia test acute, static)

Aquatic plants:

EC50 (18 d) 2,700 mg/l (growth rate), *Chlorella vulgaris* (other)

The details of the toxic effect relate to the nominal concentration.

Microorganisms/Effect on activated sludge:

EC20 (0.5 h) approx. 1,050 mg/l, activated sludge (OECD Guideline 209, aquatic)

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

Chronic toxicity to aquatic invertebrates:

EC10 (70 d), 3.12 mg/l (semistatic)

Soil living organisms:

LC50 (14 d) 201 mg/kg, *Eisenia foetida* (artificial soil)

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.

Mobility

Assessment transport between environmental compartments:

Adsorption to solid soil phase is not expected.

Persistence and degradability

Elimination information:

Study scientifically not justified.

Bioaccumulation potential

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Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

Bioaccumulation potential:
Study scientifically not justified.

13. Disposal Considerations

Test for use in agriculture.
Contact manufacturer.

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

14. Transport Information

Domestic transport:

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
	Marine pollutant: no
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
Proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for	None known

user

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

15. Regulatory Information

Other regulations

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.