

Safety Data Sheet

Ammonium sulphate

Revision date : 2015/01/06
Version: 3.0

Page: 1/10
(14690/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Ammonium sulphate

Recommended use of the chemical and restriction on use

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

* The "Recommended use" identified for this product is provided solely to comply with a US 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

Synonyms: Ammonium sulphate - crystalline

2. Hazards Identification

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

Classification of the product

Aquatic Acute 3 Hazardous to the aquatic environment - acute

Label elements

Hazard Statement:
H402 Harmful to aquatic life.

Precautionary Statements (Prevention):

Safety Data Sheet

Ammonium sulphate

Revision date : 2015/01/06
Version: 3.0

Page: 2/10
(14690/SDS_GEN_US/EN)

P273 Avoid release to the environment.

Precautionary Statements (Disposal):

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

Hazards not otherwise classified

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

Labeling of special preparations (GHS):

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 99 - 100 % Inhalation - dust

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

NO PARTICULAR HAZARDS KNOWN.

Ensure adequate ventilation.

Handle in accordance with good industrial hygiene and safety practice.

Eye wash fountains and safety showers must be easily accessible.

Do not allow to enter drains or waterways.

3. Composition / Information on Ingredients

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

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
7783-20-2	>= 99.2 - < 99.5 %	Ammonium sulphate

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
7783-20-2	>= 99.0 %	Ammonium sulphate

4. First-Aid Measures

Description of 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.

If on skin:

Wash thoroughly with soap and water.

If in eyes:

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

Safety Data Sheet

Ammonium sulphate

Revision date : 2015/01/06
Version: 3.0

Page: 3/10
(14690/SDS_GEN_US/EN)

If swallowed:

Rinse mouth immediately and then drink plenty of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: No significant symptoms are expected due to the non-classification of the product.
Hazards: After inhalation of decomposition products: Risk of pulmonary edema. Symptoms can appear later.

Indication of any immediate medical attention and special treatment needed

Note to physician

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

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
carbon dioxide, water spray

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
See MSDS section 7 - Handling and storage.

ammonia, can be emitted at 235 °C

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. Dispose of fire debris and contaminated extinguishing water 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

Do not get in eyes, on skin, or on clothing. Take appropriate protective measures.

Environmental precautions

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

Methods and material for containment and cleaning up

For large amounts: Sweep/shovel up.

Safety Data Sheet

Ammonium sulphate

Revision date : 2015/01/06
Version: 3.0

Page: 4/10
(14690/SDS_GEN_US/EN)

For residues: Sweep/shovel up. Rinse away with water.

7. Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:
The substance/product is non-combustible.

Conditions for safe storage, including any incompatibilities

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

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

8. Exposure Controls/Personal Protection

Advice on system design:
Ensure adequate ventilation.

Personal protective equipment

Respiratory protection:

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

Hand protection:

Wear chemical resistant protective gloves., e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other, Consult with glove manufacturer for testing data.

Eye protection:

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

Body protection:

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

General safety and hygiene measures:

At the end of the shift the skin should be cleaned and skin-care agents applied.

9. Physical and Chemical Properties

Form:	crystalline	
Odour:	odourless	
Odour threshold:		No data available.
Colour:	white	
pH value:	approx. 5	(100 g/l, 20 °C)
melting point (decomposition):	approx. 350 °C	The substance / product decomposes.
onset of boiling:		(other) The substance / product decomposes therefore not determined.
Sublimation point:		No applicable information available.

Safety Data Sheet

Ammonium sulphate

Revision date : 2015/01/06
Version: 3.0

Page: 5/10
(14690/SDS_GEN_US/EN)

Flash point:		(other) The substance/product is non-combustible.
Flammability:	not flammable	(other)
Flammability of Aerosol Products:		not applicable, the product does not form flammable aerosoles)
Lower explosion limit:		not applicable
Upper explosion limit:		not applicable
Autoignition:		not applicable
Vapour pressure:	0.0000001 hPa	(25 °C) (measured) Literature data.
Density:	1.766 g/cm ³	(20 °C)
Relative density:	1.77	(25 °C, 1,013 hPa) (other) Literature data.
Bulk density:	1,000 kg/m ³	(20 °C)
Vapour density:		not applicable, The product is a non-volatile solid.
Partitioning coefficient n-octanol/water (log Pow):		not applicable
Self-ignition temperature:		(other) not self-igniting
		(other) The value has not be determined because of the low risk of self-ignition in consequence of the high flash-point.
Thermal decomposition:	> 235 °C To avoid thermal decomposition, do not overheat.	
Viscosity, dynamic:		not applicable, the product is a solid
Viscosity, kinematic:		not applicable, the product is a solid
Particle size:	> 1000 µm	(other)
Solubility in water:	764 g/l 843 g/l	(20 °C) (50 °C)
Evaporation rate:		not applicable, The product is a non-volatile solid.

10. Stability and Reactivity

Reactivity

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

Oxidizing properties:

Based on its structural properties the product is not classified as oxidizing. (other)

Chemical stability

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

Possibility of hazardous reactions

Evolution of ammonia under influence of alkalies. Reacts with alkalis and nitrites.

Conditions to avoid

Protect from atmospheric humidity.

Incompatible materials

alkaline reactive substances, nitrites

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: ammonia

Safety Data Sheet

Ammonium sulphate

Revision date : 2015/01/06
Version: 3.0

Page: 6/10
(14690/SDS_GEN_US/EN)

Thermal decomposition:
> 235 °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 low toxicity after single ingestion. Of low toxicity after short-term skin contact.

Oral

Type of value: LD50
Species: rat (male/female)
Value: 4,250 mg/kg (BASF-Test)

Inhalation

Study does not need to be conducted.

Dermal

Type of value: LD50
Species: rat (male/female)
Value: > 2,000 mg/kg
Literature data.

Assessment other acute effects

Assessment of STOT single:
The available information is not sufficient for evaluation.

Irritation / corrosion

Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes.

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies. 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: No substance-specific organotoxicity was observed after repeated administration to animals.

Genetic toxicity

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.

Safety Data Sheet

Ammonium sulphate

Revision date : 2015/01/06
Version: 3.0

Page: 7/10
(14690/SDS_GEN_US/EN)

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.

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.

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

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

Symptoms of Exposure

No significant symptoms are expected due to the non-classification of the product.

12. Ecological Information

Toxicity

Aquatic toxicity

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.

Chronic toxicity to aquatic invertebrates

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

Soil living organisms

Toxicity to soil dwelling 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.

Microorganisms/Effect on activated sludge

Safety Data Sheet

Ammonium sulphate

Revision date : 2015/01/06
Version: 3.0

Page: 8/10
(14690/SDS_GEN_US/EN)

Toxicity to microorganisms

OECD Guideline 209 aquatic

activated sludge/EC20 (0.5 h): approx. 1,050 mg/l

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

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

Study scientifically not justified.

Bioaccumulative potential

Assessment bioaccumulation potential

Accumulation in organisms is not to be expected.

Bioaccumulation potential

Study scientifically not justified.

Mobility in soil

Assessment transport between environmental compartments

Adsorption to solid soil phase is not expected.

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with national, state and 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

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

Safety Data Sheet

Ammonium sulphate

Revision date : 2015/01/06
Version: 3.0

Page: 9/10
(14690/SDS_GEN_US/EN)

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Not hazardous;

State regulations

State RTK

MA, NJ, PA

CAS Number

7783-20-2

Chemical name

Ammonium sulphate

NFPA Hazard codes:

Health : 1 Fire: 0 Reactivity: 0 Special:

HMIS III rating

Health: 1 Flammability: 0 Physical hazard: 0

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2015/01/06

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Safety Data Sheet

Ammonium sulphate

Revision date : 2015/01/06
Version: 3.0

Page: 10/10
(14690/SDS_GEN_US/EN)

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