



Ammonium sulfate

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Product Reference code: OC00001

Revision date: 14/06/2022 Supersedes version of: 04/02/2021 Version: 5.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Name : Ammonium sulfate
EC-No. : 231-984-1
CAS-No. : 7783-20-2
REACH registration No : 01-2119455044-46

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Flame retardants and fire preventing agents
Fertilizers
Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

OCI Nitrogen B.V.
Poststraat 1
P.O. Box 601
6135 KR Sittard - The Netherlands
T +31 (0) 46 7020111
info.agro@ocinitrogen.com - www.ocinitrogen.nl

1.4. Emergency telephone number

Emergency number : Alert & Care Centre Chemelot (Geleen, The Netherlands): +31 (0) 46 4765555 (24/7)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

Component

Ammonium sulfate (7783-20-2)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
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Component

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The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ammonium sulfate	(CAS-No.) 7783-20-2 (EC-No.) 231-984-1 (REACH-no) 01-2119455044-46	100	Not classified

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth with water. Drink plenty of water. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation	: Dust from this product may cause irritation to the respiratory tract. Under fire conditions: Symptoms may be delayed. (48 hours). Difficulty in breathing.
Symptoms/effects after eye contact	: Dust from this product may cause eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Consult an expert.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard : The product is not flammable.
Hazardous decomposition products in case of fire : Ammonia. Nitrogen oxides. Sulphur oxides. Amines.

5.3. Advice for firefighters

Precautionary measures fire : Do not allow run-off from fire-fighting to enter drains or water courses.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel. Ventilate spillage area. Do not breathe dust. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Wear recommended personal protective equipment.

6.2. Environmental precautions

Avoid uncontrolled release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Shovel or sweep up and put in a closed container for disposal. Avoid dust formation.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Ensure good ventilation of the work station. Avoid dust formation. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in accordance with local, regional, national or international regulation. Store in original container. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
Incompatible materials : Refer to Section 10 on Incompatible Materials.
Packaging materials : Unsuitable materials: Copper, Zinc.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

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DNEL/DMEL (Workers)

Long-term - systemic effects, dermal	42.667 mg/kg bw/day
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Long-term - systemic effects, inhalation	11.167 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	6.4 mg/kg bw/day
Long-term - systemic effects, inhalation	1.667 mg/m ³
Long-term - systemic effects, dermal	12.8 mg/kg bw/day
PNEC (Water)	
PNEC aqua (freshwater)	0.312 mg/l
PNEC aqua (marine water)	0.031 mg/l
PNEC aqua (intermittent, freshwater)	0.53 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.063 mg/kg dwt
PNEC (Soil)	
PNEC soil	62.6 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	16.18 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure adequate ventilation, especially in confined areas.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:
Safety glasses with side shields

8.2.2.2. Skin protection

Skin and body protection:
Long sleeved protective clothing

Hand protection:
Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Protective gloves	Polyvinylchloride (PVC), Butyl rubber	5 (> 240 minutes)	0.2		EN 374

8.2.2.3. Respiratory protection

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Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Device	Filter type	Condition	Standard
Dust mask	Type P2		EN 143, EN 149

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid uncontrolled release to the environment.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Wash hands immediately after handling the product. Take off contaminated clothing and wash it before reuse.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Off-white, Yellow
Appearance	: Granulate
Odour	: Odourless
Odour threshold	: Not available
Melting point	: > 235 °C
Freezing point	: Not applicable
Boiling point	: Not applicable
Flammability	: Non flammable.
Explosive properties	: Not applicable
Explosive limits	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature:	: > 235 °C
pH	: 5 – 6 (5% w/w)
Viscosity, kinematic	: Not applicable
Solubility	: Water: 7.6 g/l
Vapour pressure	: Not available
Density	: Not available
Relative density	: 1.78
Relative vapour density at 20 °C	: Not applicable
Particle size	: Not available
Particle size distribution	: Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Oxidising properties : Non oxidizing

9.2.2. Other safety characteristics

Bulk density : 1000 – 1060 kg/m³

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Keep away from heat. Keep away from any flames or sparking source.

10.5. Incompatible materials

Oxidizing agent. Alkali metals. Nitrites. Copper (Cu). Zinc.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products in case of fire. Ammonia. Nitrogen oxides. Sulphur oxides. Amines.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Ammonium sulfate (7783-20-2)

LD50 oral rat	4250 mg/kg (OECD 401 method)
LD50 oral	> 2000 mg/kg (OECD 432 method)
LD50 dermal rat	> 2000 mg/kg (OECD 433 method)
Skin corrosion/irritation	: Not classified pH: 5 – 6 (5% w/w)
Serious eye damage/irritation	: Not classified pH: 5 – 6 (5% w/w)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Ammonium sulfate (7783-20-2)

NOAEL (chronic, oral, animal/male, 2 years)	256 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Remarks on results: other:Effect type: toxicity (migrated information)
NOAEL (chronic, oral, animal/female, 2 years)	284 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Remarks on results: other:Effect type: toxicity (migrated information)
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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Viscosity, kinematic	Not applicable
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11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

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11.2.2 Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Ammonium sulfate (7783-20-2)	
LC50 fish 1	53 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 fish 2	57.2 mg/l Test organisms (species): Prosopium williamsoni
EC50 Daphnia 1	121.7 mg/l Test organisms (species): other: Ceriodaphnia acanthina
EC50 Daphnia 2	169 mg/l Test organisms (species): Daphnia magna
NOEC chronic fish	5.29 mg/l Lepomis macrochirus (Bluegill)
NOEC chronic crustacea	3.12 mg/l Hyalella azteca

12.2. Persistence and degradability

Ammonium sulfate (7783-20-2)	
Persistence and degradability	Readily biodegradable.

Ammonium sulfate (7783-20-2)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

Ammonium sulfate (7783-20-2)	
Bioaccumulative potential	Bioaccumulation unlikely.

Ammonium sulfate (7783-20-2)	
Partition coefficient n-octanol/water (Log Pow)	-5.1 (at 25 °C)
Bioaccumulative potential	Bioaccumulation unlikely.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Ammonium sulfate (7783-20-2)	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
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Component	
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12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods :
Product/Packaging disposal recommendations : Recycling is preferred to disposal or incineration. Do not re-use empty containers without proper cleaning or reconditioning. Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Special transport precautions : IMSBC code Bulk cargo shipping name: AMMONIUM SULPHATE, Class: Not applicable, Group: C, Marpol V: Non-HME

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Ammonium sulfate is not on the REACH Candidate List

Ammonium sulfate is not on the REACH Annex XIV List

Ammonium sulfate is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Ammonium sulfate is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Other information, restriction and prohibition regulations : This product is not subject to Regulation (EU) 2019/1148, but all suspicious transactions, disappearances and thefts should be reported to the relevant authority. Regulation (EU) No. 2019/1009 relating to fertilisers.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

Not required

SECTION 16: Other information

Indication of changes:

Contact details. DNEL. PNEC. Regulatory information.

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration

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REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
vPvB	Very Persistent and Very Bioaccumulative

Safety Data Sheet applicable for regions : IE - Ireland;GB - United Kingdom

SDS EU (REACH Annex II) - RHDHV

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.