

## Ammonium Sulfate

Version number: 1.0

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### SECTION 1: Identification

#### 1.1 Product identifier

**Identification of the substance** ammonium sulphate

**Trade name** Ammonium Sulfate

**CAS number** 7783-20-2

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

**Relevant identified uses** Industrial use

**Uses advised against** Do not use for private purposes (household)

#### 1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC  
179 Calle Magdalena Suite 100  
Encinitas, California CA 92024  
United States

Telephone: +1 (760) 635 8500  
e-mail: info@valudor.com  
Website: www.valudor.com

#### 1.4 Emergency telephone number

**Emergency information** 800-535-5053 (Infotrac)

As above or nearest toxicological information centre.

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

**Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

This substance does not meet the criteria for classification.

#### 2.2 Label elements

**Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

Not required.

#### 2.3 Other hazards

**Results of PBT and vPvB assessment**

According to the results of its assessment, this substance is not a PBT or a vPvB.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

<b>Name of substance</b>	ammonium sulphate
<b>Identifiers</b>	
CAS No	7783-20-2
<b>Molar mass</b>	132.1 <sup>g</sup> / <sub>mol</sub>

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

#### General notes

Do not leave affected person unattended.  
Remove victim out of the danger area.  
In case of unconsciousness place person in the recovery position. Never give anything by mouth.  
In all cases of doubt, or when symptoms persist, seek medical advice.  
Keep affected person warm, still and covered.

#### Following inhalation

Provide fresh air.  
Remove person to fresh air and keep comfortable for breathing.  
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

#### Following skin contact

Brush off loose particles from skin.  
Rinse skin with water/shower.  
Take off immediately all contaminated clothing.

#### Following eye contact

Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
Get medical advice/attention.

#### Following ingestion

Rinse mouth with water (only if the person is conscious).  
Let water be drunk in little sips (dilution effect).  
Do NOT induce vomiting.  
Get medical advice/attention.

#### Notes for the doctor

None.

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

This information is not available.

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

None.

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## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

water, foam, alcohol resistant foam, fire extinguishing powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

#### Hazardous combustion products

ammonia (NH<sub>3</sub>), nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

#### Special protective equipment for firefighters

Use suitable breathing apparatus

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Ventilate affected area.

Do not get in eyes, on skin, or on clothing.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

#### For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains.

Take up mechanically.

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## **Advice on how to clean up a spill**

Take up mechanically.  
Collect spillage.

## **Other information relating to spills and releases**

Place in appropriate containers for disposal.  
Ventilate affected area.

## **6.4 Reference to other sections**

Hazardous combustion products: see section 5.  
Personal protective equipment: see section 8.  
Incompatible materials: see section 10.  
Disposal considerations: see section 13.

## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

Do not get in eyes, on skin, or on clothing.

#### **Measures to prevent fire as well as aerosol and dust generation**

Use local and general ventilation.  
Take precautionary measures against static discharge.  
Ground/bond container and receiving equipment.

#### **Specific notes/details**

Dust deposits may accumulate on all deposition surfaces in a technical room.

#### **Measures to protect the environment**

Avoid release to the environment.

#### **Advice on general occupational hygiene**

Do not eat, drink and smoke in work areas.  
Wash hands after use.  
Preventive skin protection (barrier creams/ointments) is recommended.  
Remove contaminated clothing and protective equipment before entering eating areas.

### **7.2 Conditions for safe storage, including any incompatibilities**

#### **Flammability hazards**

None.

#### **Incompatible substances or mixtures**

Incompatible materials: see section 10.

#### **Protect against external exposure, such as**

heat

#### **Consideration of other advice**

Keep away from food, drink and animal feedingstuffs.

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## Ventilation requirements

Provision of sufficient ventilation.

## Packaging compatibilities

Keep only in original container.

## 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

The following constituents are the only constituents of the product which have a PEL, a TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Notation	Source
US	Particulates not otherwise regulated	-	PEL (CA)	-	10	-	-	dust	Cal/OSHA PEL
US	Particulates not otherwise regulated	-	PEL (CA)	-	5	-	-	r	Cal/OSHA PEL
US	particulates not otherwise classified	-	REL	-	-	-	-	appx-D	NIOSH REL
US	particulates not otherwise classified (PNOC)	-	PEL	1,766	15	-	-	partml, i, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	529.5	5	-	-	partml, r, dust	29 CFR 1910.1000

#### Notation

appx-D see Appendix D - Substances with No Established RELS

dust as dust

i inhalable fraction

partml particles/ml

r respirable fraction

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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## 8.2 Exposure controls

### Appropriate engineering controls

Use local and general ventilation.

### Individual protection measures (personal protective equipment)

#### Eye/face protection

Wear eye/face protection.

#### Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
NR: natural rubber, latex	≥ 0,5 mm	>480 minutes (permeation: level 6)
IIR: isobutene-isoprene (butyl) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)
CR: chloroprene (chlorobutadiene) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)
PVC: polyvinyl chloride	≥ 0,5 mm	>480 minutes (permeation: level 6)
FKM: fluoro-elastomer	≥ 0,4 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particle filter device (DIN EN 143).

#### Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

##### Physical state

solid  
(crystalline)

##### Color

yellowish brown

##### Odor

odorless

##### Odor threshold

not determined

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## Other safety parameters

**pH (value)** 4 – 6 (in aqueous solution: 100 mg/cm<sup>3</sup>, 25 °C)

**Melting point/freezing point** 257 °C at 1 atm

**Boiling point or initial boiling point and boiling range** not determined

**Flash point** not applicable

**Evaporation rate** not determined

**Flammability (solid, gas)** non-combustible

**Explosive limits** not determined

Explosion limits of dust clouds not determined

Vapor pressure 0 Pa at 25 °C

Density not determined

Relative density 1.77 at 25 °C (water = 1)  
(ECHA)

Bulk density 1.08 g/cm<sup>3</sup>

Relative vapour density not applicable

## Solubility(ies)

Water solubility 767 – 1,038 g/l  
(ECHA)

## Partition coefficient

n-octanol/water (log KOW) not relevant  
(inorganic)

Auto-ignition temperature not determined

**Decomposition temperature** >280 °C  
(ECHA)

**Viscosity** not relevant  
(solid)

**Explosive properties** none

**Oxidizing properties** none

**Information for relevant hazard classes according to GHS** hazard classes acc. to GHS (physical hazards):  
not relevant

**9.2 Other information** there is no additional information

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

Dangerous/dangerous reactions with Bases: Ammonia (NH<sub>3</sub>)- Development.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

oxidizer, bases

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgment (weight of evidence determination).

#### Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This substance does not meet the criteria for classification.

#### Acute toxicity

May be harmful if swallowed.

May be harmful in contact with skin.

#### Inhalation.

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	>2,000 mg/kg	rat	OECD Guideline 423	ECHA
dermal	LD50	>2,000 mg/kg	rat	OECD Guideline 434	ECHA



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## **Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.  
(ECHA)

## **Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.  
(ECHA)

## **Respiratory or skin sensitization**

### **Skin sensitization**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

### **Respiratory sensitization**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.  
(ECHA, OECD Guideline 471, OECD Guideline 473, OECD Guideline 476)

## **Carcinogenicity**

### **IARC Monographs**

not listed

### **National Toxicology Program (United States)**

not listed

### **OSHA Carcinogens**

Not listed.

## **Reproductive toxicity**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

### **Specific target organ toxicity - single exposure**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

### **Specific target organ toxicity - repeated exposure**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

## **11.2 Other information**

There is no additional information.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
LC50	96 h	53 mg/l	rainbow trout ( <i>Oncorhynchus mykiss</i> )	-	ECHA
EC50	48 h	121.7 mg/l	<i>Ceriodaphnia acanthina</i>	-	ECHA

#### Aquatic toxicity (chronic)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
EC50	18 d	2,700 mg/l	algae ( <i>Chlorella vulgaris</i> )	-	ECHA
EC50	30 min	1,618 mg/l	Activated sludge, municipal	OECD Guideline 209	ECHA
growth (EbCx) 10%	30 d	5.29 mg/l	bluegill ( <i>Lepomis macrochirus</i> )	-	ECHA
growth (EbCx) 20%	30 min	1,050 mg/l	Activated sludge, municipal	OECD Guideline 209	ECHA
reproductive output 10%	70 d	3.12 mg/l	<i>Hyalella azteca</i>	-	ECHA

### 12.2 Persistence and degradability

#### Biodegradation

The study does not need to be conducted because the substance is inorganic.

#### Persistence

The study does not need to be conducted because the substance is inorganic.

### 12.3 Bioaccumulative potential

#### n-octanol/water (log KOW)

not relevant  
(inorganic)

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

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## 12.6 Endocrine disrupting properties Other adverse effects

Not listed.

### Remarks

None.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packages

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

### Remarks

Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

14.1 UN number not assigned

14.2 UN proper shipping name -

14.3 Transport hazard class(es) -

14.4 Packing group -

14.5 Environmental hazards -

14.6 Special precautions for user -

14.7 Transport in bulk according to IMO instruments -

### 14.8 Information for each of the UN Model Regulations

#### Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information

Not subject to transport regulations.

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### National regulations (United States)

**Toxic Substance Control Act (TSCA)** Substance is listed (ACTIVE)

#### Superfund Amendment and Reauthorization Act (SARA TITLE III )

##### The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

Not listed

##### Specific Toxic Chemical Listings (EPCRA Section 313)

Not listed

#### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

##### List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Not listed

#### Clean Air Act

Not listed

#### Right to Know Hazardous Substance List

##### Cleaning Product Right to Know Act Substance List (CA-RTK)

Not listed

##### Toxic or Hazardous Substance List (MA-TURA)

Name of substance	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Threshold	De Minimis Concentration Threshold
ammonium sulphate	7664-41-7	-	-	-	1.0 %

##### Hazardous Substances List (MN-ERTK)

Not listed

##### Hazardous Substance List (NJ-RTK)

Not listed

##### Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
SULFURIC ACID DIAMMONIUM SALT	7783-20-2	E

#### Legend

E Environmental hazard

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## Hazardous Substance List (RI-RTK)

Name of substance	CAS No	References
ammonium sulphate	7783-20-2	F

### Legend

F Flammability (NFPA®)

## California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Not listed

## Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

Not listed

## Industry or sector specific available guidance(s)

### NPCA-HMIS® III

Hazardous Materials Identification System.

American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	0	no significant risk to health
Flammability	0	material that will not burn under typical fire conditions
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	-

### NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	0	material that will not burn under typical fire conditions
Health	0	material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material
Instability	0	material that is normally stable, even under fire conditions
Special hazard	-	-

## 15.2 Chemical Safety Assessment

# Ammonium Sulfate

No Chemical Safety Assessment has been carried out for this substance by the supplier.

## SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2023-04-20

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IARC	International Agency for Research on Cancer
IARC Monographs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LHS	Lower hazard substance
NFPA®	National Fire Protection Association (United States)
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit

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Abbr.	Descriptions of used abbreviations
ppm	Parts per million
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

## Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

## Responsible for the safety data sheet

Chemical Regulatory Compliance Com- Telephone: +1 (630) 410-1660  
pany e-Mail: GHS@crc-us.com  
Jasper, GA Website: www.crc-us.com  
USA

## Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.