

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Version 6.5

Revision Date 30.04.2021

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Ammonium sulfate

Product Number : A4418

Brand : Sigma

REACH No. : 01-2119455044-46-XXXX

CAS-No. : 7783-20-2

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Company : Sigma-Aldrich Pte Ltd  
(Co. Registration No. 199403788W)  
2 Science Park Drive  
#05-01/12 Ascent Building  
SINGAPORE 118222  
SINGAPORE

Telephone : +65 6890 6633

Fax : +65 6890 6639

E-mail address : TechnicalService@merckgroup.com

**1.4 Emergency telephone**

Emergency Phone # : 1-800-262-8200

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

**2.2 Label elements**

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.



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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : Ammonium sulphate

Formula :  $\text{H}_8\text{N}_2\text{SO}_4$

Molecular weight : 132,14 g/mol

CAS-No. : 7783-20-2

EC-No. : 231-984-1

No components need to be disclosed according to the applicable regulations.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### If inhaled

After inhalation: fresh air.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

#### If swallowed

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

Nitrogen oxides (NO<sub>x</sub>)

Sulfur oxides

Not combustible.

Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.



## 5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.  
For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

For precautions see section 2.2.

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

#### Storage conditions

Tightly closed. Dry.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

### 8.2 Exposure controls

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact



Material: Nitrile rubber  
Minimum layer thickness: 0,11 mm  
Break through time: 480 min  
Material tested: KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber  
Minimum layer thickness: 0,11 mm  
Break through time: 480 min  
Material tested: KCL 741 Dermatril® L

### **Respiratory protection**

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P1

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### **Control of environmental exposure**

Do not let product enter drains.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |   |                                       |
|---|---------------------------------------|
| a) Appearance                                   | Form: crystalline<br>Color: colorless |
| b) Odor   | odorless                              |
| c) Odor Threshold                               | Not applicable                        |
| d) pH   | 5,0 - 6 at 132 g/l at 25 °C           |
| e) Melting point/freezing point                 | Melting point/range: > 280 °C - dec.  |
| f) Initial boiling point and boiling range      | Not applicable                        |
| g) Flash point                                  | No data available                     |
| h) Evaporation rate                             | No data available                     |
| i) Flammability (solid, gas)                    | The product is not flammable.         |
| j) Upper/lower flammability or explosive limits | No data available                     |



k)	Vapor pressure	< 0,1 hPa at 25 °C
l)	Vapor density	Not applicable
m)	Relative density	No data available
n)	Water solubility	767 g/l at 25 °C
o)	Partition coefficient: n-octanol/water	Not applicable for inorganic substances
p)	Autoignition temperature	No data available
q)	Decomposition temperature	> 235 °C -
r)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

## 9.2 Other safety information

Solubility in other solvents	Ethanol - insoluble Acetone - insoluble
Relative vapor density	Not applicable

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Exothermic reaction with:

chlorates

with

heat

nitrates

with

Heat.

Risk of explosion with:

chlorates

with

Acids

nitrates

with

Potassium

nitrates

with

Acids

nitrites

sodium hypochlorite

Generates dangerous gases or fumes in contact with:

alkalines



Possible formation of:  
Ammonia

#### **10.4 Conditions to avoid**

no information available

#### **10.5 Incompatible materials**

No data available

#### **10.6 Hazardous decomposition products**

In the event of fire: see section 5

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### **SECTION 11: Toxicological information**

#### **11.1 Information on toxicological effects**

##### **Acute toxicity**

LD50 Oral - Rat - male and female - 4.250 mg/kg  
(OECD Test Guideline 401)

LD50 Dermal - Rat - male and female - > 2.000 mg/kg  
(OECD Test Guideline 434)

##### **Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation - 20 h

Remarks: (ECHA)

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

Eyes - Rabbit

Result: No eye irritation

Remarks: (ECHA)

##### **Respiratory or skin sensitization**

Maximization Test - Guinea pig

Result: negative

(US-EPA)

##### **Germ cell mutagenicity**

Test Type: Ames test

Test system: *S. typhimurium*

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Metabolic activation: without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: In vitro mammalian cell gene mutation test



Test system: Chinese hamster lung cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Micronucleus test  
Species: Mouse  
Cell type: Bone marrow  
Application Route: Intraperitoneal

Remarks: (ECHA)

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

## 11.2 Additional Information

Repeated dose toxicity - Rat - male - Oral - NOAEL (No observed adverse effect level) - 256 mg/kg

RTECS: BS4500000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 53 mg/l - 96 h Remarks: (ECHA)
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Toxicity to daphnia and other aquatic	static test EC50 - Ceriodaphnia (water flea) - 121,7 mg/l - 48 h (US-EPA)
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invertebrates

Toxicity to algae      static test ErC50 - Chlorella vulgaris (Fresh water algae) - 2.700 mg/l  
- 18 Days  
Remarks: (ECHA)

Toxicity to bacteria      static test EC50 - activated sludge - 1.618 mg/l - 30 min  
(OECD Test Guideline 209)

#### **12.2 Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

#### **12.3 Bioaccumulative potential**

No data available

#### **12.4 Mobility in soil**

No data available

#### **12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### **12.6 Other adverse effects**

Biological effects:

Fertilising effect possible.

Discharge into the environment must be avoided.

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### **SECTION 13: Disposal considerations**

#### **13.1 Waste treatment methods**

##### **Product**

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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### **SECTION 14: Transport information**

#### **14.1 UN number**

ADR/RID: -

IMDG: -

IATA: -

#### **14.2 UN proper shipping name**

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

#### **14.3 Transport hazard class(es)**

ADR/RID: -

IMDG: -

IATA: -

#### **14.4 Packaging group**

ADR/RID: -

IMDG: -

IATA: -

#### **14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

#### **14.6 Special precautions for user**

##### **Further information**





Not classified as dangerous in the meaning of transport regulations.

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## **SECTION 15: Regulatory information**

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### **Authorisations and/or restrictions on use**

##### **National legislation**

Seveso III: Directive 2012/18/EU of the : Not applicable  
European Parliament and of the Council on the  
control of major-accident hazards involving  
dangerous substances.

### **15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out

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## **SECTION 16: Other information**

### **Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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