

# SAFETY DATA SHEET

Version 6.1  
Revision Date 20.04.2021  
Print Date 18.01.2023

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

### 1.1 Product identifiers

Product name : Ammonium sulfate

Product Number : A2939  
Brand : Sigma-Aldrich  
CAS-No. : 7783-20-2

### 1.2 Other means of identification

Ammonium sulphate

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

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses.

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

Company : SIGMA-ALDRICH NEW ZEALAND CO.  
PO Box 106-406  
1143 AUCKLAND  
NEW ZEALAND

Telephone : 0800 936 666  
Fax : 0800 937 777

### 1.5 Emergency telephone

Emergency Phone # : 0800 928 888 (NZ)  
+64 9 801 0034 (Int'l CHEMTREC)

## SECTION 2: Hazards identification

### 2.1 GHS Classification

Acute toxicity, Oral (Category E), H303  
Aquatic toxicity (Acute or Chronic) (Category D), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram none  
Signal word Warning  
Hazard statement(s)  
H303 May be harmful if swallowed.  
H402 Harmful to aquatic life.  
Precautionary statement(s)  
Prevention  
P273 Avoid release to the environment.

Response P312	Call a POISON CENTER or doctor/ physician if you feel unwell.
Disposal P501	Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Other hazards - none

---

## SECTION 3: Composition/information on ingredients

Substance / Mixture : Substance

### 3.1 Substances

Synonyms : Ammonium sulphate

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

Molecular weight : 132.14 g/mol

CAS-No. : 7783-20-2

EC-No. : 231-984-1

For the full text of the H-Statements mentioned in this Section, see Section 16.

---

## 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

---

## 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.

---

## **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.

---

## **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

---

## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Ingredients with workplace control parameters**

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

Change contaminated clothing. Wash hands after working with substance.

## 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.

### Control of environmental exposure

Do not let product enter drains.

---

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |  |                                  |
|--|----------------------------------|
| a) Appearance                              | Form: powder<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    |
| 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

---

## 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

---

### **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.

---

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Sigma-Aldrich- A2939

Page 7 of 10

The life science business of Merck operates as MilliporeSigma in the US and Canada



Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 53 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Ceriodaphnia (water flea) - 121.7 mg/l - 48 h (US-EPA)
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

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

Biological effects:

Fertilising effect possible.

Discharge into the environment must be avoided.

---

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. 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.

---

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: -

IMDG: -

IATA-DGR: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA-DGR: -

### 14.4 Packaging group

ADR/RID: -

IMDG: -

IATA-DGR: -



## 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

## 14.6 Special precautions for user

## 14.7 Incompatible materials

### Further information

Not classified as dangerous in the meaning of transport regulations.

---

## SECTION 15: Regulatory information

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

#### National regulatory information

HSNO Approval Code: HSR002770

HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits

Group Standard 2006HSR002596 - Laboratory Chemicals and Reagent Kits Group Standard 2006

Tracking Required: not required, not required

Approved Handler Cert.: not required

#### Notification status

**AICS:** On the inventory, or in compliance with the inventory

**DSL:** All components of this product are on the Canadian DSL

**ENCS:** On the inventory, or in compliance with the inventory

**ISHL:** On the inventory, or in compliance with the inventory

**KECI:** On the inventory, or in compliance with the inventory

**NZIoC:** On the inventory, or in compliance with the inventory

**PICCS:** On the inventory, or in compliance with the inventory

---

## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3.

H303 May be harmful if swallowed.

H402 Harmful to aquatic life.

### 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.

Copyright 2020 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact [mlsbranding@sial.com](mailto:mlsbranding@sial.com).

