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

1.1 Product identifiers
Product name: Aluminum sulfate
Product Number: 202614
Brand: Aldrich
REACH No.: 01-2119531538-36-XXXX
CAS-No.: 10043-01-3

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 Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES
Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone
Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Corrosive to Metals (Category 1), H290
Serious eye damage (Category 1), H318

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

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word Danger
Hazard statement(s)
H290 May be corrosive to metals.
H318 Causes serious eye damage.

Precautionary statement(s)
P234 Keep only in original packaging.
P280 Wear eye protection/ face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P390 Absorb spillage to prevent material damage.

Supplemental Hazard Statements none

Reduced Labeling (<= 125 ml)

Signal word Danger

Hazard statement(s)
H318 Causes serious eye damage.

Precautionary statement(s)
P280 Wear eye protection/ face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements none

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.

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium sulfate</td>
<td>Met. Corr. 1; Eye Dam. 1; H290, H318</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

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

   General advice
   Show this material safety data sheet to the doctor in attendance.

   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. Immediately call in ophthalmologist. Remove contact lenses.

   If swallowed
   After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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
   Sulfur oxides
   Aluminum oxide
   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. Avoid substance contact. Ensure adequate ventilation. 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.
   hygroscopic Store under inert gas.

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

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). Tightly fitting safety goggles

   Body Protection
   protective clothing

   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 P2
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.

---

**SECTION 9: Physical and chemical properties**

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

a) **Appearance**
   - Form: powder
   - Color: white

b) **Odor**
   - odorless

c) **Odor Threshold**
   - Not applicable

d) **pH**
   - No data available

e) **Melting point/freezing point**
   - Melting point/range: 770 °C - dec.

f) **Initial boiling point and boiling range**
   - 112 - 116 °C

g) **Flash point**
   - No data available

h) **Evaporation rate**
   - No data available

i) **Flammability (solid, gas)**
   - The product is not flammable. - Flammability (solids)

j) **Upper/lower flammability or explosive limits**
   - No data available

k) **Vapor pressure**
   - No data available

l) **Vapor density**
   - No data available

m) **Relative density**
   - No data available

n) **Water solubility**
   - ca.0.00001 g/l at 21,5 °C - insoluble

o) **Partition coefficient: n-octanol/water**
   - Not applicable for inorganic substances

p) **Autoignition temperature**
   - No data available

q) **Decomposition temperature**
   - No data available

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**

No data available
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
No data available

10.4 Conditions to avoid
Air Exposure to moisture.
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 - > 2.000 mg/kg
(OECD Test Guideline 401)

LD50 Dermal - Rabbit - male and female - > 5.000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Irreversible effects on the eye
(OECD Test Guideline 405)

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test Type: Micronucleus test
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 487
Result: negative

Test Type: Micronucleus test
Species: Rat
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: aluminium hydroxide

Species: Rat
Application Route: Oral
Remarks: Cytogenetic analysis

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) - 18 mg/kg - LOAEL (Lowest observed adverse effect level) - 90 mg/kgRemarks:
(in analogy to similar products)
The value is given in analogy to the following substances: aluminium(III) chloride, anhydrous
RTECS: BD1700000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish
semi-static test LC50 - Danio rerio (zebra fish) - > 87.5 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia magna (Water flea) - > 200 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae
static test ErC50 - Pseudokirchneriella subcapitata (microalgae) - 0.24 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria
static test EC50 - activated sludge - > 200 mg/l - 3 h (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

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
See 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: 3260  
IMDG: 3260  
IATA: 3260

14.2 UN proper shipping name

ADR/RID: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (aluminium sulfate)
IMDG: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (aluminium sulfate)
IATA: Corrosive solid, acidic, inorganic, n.o.s. (aluminium sulfate)
14.3 Transport hazard class(es)
ADR/RID: 8  IMDG: 8  IATA: 8

14.4 Packaging group
ADR/RID: III  IMDG: III  IATA: III

14.5 Environmental hazards
ADR/RID: no  IMDG Marine pollutant: no  IATA: no

14.6 Special precautions for user
No data available

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.

National legislation

Other regulations
Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.
H290  May be corrosive to metals.
H318  Causes serious eye damage.

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