SAFETY DATA SHEET
according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

SECTION 1. Identification

Product identifier

<table>
<thead>
<tr>
<th>Product number</th>
<th>AX0735</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>Aluminum Sulfate, Octadecahydrate GR ACS</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7784-31-8</td>
</tr>
</tbody>
</table>

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

Identified uses

Reagent for analysis

Details of the supplier of the safety data sheet

Company

EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

Emergency telephone

800-424-9300 CHEMTREC (USA)
+1-703-527-3887 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Serious eye damage, Category 1, H318
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms

Signal Word

Danger

Hazard Statements
H318 Causes serious eye damage.

Precautionary Statements
P280 Wear protective gloves/ 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.
P310 Immediately call a POISON CENTER or doctor/physician.

Other hazards
None known.

SECTION 3. Composition/information on ingredients

Formula: \( \text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O} \)

Molar mass: 666.42 g/mol

Hazardous ingredients
Chemical Name (Concentration)
CAS-No.

\( \text{aluminium sulfate octadecahydrate (} \geq 90\% \text{ - } \leq 100\% \) \)
7784-31-8

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation
After inhalation: fresh air.

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

Eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

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

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Irritation and corrosion
Risk of serious damage to eyes.

Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Fire-fighting measures

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.

Special hazards arising from the substance or mixture
Not combustible.
Ambient fire may liberate hazardous vapors.
Fire may cause evolution of:
Sulfur oxides
Ambient fire may liberate hazardous vapors.

Advice for firefighters
Special protective equipment for fire-fighters
In the event of fire, wear self-contained breathing apparatus.

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
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.

Advice for emergency responders:
Protective equipment see section 8.

Environmental precautions
Do not let product enter drains.

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.

SECTION 7. Handling and storage
Precautions for safe handling
Observe label precautions.

Conditions for safe storage, including any incompatibilities
Tightly closed. Dry.
Store at room temperature.
SECTION 8. Exposure controls/personal protection

Exposure limit(s)

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Basis</th>
<th>Value</th>
<th>Threshold limits</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium sulfate octadecahydrate 7784-31-8</td>
<td>ACGIH Time Weighted Average (TWA):</td>
<td>1 mg/m³</td>
<td>Form of exposure: Respirable fraction.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NIOSH/GUIDE Recommended exposure limit (REL):</td>
<td>2 mg/m³</td>
<td>Expressed as: as Al</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Z1A Time Weighted Average (TWA):</td>
<td>2 mg/m³</td>
<td>Expressed as: as Al</td>
<td></td>
</tr>
</tbody>
</table>

**Engineering measures**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

**Individual protection measures**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

**Hygiene measures**
Change contaminated clothing. Wash hands after working with substance.

**Eye/face protection**
Tightly fitting safety goggles

**Hand protection**
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Other protective equipment:**
protective clothing

**Respiratory protection**
required when dusts are generated.

SECTION 9. Physical and chemical properties

**Physical state**
solid

**Color**
colorless

**Odor**
characteristic

**Odor Threshold**
No information available.
pH: 2.5 - 4.0 at 20 g/l, 20 °C (20 °C)

Melting point: ca. 90 °C (decomposition)

Boiling point: Not applicable

Flash point: does not flash

Evaporation rate: No information available.

Flammability (solid, gas): No information available.

Lower explosion limit: Not applicable

Upper explosion limit: Not applicable

Vapor pressure: No information available.

Relative vapor density: No information available.

Density: 1.72 g/cm³

Relative density: No information available.

Water solubility: 364 g/l at 20 °C (20 °C)

Partition coefficient: n-octanol/water: No information available.

Autoignition temperature: No information available.

Decomposition temperature: 770 °C (770 °C) (anhydrous substance)

Viscosity, dynamic: No information available.

Explosive properties: Not classified as explosive.

Oxidizing properties: none

Ignition temperature: Not applicable

Bulk density: ca. 820 kg/m³

SECTION 10. Stability and reactivity

Reactivity

See below
Chemical stability
 releases water of crystallization when heated.

Possibility of hazardous reactions
 none

Conditions to avoid
 Strong heating (decomposition).

Incompatible materials
 no information available

Hazardous decomposition products
 in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

 Likely route of exposure
 Eye contact, Skin contact, Ingestion

 Target Organs
 Skin
 Respiratory system

 Acute oral toxicity
 LD50 Rat: > 5,000 mg/kg (External MSDS)

 Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

 Acute dermal toxicity
 LD50 Rabbit: > 233.5 mg/kg
 OECD Test Guideline 402
 (anhydrous substance)

 Skin irritation
 Rabbit
 Result: No irritation
 OECD Test Guideline 404
 Possible damages: slight irritation

 Eye irritation
 Possible damages: slight irritation

 Causes serious eye damage.

 Sensitization
 Sensitization test: human
 Result: negative

 (ECHA) (anhydrous substance)
Genotoxicity in vivo
Genotoxicity in vivo
Mouse
Exposure time: 90-day
Result: negative
(ECHA) (anhydrous substance)

Genotoxicity in vitro
Mutagenicity (mammal cell test): micronucleus.
Human lymphocytes
Result: negative
(ECHA) (anhydrous substance)
In vitro mammalian cell gene mutation test
Result: negative
Method: OECD Test Guideline 476
(anhydrous substance)

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity
IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information
Special properties/effects:
adstringent
However, when the product is handled appropriately, hazardous effects are unlikely to occur.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity
Toxicity to fish
static test LC50 Pimephales promelas (fathead minnow): 27.9 mg/l; 96 h
OECD Test Guideline 203 (anhydrous substance)

Toxicity to daphnia and other aquatic invertebrates
semi-static test LC50 Daphnia magna (Water flea): 242 mg/l; 48 h
OECD Test Guideline 202 (anhydrous substance)

semi-static test NOEC Daphnia magna (Water flea): 48.4 mg/l; 48 h
OECD Test Guideline 202 (anhydrous substance)

Toxicity to algae
static test EC50 plankton: 19,091 mg/l; 5 d
OECD Test Guideline 201 (ECHA) (anhydrous)

static test NOEC plankton: 3,818 mg/l; 5 d
OECD Test Guideline 201 (ECHA) (anhydrous)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
Reproduction Test NOEC Daphnia magna (Water flea): 12 mg/l; 28 d

US-EPA (anhydrous substance)

Persistence and degradability
No information available.

Bioaccumulative potential
No information available.

Mobility in soil
No information available.

Additional ecological information
Discharge into the environment must be avoided.

SECTION 13. Disposal considerations
The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information
Land transport (DOT)
Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)
Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)
Not classified as dangerous in the meaning of transport regulations.
SECTION 15. Regulatory information

United States of America

SARA 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 302
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Clean Water Act
The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A: 
Ingredients
aluminium sulfate octadecahydrate
The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3: 
Ingredients
aluminium sulfate octadecahydrate
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know
Ingredients
aluminium sulfate octadecahydrate

Pennsylvania Right To Know
Ingredients
aluminium sulfate octadecahydrate

New Jersey Right To Know
Ingredients
aluminium sulfate octadecahydrate

California Prop 65 Components
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status
TSCA: All components of the product are listed in the TSCA-inventory.

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

SECTION 16. Other information

Training advice
Provide adequate information, instruction and training for operators.
**SAFETY DATA SHEET**

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### Labeling

**Hazard pictograms**

### Signal Word

**Danger**

### Hazard Statements

H318 Causes serious eye damage.

### Precautionary Statements

**Prevention**
P280 Wear eye protection.

**Response**
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313 Get medical advice/attention.

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

H318 Causes serious eye damage.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

### Revision Date 08/28/2015

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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