

# Aluminum Sulfate Solution

SDS No. 011

9-June-2017

## Safety Data Sheet

### IDENTIFICATION

**Product Identifier****Product Name** Aluminum Sulfate Solution**Manufacturer**USALCO, LLC  
2601 Cannery Ave  
Baltimore, MD 21226**Other means of identification****SDS #** USALCO-002**UN/ID No**

UN3264

**Synonyms**

ALUM.

**Recommended use of the chemical and restrictions on use****Recommended Use** Water treatment coagulant, flocculent, alumina source for catalyst, pH control in papermaking/water treatment.**Emergency Telephone Number****Company Phone Number** 410-918-2230**Emergency Telephone (24 hr)** 800-282-5322

### 2. HAZARDS IDENTIFICATION

**Appearance** Colorless to clear amber or clear light green liquid**Physical State** Liquid**Odor** Negligible**Classification**

|                     |            |
|---------------------|------------|
| Acute toxicity      | Category 5 |
| Irritating to eyes  | Category 2 |
| Corrosive to Metals | Category 1 |

**Signal Word**

Warning

**Hazard Statements**

May be harmful if swallowed

Causes eye irritation

May be corrosive to metals

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves, and eye protection. Keep only in original container

**Precautionary Statements - Response**

If swallowed: Call a poison center or doctor if you feel unwell.

Rinse mouth.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.

**Precautionary Statements - Storage**

Store in corrosive resistant container or container with a resistant inner liner

**Precautionary Statements - Disposal**

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): May be D002 under §261.22(a)(2) due to the rate of corrosion of metal.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Synonyms** ALUM.  
**Chemical Family** Inorganic Salt.

| Chemical Name    | CAS No     | Weight-% |
|------------------|------------|----------|
| Water            | 7732-18-5  | >50      |
| Aluminum Sulfate | 10043-01-3 | <50      |

**4. FIRST-AID MEASURES****First Aid Measures**

**Eye Contact** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor/physician if irritation continues.

**Skin Contact** Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

**Inhalation** If adverse effects occur, remove to fresh air and observe. If not breathing, give artificial respiration. Seek immediate medical attention/advice.

**Ingestion** If a large amount is swallowed, get medical attention immediately.

**Most important symptoms and effects**

**Symptoms** Causes serious eye damage. May cause skin irritation.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Aluminum Sulfate will not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Small Fire** Move containers from fire area if you can do it without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

**Large Fire** Same procedures as for small fires.

**Specific Hazards Arising from the Chemical**

Negligible fire hazard.

**Hazardous Decomposition Products** Oxides of sulfur.

**Sensitivity to Mechanical Impact** Not sensitive.

**Sensitivity to Static Discharge** Not sensitive.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Do not release runoff from fire control methods to sewers or waterways.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>      | Use personal protection recommended in Section 8. Keep unnecessary people away, isolate hazard area and deny entry.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Environmental Precautions</b> | Do not release into sewers or waterways. For spills in excess of allowable limits (RQ) notify the National Response Center (800) 424-8802; refer to SARA Title III, Section 313 40 CFR 372, and CERCLA 40 CFR 302 for detailed instructions concerning reporting requirements. Notify Local Emergency Planning Committee (LEPC) and State Emergency Response Commission (SERC) for a release greater than or equal to Reportable Quantities (RQ). Refer to U.S. SARA Section 304. See Section 12 for additional Ecological Information. |

**Methods and material for containment and clean up**

|                                |                                                                                                                                                    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Methods for Containment</b> | Prevent further leakage or spillage if safe to do so.                                                                                              |
| <b>Methods for Clean-Up</b>    | Small Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. |

**7. HANDLING AND STORAGE****Precautions for safe handling**

|                                |                                                                                                                                                                                                                                                               |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Advice on Safe Handling</b> | Avoid contact with skin, eyes or clothing. Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Store and handle in accordance with all current regulations and standards. |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

|                               |                                                                                                                                                                                                 |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage Conditions</b>     | Keep container tightly closed and store in a cool, dry and well-ventilated place. Store with acids. See original container for storage recommendations. Store away from incompatible materials. |
| <b>Incompatible Materials</b> | Alkalis, metals. Alkalis (bases): Violent reaction. Metals: May be corrosive in the presence of moisture.                                                                                       |

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

|                                   |                                                                                                                                                                                                                                          |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><u>Exposure Guidelines</u></b> | No exposure limits noted for product.<br>Exposure Limits for aluminum metal<br>NIOSH REL - TWA 10 mg/m <sup>3</sup> (total) TWA 5 mg/m <sup>3</sup> (resp)<br>OSHA PEL - TWA 15 mg/m <sup>3</sup> (total) TWA 5 mg/m <sup>3</sup> (resp) |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Appropriate engineering controls**

|                             |                                                                                                                                                                                                           |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Engineering Controls</b> | Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. Maintain eye wash fountain and quick-drench facilities in work area. |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Individual protection measures, such as personal protective equipment**

|                                 |                                                                                   |
|---------------------------------|-----------------------------------------------------------------------------------|
| <b>Eye/Face Protection</b>      | Wear chemical tight goggles and full face shield.                                 |
| <b>Skin and Body Protection</b> | Wear appropriate chemical resistant clothing including chemical resistant gloves. |

**Respiratory Protection**

Seek professional advice prior to respirator selection and use. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen.

WARNING!: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

|                                              |                                                      |
|----------------------------------------------|------------------------------------------------------|
| Appearance                                   | Colorless to clear amber or clear light green liquid |
| Odor                                         | Negligible                                           |
| Odor threshold                               | Not determined                                       |
| pH                                           | 2.0-2.4                                              |
| Relative density; (specific gravity)         | ±1.3 @ 15.5 °C                                       |
| Melting point/freezing point                 | -13° C / 9° F                                        |
| Initial boiling point and boiling range      | Not relevant                                         |
| Decomposition temperature                    | ±1,400° F                                            |
| Viscosity                                    | 5-25 centipoise                                      |
| Auto-ignition temperature                    | Not flammable                                        |
| Evaporation rate;                            | Similar to water                                     |
| Flammability (solid, gas)                    | Not flammable                                        |
| Flash point                                  | Will not burn                                        |
| Upper/lower flammability or explosive limits | Will not burn                                        |
| Partition coefficient: n-octanol/water       | Not relevant                                         |
| Solubility                                   | Soluble in water                                     |
| Vapor density                                | Similar to water                                     |
| Vapor pressure                               | Similar to water                                     |

**10. STABILITY AND REACTIVITY****Reactivity**

Not reactive under normal conditions.

**Chemical Stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to Avoid**

Protect from freezing. Keep separated from incompatible substances.

**Incompatible Materials**

Alkalis, metals. Alkalis (bases): Violent reaction. Metals: May be corrosive in the presence of moisture.

**Hazardous Decomposition Products**

Thermal oxidative decomposition of Aluminum Sulfate occurs at temperatures greater than 1400°F and can produce sulfur oxides.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

|                     |                                                       |
|---------------------|-------------------------------------------------------|
| <b>Eye Contact</b>  | Causes serious eye damage.                            |
| <b>Skin Contact</b> | May cause skin irritation.                            |
| <b>Inhalation</b>   | Avoid breathing vapors or mists.                      |
| <b>Ingestion</b>    | Do not taste or swallow. May be harmful if swallowed. |

### Component Information

| Chemical Name                  | Oral LD50            | Dermal LD50 | Inhalation LC50 |
|--------------------------------|----------------------|-------------|-----------------|
| Aluminum Sulfate<br>10043-01-3 | = 1930 mg/kg ( Rat ) | -           | -               |
| Water<br>7732-18-5             | > 90 mL/kg ( Rat )   | -           | -               |

### Information on physical, chemical and toxicological effects

|                 |                                                |
|-----------------|------------------------------------------------|
| <b>Symptoms</b> | Please see section 4 of this SDS for symptoms. |
|-----------------|------------------------------------------------|

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                        |                                                                                                        |
|------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Carcinogenicity</b> | This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP. |
|------------------------|--------------------------------------------------------------------------------------------------------|

### Numerical measures of toxicity

Not determined

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Component Information

| Chemical Name                  | Algae/aquatic plants | Fish                                                                                      | Toxicity to microorganisms | Crustacea                              |
|--------------------------------|----------------------|-------------------------------------------------------------------------------------------|----------------------------|----------------------------------------|
| Aluminum Sulfate<br>10043-01-3 |                      | 100: 96 h Carassius auratus<br>mg/L LC50 37: 96 h<br>Gambusia affinis mg/L LC50<br>static |                            | 136: 15 min Daphnia magna<br>mg/L EC50 |

### Persistence/Degradability

Not determined

### Bioaccumulation

Not determined

### Mobility

Not determined

### Other Adverse Effects

Not determined

**13. DISPOSAL CONSIDERATIONS****Waste Treatment Methods**

**Disposal of Wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated Packaging** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**US EPA Waste Number**

EPA Hazardous Waste Code: D002 (Corrosive) if the pH is <2. May be D002 per 40CFR261.22(a)(2) due to the rate of corrosion of steel. The U.S. EPA has not published waste codes for this products components.

**14. TRANSPORT INFORMATION**

**Note** Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances. Information also applies to TDG, ADR and RID.

**DOT**

**UN/ID No** UN3264  
**Proper Shipping Name** Corrosive liquid, acidic, inorganic, n.o.s., (Aluminum Sulfate)  
**Hazard Class** 8  
**Packing Group** III  
**Reportable Quantity (RQ)** 5000 lb

**IATA**

**UN/ID No** UN3264  
**Proper Shipping Name** Corrosive liquid, acidic, inorganic, n.o.s., (Aluminum Sulfate)  
**Hazard Class** 8  
**Packing Group** III

**IMDG**

**UN/ID No** UN3264  
**Proper Shipping Name** Corrosive liquid, acidic, inorganic, n.o.s., (Aluminum Sulfate)  
**Hazard Class** 8  
**Packing Group** III

**15. REGULATORY INFORMATION****International Inventories**

Not determined

**US Federal Regulations**

Aluminum sulfate (10043-01-3) is listed on the United States TSCA (Toxic Substances Control Act) inventory

**CERCLA**

| Chemical Name                  | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ)                   |
|--------------------------------|--------------------------|----------------|--------------------------------------------|
| Aluminum Sulfate<br>10043-01-3 | 5000 lb                  |                | RQ 5000 lb final RQ<br>RQ 2270 kg final RQ |

**SARA 311/312 Hazard Categories**

**Acute Health Hazard** Yes  
**Chronic Health Hazard** No

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**CWA (Clean Water Act)**

| Component                              | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|----------------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Aluminum Sulfate<br>10043-01-3 ( <50 ) | 5000 lb                     |                        |                           | X                          |

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Chemical Name                  | New Jersey | Massachusetts | Pennsylvania |
|--------------------------------|------------|---------------|--------------|
| Aluminum Sulfate<br>10043-01-3 | X          | X             | X            |

**16. OTHER INFORMATION**

|      | Health Hazards | Flammability | Instability | Special Hazards |
|------|----------------|--------------|-------------|-----------------|
| NFPA | 1              | 0            | 0           | Not determined  |

**Issue Date** 20-Sep-2011

**Revision Date:** 6-June-2017

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data  
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