



## Material Safety Data Sheet

### 1. IDENTIFICATION

**PRODUCT NAME:** H2-AL 48  
**CHEMICAL NAME/SYNONYMS:** Aluminum Sulfate  
**CHEMICAL FAMILY:** acid  
**CHEMICAL FORMULA:**  
For emergencies call Chemtrec at 1-800-424-9300

### 2. HAZARD(S) IDENTIFICATION

**EMERGENCY OVERVIEW:** A clear, odorless light green or amber liquid. Can irritate the skin and eyes. Not flammable, but may release toxic vapors if decomposed in a fire.

**POTENTIAL HEALTH EFFECTS:**

**EYES:** May strongly irritate or burn the eyes

**SKIN:** May cause skin irritation

**INGESTION:** May irritate the gastrointestinal tract. Concentrated solutions may cause burns to the digestive tract.

**INHALATION:** Product mists may cause irritation

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>CAS #</u>	<u>COMPONENT</u>	<u>PERCENT</u>
10043-01-3	Aluminum Sulfate 48.5	
7732-18-5	Water	balance

OSHA Hazard Communication Standard: *This product is considered hazardous under the OSHA Hazard Communication Standard.*

### 4. FIRST-AID MEASURES

**EYES:** Immediately flush with water, continuing for at least 15 minutes. If irritation persists, get medical attention.

**SKIN:** Flush with plenty of water, removing contaminated clothing. If irritation develops, get medical attention.

**INGESTION:** If conscious, immediately give large quantity of water or milk. If not already vomiting, induce vomiting by touching finger to back of throat. Get medical assistance.

**INHALATION:** Promptly remove to fresh air.

**ADVICE TO PHYSICIAN:** Treat symptomatically

### 5. FIRE-FIGHTING MEASURES

**FLAMMABLE PROPERTIES:**

**Flash Point:** Not flammable

**Flash Point Method:** Not applicable

**Autoignition Temperature:** Not applicable

**Upper Flame Limit (vol % in air):** Not applicable

**Lower Flame Limit (vol % in air):** Not applicable

**H2-AL 48****Flame Propagation Rate (solids):** Not applicable**OSHA Flammability Class:** Not applicable**EXTINGUISHING MEDIA:** Product is not flammable. Use any extinguishing agent suitable for surrounding fire.**FIRE FIGHTING EQUIPMENT/PROCEDURES:** Use self-container breathing apparatus. Use water spray to keep containers cool.**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None**6. ACCIDENTAL RELEASE MEASURES****IN CASE OF SPILL OR OTHER RELEASE:** (See Section 8 for recommended personal protective equipment.) Dilute small spills or leaks cautiously with plenty of water. Neutralize any further residue with alkali such as soda ash, lime or limestone. Adequate ventilation is required is soda ash or limestone is used, because of the consequent release of carbon dioxide gas. Large spills: dike up with soda ash and neutralize as above. Collect liquid and/or residue and dispose of in accordance with applicable regulations.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

**7. HANDLING AND STORAGE****NORMAL HANDLING:** (See Section 8 for recommended personal protective equipment.) Avoid contact with skin, eyes and clothing. Do not breathe product mists.**STORAGE:** Keep in a cool area.**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****ENGINEERING CONTROLS:** Use local exhaust if misting is anticipated.**Exposure Guidelines**

<b><u>Ingredient Name</u></b>	<b><u>ACGIH TLV</u></b>	<b><u>OSHA PEL</u></b>	<b><u>OTHER LIMIT</u></b>
Aluminum sulfate (as Aluminum)	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	None

1 = Limit established by Manufacturer

2 = Workplace Environmental Exposure Level (AIHA)

3 = Biological Exposure Index (ACGIH)

**OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:** None**PERSONAL PROTECTION EQUIPMENT:****RESPIRATORY PROTECTION:** A NIOSH approved mist respirator should be worn in areas where product mists are present.**EYE PROTECTION:** Wear chemical safety goggles. Do not wear contact lenses.**SKIN PROTECTION:** Wear impervious (e.g. rubber) gloves and apron and full work clothing including long sleeved shirts, trousers and boots. Full impervious clothing is recommended if prolonged product contact is anticipated.**ADDITIONAL INFORMATION:** The presence of an eyewash and safety shower is recommended.**9. PHYSICAL AND CHEMICAL PROPERTIES****APPEARANCE:** Clear, light green or amber liquid**PHYSICAL STATE:** Liquid**MOLECULAR WEIGHT:** - 594 for Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> 14 H<sub>2</sub>O**CHEMICAL FORMULA:** 48.5% Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> 14 H<sub>2</sub>O in water**ODOR:** Odorless

**H2-AL 48****SPECIFIC GRAVITY (WATER = 1.0):** ~ 1.335**SOLUBILITY IN WATER (WEIGHT %):** 100**PH:** ~ 3.5 (1% solution)**BOILING POINT:** 214° F (101° C)**MELTING POINT:** 8° F (-12° C)**FLASH POINT:** Not applicable**VAPOR PRESSURE:** Not applicable**VAPOR DENSITY (AIR = 1.0):** Not applicable**EVAPORATION RATE:** Not determined**COMPARED TO:** Not applicable**% VOLATILES:** ~ 50**FLASH POINT:** Not flammable

(Flash point method and additional flammability data are found in Section 5)

**10. STABILITY AND REACTIVITY****HAZARDOUS POLYMERIZATION:** Hazardous Polymerization will not occur**CHEMICAL STABILITY:** Normally stable. If evaporated to dryness, residue should not be exposed to elevated Temperatures (above 760° C), as this will yield toxic and corrosive gases.**CONDITIONS TO AVOID:****INCOMPATIBILITY:** Alkalis and water reactive materials such as oleum: causes exothermic reactions.**HAZARDOUS DECOMPOSITION:** At elevated temperatures, sulfur oxides, may be formed.

These are toxic and corrosive and are oxidizers. Sulfur trioxide is also a fire hazard. The loss of these gases leaves a caustic residue.

**11. TOXICOLOGICAL INFORMATION****IMMEDIATE (ACUTE) EFFECTS:**

Aluminum sulfate:

LD<sub>50</sub> (oral, mouse) = 6207 mg/kgLD<sub>50</sub> (oral, rat) = 1930 mg/kg**DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:**

Data not available

**OTHER DATA:**

None

**12. ECOLOGICAL INFORMATION**

Aluminum Sulfate:

14 ppm/36 hr/fundulus/fatal/fresh water

240 ppm/48 hr/mosquito fish/TL<sub>m</sub>/water type not specified.TL<sub>m</sub> Mosquito fish, 235 ppm, 96 hoursLC<sub>50</sub> Largemouth bass, 250 ppm, 96 hours**13. DISPOSAL CONSIDERATIONS****RCRA**

Is the unused product a RCRA hazardous waste if discarded? Yes

If yes, the RCRA ID number is: D002 (corrosive)

**OTHER DISPOSAL CONSIDERATIONS:** If permitted by regulations, material may be neutralized with alkali.

The information offered in Section 13 is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

**14. TRANSPORT INFORMATION**

This material is regulated as a DOT Hazardous Material.

**US DOT INFORMATION:**

<u>UN/NA #</u>	<u>Shipping Name Hazard</u>	<u>Class</u>	<u>Packing Group</u>	<u>ERG</u>	<u>RQ</u>
UN3264,	Corrosive liquid, acidic, inorganic, N.O.S. (contains aluminum sulfate)	8,	III,	154	5000lbs

**15. REGULATORY INFORMATION****Toxic Substances Control Act (TSCA)**

**TSCA Inventory Status:** All ingredients listed on the TSCA Inventory

**Other TSCA issues:** None

**SARA Title III/CERCLA**

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

<u>Ingredient Name</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPQ (lb)</u>
Aluminum Sulfate	5000 as is - 18,000 lbs	None

Spills or releases resulting in the loss of any ingredient at or above its RQ, requires immediate notification to the National Response Center (800) 424-8802 and to the Local Emergency Planning Committee.

**SECTION 311 Hazard Class:** Immediate

**WHMIS CLASSIFICATION (CANADA):** E (corrosive based upon transportation classification), D2B

Classified in accordance with WHMIS Controlled Product regulations.

**FOREIGN CHEMICAL CONTROL INVENTORY STATUS:** All ingredients listed on Canadian DSL

**16. OTHER INFORMATION**

Do not use ingredient information and/ or ingredient percentages in this MSDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from H2O Technical Services.

**DISCLAIMER:**

We believe that the information in this MSDS is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily either all-inclusive or fully adequate in every circumstance. Also, these suggestions should not be confused with or followed in violation of applicable laws, regulations, rules or insurance requirements.

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