



UNIVAR

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For Emergency Assistance involving chemicals call - CHEMTREC (800) 424-9300

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The Version Date and Number for this MSDS is : 08/17/2006 - #004

PRODUCT IDENTIFICATION

PRODUCT NAME: ALUMINUM SULFATE SOLID

MSDS NUMBER: GZ002001

DATE ISSUED: 06/01/2001

SUPERCEDES: 07/01/1989

ISSUED BY: 008025

This MSDS has been reviewed on 11/8/2005, and is current as of the DATE ISSUED above.

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Dry Alum

OTHER/GENERIC NAMES: Aluminum Sulfate

PRODUCT USE: Water treatment. Food additive. Various industrial uses.

Distributed by:

Univar USA Inc.

17425 NE Union Hill Road

Redmond, WA 98052

425-889-3400

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS NUMBER	WEIGHT
Aluminum sulfate	10043-01-3	100
(anhydrous)		

Trace impurities and additional material names not listed above may also appear in Section 15 towards the end of the MSDS. These materials may be

listed for local "Right-To-Know" compliance and for other reasons.
 OSHA Hazard Communication Standard: This product is considered hazardous under the OSHA Hazard Communication Standard.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: White or creamy white granules or powder with no odor. Can irritate the skin and eyes. Not flammable, but may release toxic vapors if decomposed in a fire.

POTENTIAL HEALTH HAZARDS

SKIN: May cause skin irritation, especially under repeated or prolonged contact, or when moisture is present.
 EYES: May irritate or burn the eyes. Similarly for the aqueous solution.
 INHALATION: Dust or mist inhalation at levels above the TLV may cause irritation to the respiratory tract.
 INGESTION: May irritate the gastrointestinal tract.
 DELAYED EFFECTS: None known.

Ingredients found on one of the three OSHA designated carcinogen lists are listed below.

INGREDIENT NAME	NTP STATUS	IARC STATUS	OSHA LIST
No ingredients listed in this section.			

4. FIRST AID MEASURES

SKIN: Flush with plenty of soap water, removing contaminated clothing. If irritation develops, get medical attention.
 EYES: Immediately flush with water, continuing for at least 15 minutes. If irritation persists, get medical attention.
 INHALATION: Promptly remove to fresh air.
 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.
 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 (volume % in air): Not applicable
 LOWER FLAME LIMIT (volume % in air): Not applicable
 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.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None.

SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:

Use self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: (See section 8 for recommended personal protective equipment.)

Shovel up dry chemical and place in empty container and cover. Spray residue with plenty of water. Neutralize any further residue with alkali such as soda ash, lime or limestone. Adequate ventilation is required if soda ash or limestone is used, because of the consequent release of carbon dioxide gas. 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 dusts or mists.

STORAGE RECOMMENDATIONS:

Store in a cool, dry area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Use local exhaust if dusty or misty conditions prevails.

PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION: Wear gloves and appropriate industrial work clothing including long sleeved shirts and trousers for routine product handling. Full impervious clothing is recommended if handling solutions and there is repeated or prolonged contact.

EYE PROTECTION: Wear chemical safety goggles. Do not wear contact lenses.

RESPIRATORY PROTECTION: A NIOSH approved dust or mist respirator should be worn in areas where product dusts or mists are present.

ADDITIONAL RECOMMENDATIONS: The presence of an eyewash and safety shower is recommended.

EXPOSURE GUIDELINES

INGREDIENT NAME	ACGIH TLV	OSHA PEL	OTHER LIMIT
Aluminum sulfate (as Aluminum)	2 mg/m	2 mg/mom	None

1 = Limit established by Vendor

2 = Workplace Environmental Exposure Level (AIHA).

3 = Biological Exposure Index (ACGIH).

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:

None

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: White or creamy white granules or powder.

PHYSICAL STATE: Solid

MOLECULAR WEIGHT: approx 594 for $Al_2(SO_4)_3 \cdot 14H_2O$

CHEMICAL FORMULA: $Al_2(SO_4)_3 \cdot 14H_2O$

ODOR: Odorless

SPECIFIC GRAVITY (water = 1.0): 1.61

SOLUBILITY IN WATER (weight 50% at 0 C

pH: approx 3.5 (1% solution)

BOILING POINT: Not applicable

MELTING POINT: Not applicable

VAPOR PRESSURE: Negligible

VAPOR DENSITY (air = 1.0): Not applicable

EVAPORATION RATE: Not applicable COMPARED TO: Not applicable.
VOLATILES: Not applicable
FLASH POINT: Not flammable
(Flash point method and additional flammability data are found in Section 5.)

10. STABILITY AND REACTIVITY

NORMALLY STABLE? (CONDITIONS TO AVOID):

Normally stable. Avoid temperatures above 760 C, as this will yield toxic and corrosive gases.

INCOMPATIBILITIES:

Alkalis and water reactive materials such as oleum: causes exothermic reactions.

HAZARDOUS DECOMPOSITION PRODUCTS:

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.

HAZARDOUS POLYMERIZATION:

Will not occur

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:

Aluminum sulfate:

LD50 (oral, mouse): 6207 mg/kg

LD50 (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/TLm/water type not specified.

TL, Mosquito fish, 235 ppm, 96 hours

LC50 Largemouth bass, 250 ppm, 96 hours

13. DISPOSAL CONSIDERATIONS

RCRA

Is the unused product a RCRA hazardous waste if discarded? No If yes, the RCRA ID number is: Not applicable

OTHER DISPOSAL CONSIDERATIONS:

If permitted by regulations, material may be dissolved in water and neutralized with alkali. Neutralized waste may have to be disposed of by an approved contractor.

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

US DOT HAZARD CLASS: 9 (only if greater than 8700 lbs. in one package)

US DOT ID NUMBER: UN3077

PROPER SHIPPING NAME: Environmentally hazardous substances, solid, n.o.s.

(contains aluminum sulfate)

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

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.

INGREDIENT NAME	SARA/CERCLA RQ (lb)	SARA EHS TPQ (lb)
Aluminum sulfate (anhydrous)	5000 (*as is 8700 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 your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: Immediate

SARA 313 TOXIC CHEMICALS:

The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements. CAS numbers and weight percents are found in Section 2.

INGREDIENT NAME	COMMENT
No ingredients listed in this section.	

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

INGREDIENT NAME	WEIGHT %	COMMENT
No ingredients listed in this section.		

ADDITIONAL REGULATORY INFORMATION:

None listed

WHMIS CLASSIFICATION (CANADA):

Class D213.

Classified in accordance with WHMIS Controlled Product regulations.

FOREIGN CHEMICAL CONTROL INVENTORY STATUS:

All ingredients listed on Canadian DSL.

For Additional Information:

Contact: MSDS Coordinator - Univar USA

During business hours, Pacific Time - (425) 889-3400

NOTICE

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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 your local Univar USA Sales Office.

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END OF MSDS