

Material Safety Data Sheet



Liquid Alum

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Liquid Alum

OTHER/GENERIC NAMES: Aluminum Sulfate, aqueous solution

REC'D APR 28 2006

PRODUCT USE: Water treatment. Various industrial uses.

MANUFACTURER: General Chemical, LLC
90 East Halsey Road
Parsippany, NJ 07054

General Chemical Performance Products Ltd.
277 Lakeshore Road, East, Suite #206
Oakville, Ontario L6J 1H9

FOR MORE INFORMATION CALL: 800-631-8050
US ONLY Customer Service
(Monday-Friday, 9:00am-4:30pm)

CANADA ONLY 866-543-3896
(Monday-Friday, 9:00am-4:30pm) Customer Service

IN CASE OF EMERGENCY CALL: 800-424-9300
US ONLY (CHEMTREC)
(24 Hours/Day, 7 Days/Week)

CANADA ONLY 613-996-6666
(24 Hours/Day, 7 Days/Week) (CANUTEC)

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Aluminum sulfate	10043-01-3	~48.5

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: 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 HAZARDS

SKIN: May cause skin irritation.

EYES: May strongly irritate or burn the eyes.

INHALATION: Product mists may cause irritation to the respiratory tract.

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

DELAYED EFFECTS: None known.

Distributed By:
SAL Chemical
3036 Birch Drive
Weirton, WV 26062
304-748-8200



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

<u>INGREDIENT NAME</u>	<u>NTP STATUS</u>	<u>IARC STATUS</u>	<u>OSHA LIST</u>
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No ingredients listed in this section.

4. FIRST AID MEASURES

SKIN: Flush with plenty of 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 immediate 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. Use water spray to keep containers cool.

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 if 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.



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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 RECOMMENDATIONS:

Store in a cool area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Use local exhaust to keep airborne concentrations below the permissible exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION: Wear appropriate personal protective clothing to prevent skin contact. If prolonged or repeated contact is anticipated, all clothing should be impervious to liquid.

EYE PROTECTION: Wear chemical safety goggles or face shield to prevent eye contact. Do not wear contact lenses.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

ADDITIONAL RECOMMENDATIONS: To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product. Eyewash and safety showers are recommended.

EXPOSURE GUIDELINES

<u>INGREDIENT NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
Aluminum sulfate (as Aluminum)	2 mg/m ³	2 mg/m ³	None

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:

None



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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear, light green or amber liquid.
PHYSICAL STATE:	Liquid
MOLECULAR WEIGHT:	~594 for $Al_2(SO_4)_3 \cdot 14H_2O$
CHEMICAL FORMULA:	48.5% $Al_2(SO_4)_3 \cdot 14H_2O$ in water
ODOR:	Odorless
SPECIFIC GRAVITY (water = 1.0):	1.335
SOLUBILITY IN WATER (weight %):	100
pH:	~3.5 (1% solution)
BOILING POINT:	101°C
MELTING POINT:	-16°C
VAPOR PRESSURE:	Not applicable
VAPOR DENSITY (air = 1.0):	Not applicable
EVAPORATION RATE:	Not determined
% VOLATILES:	~50
FLASH POINT:	Not flammable
	(Flash point method and additional flammability data are found in Section 5.)
COMPARED TO:	Not applicable.

10. STABILITY AND REACTIVITY

NORMALLY STABLE (CONDITIONS TO AVOID):

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.

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



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12. ECOLOGICAL INFORMATION

Aluminum sulfate:
14 ppm/36 hr/ fundulus/fatal/fresh water.
240 ppm/48 hr/mosquito fish/TL_m/water type not specified.
TL_m 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? 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

US DOT HAZARD CLASS//PACKING GROUP: 8, PG III
US DOT ID NUMBER: UN3264
PROPER SHIPPING NAME: Corrosive liquid, acidic, inorganic, N.O.S. (contains aluminum sulfate)

TDG HAZARD CLASS/PACKING GROUP: 8, PG III
TDG ID NUMBER: UN3264
PROPER SHIPPING NAME: Corrosive liquid, acidic, inorganic, 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.

<u>INGREDIENT NAME</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPQ (lb)</u>
Aluminum sulfate (anhydrous)	5000	None

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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):

E, D2B.

Classified in accordance with WHMIS Controlled Product regulations.



FOREIGN CHEMICAL CONTROL INVENTORY STATUS:

All ingredients listed on European (EINECS), Canadian (DSL), Australian (AICS), Japan (MITI), Korean (ENCS), Philippines (PICCS) and China (EI).



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16. OTHER INFORMATION

CURRENT ISSUE DATE: April 10, 2006

PREVIOUS ISSUE DATE: April 4, 2006

CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:

Changes made to section 2.

OTHER INFORMATION: HMIS: 2-0-1

NFPA: 2-0-1

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