

# Inorganic Coagulant Solve 5

## Material Safety Data Sheet

Date Issued: February, 2000  
Date Revised: August, 2005

Emergency Telephone numbers: WaterSolve 616-575-8693  
**Chemtrec – 800-424-9300**

### I. Product Identification

Product Name: Solve 5  
Chemical Type: Liquid Alum

Component:	CAS#	Weight %
Aluminum Sulfate	10043-01-3 (anhydrous)	48.5
Water	007732-18-5	Balance

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 Communications Standard.*

### II. 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.

Health Effects:

Skin:	May cause irritation, may cause dermatitis after prolonged or repeated contact.
Eye Contact:	Causes irritation and painful burns of the eye and eyelids upon contact. Symptoms are stinging, redness, tearing.
Ingestion:	May irritate the gastrointestinal tract. Concentrated solutions may cause burns in the digestive tract.
Inhalation:	Exposure to mist may cause nose, throat and respiratory irritation.

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

<u>Ingredient Name</u>	<u>NTP Status</u>	<u>IARC Status</u>	<u>OSHA List</u>
No ingredients listed in this section			

### III. First Aid

Eye Contact:	<b>Do not rub.</b> Immediately flush eyes gently for 15 minutes with plenty of water. Call a physician immediately.
Skin Contact:	Flush skin with plenty of water. Remove contaminated clothing; wash before reuse. Seek medical attention.
Inhalation:	Remove person from exposure area to fresh air. Seek medical attention if needed.

Ingestion: If not already vomiting, Induce vomiting by touching finger to back of throat. If conscious, give large quantities of water or milk. Never give anything by mouth to unconscious individual. Seek immediate medical attention.

Note to Physician: Treat symptomatically.

**IV. Fire and Explosion Hazard Data**

Flashpoint: Not flammable  
 Autoignition Temperature: Not applicable  
 Extinguishing Agents: Dry chemical carbon dioxide, water spray or regular foam.  
 Fire Fighting Precautions: Use extinguishing media as appropriate for surrounding fire  
 Respiratory Protection: Thermal decomposition products may include toxic and corrosive fumes. Product may react with some metals (aluminum, zinc, tin, etc.) to release flammable hydrogen gas. If fumes are present, wear an OSHA/NIOSH approved full face mask with acid gas cartridge or self-contained breathing apparatus.

Unusual Fire and Explosion Haz.: None

**V. Storage and Handling**

Storage: Store in acid resistant FRP tanks or plastic containers as material is corrosive to most metals. Maintain temperature above -30 deg. F to prevent freezing. Keep containers tightly closed. Dispose of empty drums in accordance with local, state and federal regulations.

Handling: Avoid contact with skin, eyes or clothing. Wear protective clothing.

**VI. Accidental Release Measures/Waste Disposal**

Spill or Leak Procedures: (See section VII for recommended personal protective equipment).  
 Dike spilled material. Prevent spreading by using absorbent material.  
 Prevent product from entering drinking water supplies or storm sewers.  
 Neutralize with soda ash, lime, or limestone. Insure adequate ventilation if soda ash is used due to release of carbon dioxide gas.  
 Wear protective clothing and equipment when cleaning up spill.

Waste Disposal: Dispose of waste in accordance with applicable federal, state, and local laws. Spills and releases may have to be reported to Federal and/or local authorities.

**VII. Applicable Control Measures& Exposure Limits**

Engineering Controls: Local ventilation if misting is anticipated.

Personal Protection Equipment:

Eye Protection: Chemical splash goggles and face shield. Eye wash station should be readily available. Do not wear contact lenses.

Skin Protection: Impervious gloves, apron and full work clothing including long sleeved shirts, trousers and rubber boots are recommended.

Respiratory Protection: Wear NIOSH/OSHA approved respirator with appropriate cartridge if there is any potential exposure to mists in handling or firefighting.

Exposure Limits:			
<u>Ingredient</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>Other</u>
Aluminum Sulfate (As Aluminum)	2 mg/m3	2 mg/m3	None

### VIII. Typical Physical Properties

Appearance:	Clear, light green to amber liquid
Boiling point:	230 deg. F
Freezing point:	-30 deg. F
Odor:	None
Specific gravity:	1.3-1.4 (water = 1)
Solubility in water:	100%
Volatile (by wt. %):	Water 69%
PH as is:	3.5 (1% solution)
Stability:	Product is stable under normal conditions
Viscosity:	Less than 100 SUS at 100 deg. F

### IX. Reactivity Data

Shelf Life:	Product is stable. If evaporated to dryness, residue should not be exposed to elevated temperatures (above 760 deg. C), as this will yield toxic and corrosive gases.
Materials to avoid:	Alkalis and water reactive materials such as oleum: Causes exothermic reactions.
Haz. 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 under normal temperatures and pressures.

#### NFPA RATINGS (SCALE 0-4):

Health -2  
Fire -0  
Reactivity -0  
Special -Corrosive

### X. Transportation Information

#### DOT

Proper Shipping Name: Corrosive liquid, acidic, inorganic, N.O.S. (contains Aluminum sulfate)  
UN #: UN 3264  
US DOT Hazard Class: 8

### XI. Toxicological/Ecological Information

#### Toxicological:

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

#### Ecological:

14 ppm/36 hr/fundulus/fatal/fresh water.  
240 ppm/48 hr/mosquito fish/TLm/water type not specified.  
TL<sub>m</sub> mosquito fish, 235 ppm, 96 hrs  
LC50 Largemouth Bass, 250ppm, 96 hrs

**Regulatory:**

TSCA: All components of the material are listed in TSCA Inventory.

SARA Title III/Cercla: “Reportable quantities” (RQ5) 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 (*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 your local Emergency Planning Committee.**

**Section 311 Hazard Class:** Immediate

**Sara 313 Toxic Chemicals:** 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.

<u>Ingredient Name</u>	<u>Weight %</u>	<u>Comment</u>
No ingredients listed in this section		

**Additional Regulatory Information:**

None listed

**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.

This information is for the specific material described only and may not be valid if the material is used in combination with any other materials or in any process. The user is responsible to determine the completeness of the information and suitability for the user’s own particular use. It is the knowledge and belief of WaterSolve, LLC, that the information is accurate and reliable as of the date indicated but WaterSolve, LLC makes no express or implied warranty of merchantability for the material or the information. WaterSolve, LLC makes no express or implied warranty of fitness for a purpose for the material or for the information.