



Inorganic Coagulant Solve 5d

Material Safety Data Sheet

Date Issued: February 2000
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COMPANY: WaterSolve, LLC, 4964 Starr St. S. E, Grand Rapids, MI 49546, USA
For Product information call 616-575-8693.
EMERGENCY PHONE: For emergency involving spill, leak, fire, exposure or accident call
CHEMTREC: 1-800-424-9300. Outside the USA and Canada call 703-527-3887.

I. Product Identification

Product Name: **Solve 5d**
Chemical Type: Dry Aluminum Sulfate
Component:

	<u>CAS#</u>	<u>Weight %</u>
Aluminum Sulfate	10043-01-3	57-60

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: 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.

Health Effects:

Skin: May cause irritation, may cause dermatitis after prolonged or repeated contact or when moisture is present.
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: Dust or mist inhalation at levels above the TLV may cause irritation to the respiratory tract.
Delayed Effects: None known.

III. First Aid

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

Note to Physician: Treat symptomatically and supportively.

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: Wear self-contained breathing apparatus (SCBA) and full protective equipment
Unusual Fire and Explosion Haz.: None

V. Storage and Handling

Storage: Keep storage container tightly closed. Store in cool, dry well-ventilated area or cabinet. Isolate from incompatible substances.

Handling: Keep container tightly closed when not in use. Avoid contact with skin, eyes or clothing. Wear protective clothing. Do not breathe product dusts or mists.

VI. Accidental Release Measures/Waste Disposal

Spill or Leak Procedures: 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.

VII. Applicable Control Measures& Exposure Limits

Engineering Controls: Use local exhaust to keep airborne concentrations below the permissible limits.

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: Wear rubber gloves and apron, long sleeved shirts, trousers and boots. If prolonged or repeated contact is anticipated, all clothing should be impervious to liquid. Impervious gloves, clothing and rubber boots are recommended.

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 Decisions Logic" may be useful in determining the suitability of various types of respirators.

To identify additional Personal Protective Equipment requirements, it is recommended that a hazard assessment in accordance with OSHA PPE Standard (29CFR 1910.132 be conducted before using this product. Eyewash and safety showers are recommended.

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:	White or creamy white granules or powder.
Physical State:	Solid
Boiling point:	Not applicable
Freezing point:	Not applicable
Odor:	None
Specific gravity:	1.61
Solubility in water:	50% st 0°C
Volatile (by wt. %):	Negligible
PH as is:	3.5 (1% solution)

IX. Reactivity Data

Shelf Life:	Product is stable. If evaporated to dryness, residue should not be exposed to elevated temperatures (above 760 °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.

X. Transportation Information

US DOT HAZARD CLASS/PACKING GROUP:	9 (only if greater than 5000lbs. in one package), PGIII
US DOT ID NUMBER:	UN3077
PROPER SHIPPING NAME:	Environmentally hazardous substances, solids, n.o.s. (contain aluminum sulfite)
TDG HAZARD CLASS/PACING GROUP:	9(only if intended for disposal and 100 mg/kg or more), PGIII
TDG ID NUMBER:	UN 3077
PROPER SHIPPING NAME:	Environmentally hazardous substances, solid, n.o.s. (contains aluminum sulfite)

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

XI. Toxicological/Ecological Information

Toxicological

Immediate (Acute) Effects:	
Aluminum Sulfate:	
LD50 (oral, mouse):	6,207 mg/kg
LD50 (oral, rat):	1,930 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_m mosquito fish, 235 ppm, 96 hrs
LC50 Largemouth Bass, 250ppm, 96 hrs

Wildlife Toxicity (WLTX):

EC50 Aphanizomenon flos-aquae (Blue-green algae; decreased nitrogen fixation ability) >25 mg/L/1.5 hr and 22 hr;
EC50 Asellus aquaticus (Aquatic sowbug; intoxication/immobilization) 6570 ug/L/48 hr
EC50 Asellus aquaticus (Aquatic sowbug; intoxication/immobilization) 4370 ug/L/72 hr
EC50 Crangonyx pseudogracilis (Amphipod; intoxication/immobilization) 12800 ug/L/48 hr
EC50 Crangonyx pseudogracilis (Amphipod; intoxication/immobilization) 9190 ug/L/96 hr
EC50 Arctopsyche ladogensis (Caddisfly larvae; morphological abnormalities in the anal papillae) 938-1089 ug/L/96 hr
EC50 Hydropsyche angustipennis (Caddisfly larvae; morphological abnormalities in the anal papillae) 2265-2637 ug/L/96 hr;
EC50 Hydropsyche siltalai (Caddisfly larvae; morphological abnormalities in the anal papillae) 1219-1543 ug/L/96 hr;
LC50 Dreissena polymorpha (Zebra mussel) 130.5 mg/L/24 hr (95% confidence interval: 113.1-148 mg/L);
LC50 Dreissena polymorpha (Zebra mussel) 76.1 mg/L/3 hr (95% confidence interval
LC50 Oncorhynchus mykiss (Rainbow trout) 91 ug/L/144 hr; renewal (soft, acidic water) /technical product/
LC50 Perca fluviatilis (Perch) 661 ug/L/120 hr (95% confidence interval: 414-2189 ug/L)
LC50 Perca fluviatilis (Perch) 454 ug/L/144 hr (95% confidence interval: 273-789 ug/
LC50 Pimephales promelas (Fathead minnow) 19.3 mg/L/192 hr (95% confidence interval: 12.8-34.6 mg/L);
LC50 Pimephales promelas (Fathead minnow) 33.9 mg/L/96 hr (95% confidence interval: 26.7-49.4 mg/L); flow-through
LC50 Rutilus rutilus (Roach) 100 ug/L/10 days; renewal /technical product/
LC50 Salmo salar (Atlantic salmon) 2.9 uM/96 hr (95% confidence interval: 2.5-3.2 uM
LC50 Stizostedion lucioperca (Pikeperch) >100-<200 ug/L/10 days;
LC50 Gambusia affinis (Mosquitofish) 69 mg/L/48 hr; 37 mg/L/96 hr;
LC50 Salvelinus fontinalis (Brook trout) 4-4.4 mg/L/24 hr; 3.6 mg/L/96 hr;
LC50 Carassius auratus (Goldfish) about 100 mg/L/96 hr; static **PEER

REGULATORY INFORMATION

Regulatory:

TSCA: All components of the material are listed in TSCA Inventory.
Other TSCA issues: None

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.

WHMIS CLASSIFICATION (CANADA): Class 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 (IECSC).

XII. DISPOSAL CONSIDERATIONS

RCRA is the unused product a RCRA hazardous waste if discarded? No

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.

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 methods.

HMIS: 2-0-1

NFPA: 2-0-1

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 The company, that the information is accurate and reliable as of the date indicated but the company makes no express or implied warranty of merchantability for the material or the information. The company makes no express or implied warranty of fitness for a purpose for the material or for the information.

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