# Inorganic Coagulant
# Solve 70

# Material Safety Data Sheet

Date Issued: 10/21/2008
Date Revised: 10/21/2008

COMPANY: WaterSolve, LLC, 4964 Starr St. S.E. Grand Rapids, MI 49546, USA
For Product information call 616-575-8693.

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

## I. Product Identification

Product Name: **Solve 70**
Chemical Type: Polyaluminum hydroxychloride Solution

| Component: | CAS# | % by weight | OSHA PEL/ACGIH TLV |
|---|---|---|---|
| Polyaluminum hydroxychloride | 1327-41-9 | 30-60% | 2 mg/m$^3$ as TWA (as aluminum) |

Traces 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.

## II. Hazards Identification

*Emergency Overview: A clear, odorless, colorless to light amber colored liquid which can cause significant irritation to the skin and eyes. Vapors may irritate nose and throat. Will not burn but may release hydrochloric acid vapors at fire temperatures.*
**OSHA Hazard Communication Standard:** This product is considered hazardous under the OSHA Hazard Communication Standard.

Potential Health Effects:

| | |
|---|---|
| Skin: | Contact may cause severe reddening and swelling. |
| Eye Contact: | May irritate of burn eyes. |
| Ingestion: | Can irritate the mouth, throat and stomach. |
| Inhalation: | Exposure to mist can irritate mucus membranes' and respiratory tract (nose, throat, etc.) |

## 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 for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. |
| Inhalation: | Remove person from exposure area to fresh air. Seek medical attention if needed. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. |

| | |
|---|---|
| Ingestion: | Do not induce vomiting. If conscious, give large quantities of water. Never give anything by mouth to unconscious individual. Seek immediate medical attention. |
| Advice to Physician | Treat symptomatically. |

## IV. Fire and Explosion Hazard Data

| | |
|---|---|
| **Flashpoint:** | Not flammable |
| **Autoignition Temperature:** | Not applicable |
| **Flash point method:** | Not applicable |
| **Upper and lower flame limit:** | Not applicable |
| **Flame propagation rate (solids):** | Not applicable |
| **OSHA Flammability class:** | Not applicable |
| **Extinguishing Agents:** | Foam, dry chemical, carbon dioxide, water spray. |

**Explosion limits**
**Hazardous combustion products:** No information available.
**Impact Sensitivity:** No information available.
**Sensitivity to static discharge:** No information available.

**Specific Hazards Arising from the Chemical**
At elevated temperatures, irritating and corrosive hydrogen chloride vapors may be released.

**Protective Equipment and Precautions for Firefighters:**
Wear self-contained breathing apparatus (SCBA) and full protective equipment. Cool exposed containers with water spray.

**NFPA HEALTH 2 FLAMMABILITY 0 INSTABILITY 1**

## V. Storage and Handling

See Section 7 for recommended personal protective equipment.

| | |
|---|---|
| Storage: | Keep storage container tightly closed. Store in cool and dry, well ventilated area or cabinet. Isolate from incompatible substances. Store and ship in plastic or rubber-lined containers |
| Handling: | Avoid contact with skin, eyes or clothing. Wear protective clothing. Keep container tightly closed when not in use. Avoid breathing vapor or mist. Remove contained clothing and wash thoroughly after handling. |

## VI. Accidental Release Measures/Waste Disposal

**See Section 7 for recommended personal protective equipment.**

| | |
|---|---|
| Spill or Leak Procedures: | Dike spilled material. Prevent spreading by using absorbent material. Prevent product from entering drinking water supplies or storm sewers. Neutralize spill with alkali such as soda ash. When using soda ash and other carbonates, carbon dioxide gas may be released. Take precautions to minimize hazards from the release of carbon dioxide. 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. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Personal Protection Equipment:

Eye Protection: Wear 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 imperious to liquid.

Respiratory Protection: A respiratory protecting program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed when ever workplace conditions warrant respirator use. Wear NISOSH/OSHA approved respirator with appropriate cartridge if there is any potential exposure to mists in handling or firefighting.

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**

| INGREDIENT NAME | ACGIH TLV | OSHA PEL | OTHER LIMIT |
|---|---|---|---|
| **Polyaluminum hydroxychloride** | **2mg/m³ TWA (as aluminum)** | **None** | **None** |

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:
Hydrochloric acid vapors: 7mg/m³ (ceiling)

## VIII. Physical and Chemical Properties

| | |
|---|---|
| Color: | Clear, light amber |
| Physical State: | liquid |
| Chemical Formula: | Mixture |
| Odor: | Odorless |
| Solubility in water (weight%) | 100% |
| Melting point: | (18℃) / less than 0℉ |
| Boiling point: | 234.5℉ (112.5℃) |
| Flammability limits in air: | No information available |
| Explosive Properties: | No information available |
| Oxidizing Properties: | No information available |
| Evaporation Rate: | Not determined |
| Solubility: | No information available |
| Partition Coefficient (n-octanol/water): | No information available |
| PH: | ~1.9 |
| Specific gravity: | ~1.4 |
| Vapor pressure | Not applicable |
| Vapor density (air=1.0) | Not applicable |
| Evaporation rate: | Not applicable |
| Viscosity: | No information available |
| Molecular Weight: | Mixture |
| % Volatiles: | ~50 |
| Flash point: | Not flammable |
| Autoignition temperature: | Not applicable |

## IX. Reactivity Data

| | |
|---|---|
| Normal Stable (Conditions to Avoid): | Stable under normal conditions of use and storage. |
| Material to avoid: | Avoid prolonged contact with iron, galvanized iron, aluminum, zinc, steel, zinc and copper which are subject to corrosion.. |
| Haz. Decomposition Products: | At high temperatures (e.g. fire conditions), hydrogen chloride vapor may be generated. |
| Hazardous Polymerization: | Will not occur under normal temperatures and pressures. |

## X. Toxicological/Ecological Information

**Acute Toxicity**

**Component Information**

| | |
|---|---|
| Irritation: | No information available. |
| Corrosivity: | No information available. |
| Sensitization: | No information available. |

**Chronic Toxicity**

| | |
|---|---|
| Carcinogenicity: | There are no known carcinogenic chemicals in this product. |
| Mutagenic effects: | No information available. |
| Reproductive effects: | No information available. |
| Developmental effects: | No information available. |
| Teratogenicity | No information available. |
| Target organ effects: | No information available. |
| Endocrine disruptor information: | No information available. |

**Ecotoxicity**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**Persistence and Degradability:** No information available.
**Bioaccumulation:** No information available.
**Mobility in Environmental Media:** No information available.

## XI. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods:** If permitted by regulations, material may be neutralized with alkali.
**Contaminated Packaging:** Empty containers should be taken for local recycling, recovery or waste disposal.
**US EPA Waste Number:** No information available.

| Component/ CAS. # | RCRA- basis for listing | RCRA-D Series Wastes | RCRA- U Series Wastes | RCRA-F Series Wastes | RCRA-P series Waste | RCRA- K Series Waste |
|---|---|---|---|---|---|---|
| Polyaluminum Hydroxychloride 1327-41-9 | | | | | | |

## XII. Transportation Information

**US DOT HAZARD CLASS/PACKING GROUP:** **8, PGlll**
**US DOT ID NUMBER:** UN3264
**PROPER SHIPPING NAME:** Corrosive liquid, acidic inorganic, N.O.S. ( contains polyaluminum hydroxychloride).
**TDG HAZARD CLASS/PACING GROUP:** **8**, PGlll
**TDG ID NUMBER:** UN 3264
**PROPER SHIPPING NAME:** Corrosive liquid, acidic inorganic, N.O.S. ( contains polyaluminum hydroxychloride).

## XIII .REGULATORY INFORMATION

**International Inventories**

| | |
|---|---|
| **TSCA** | complies |
| **DSL** | complies |
| **NDSL** | complies |
| **EINECS/ELINCS** | complies |
| **ENCS** | complies |
| **CHINA** | complies |
| **KECL** | complies |
| **PICCS** | complies |
| **AICS** | complies |

U. S. Federal Regulations

**SARA 313**

Section 313 of Title III of Superfund Amendments and Reauthorization; Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372.

**SARA 311-312 Hazardous Categorization**

| | |
|---|---|
| **Chronic Health Hazard** | No |
| **Acute Health Hazard** | Yes |
| **Fire Hazard** | No |
| **Sudden release of pressure Hazard** | No |
| **Reactive Hazard** | No |

Clean Water Act

**CERCLA**

**U. S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**State Right-To-Know**

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---|---|---|---|---|---|
| Polyaluminum Hydroxychloride | | | **x** | | |

**Other International Regulations**

**Mexico-Grade** No information available.

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS** Hazard Class

E Corrosive Material

D2B Toxic Materials