WaterSolve LLC

Inorganic Coagulant
Solve 10

Material Safety Data Sheet

Date Issued: 06/23/2009
Date Revised: 06/23/2009

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 10**
Chemical Type: Polyaluminum hydroxychloride Solution

II. HAZARDS IDENTIFICATION

Emergency Overview: An odorless, clear water white to pale yellow liquid, which can cause significant irritation and burns to the skin and eyes. May be harmful if swallowed. 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. (29 CFR 1910.1200).

Potential Health Effects:

Skin:	May cause irritation and/or burns, especially with prolonged contact.
Eye Contact:	May irritate or burn the eyes.
Inhalation:	May cause irritation to the respiratory tract.
Ingestion:	May cause severe damage to mouth, esophagus and stomach.
Delayed Effects:	None known.

III. COMPOSITION /INFORMATION ON INGREDIENTS

COMPONENT	CAS-No.	WEIGHT %
Aluminum chloride	7446-70-0	25-30

IV. FIRST AID MEASURES

Eye Contact: Do not rub. Immediately flush eyes gently for 15 minutes with plenty of water. May irritate or burn the eyes. Get medical attention if irritation persists. .

Skin Contact: Flush 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. Immediately give large quantities of water or milk. Follow with milk of magnesia or whites of eggs, beaten in water. Never give anything by mouth to unconscious individual. Seek immediate medical attention.

Delayed Effects: None known.

Advice to Physician Treat symptomatically.

V. FIRE-FIGHTING MEASURES

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

Suitable Extinguishing Agents: Water spray is recommended, and will probably reduce fumes and irritating gases.
Unsuitable Extinguishing Media: No information available.

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:
All elevated temperatures, irritating and corrosive hydrogen chloride vapors may be released.
Special Fire Fighting Precautions: Wear Self-contained breathing apparatus (SCBA) and full protective equipment. Cool exposed containers with water spray. Do not splash any spilled material onto personnel.

NFPA **Health 3** **Flammability 0** **Instability 1**

VI. STORAGE AND HANDLING

Storage:
Keep storage container tightly closed. Store in cool, dry well ventilated area or cabinet. Isolate from incompatible substances. Avoid contact with skin, eyes and clothing. Do not breathe product mists.
Handling:
Keep container tightly closed when not in use. Avoid contact with skin, eyes and on clothing. Avoid breathing vapor or mist. Use with adequate ventilation. Handle as a material of moderate oral toxicity. Do not smoke or eat while handling. Use good housekeeping and personal hygiene. Remove contained clothing and wash thoroughly after handling.

VII. ACCIDENTAL RELEASE MEASURES/WASTE DISPOSAL

Spill or Leak Procedures:
Dike area to contain spill. If permitted by regulation, neutralize with alkali such as soda ash, lime or limestone. Carbon dioxide may evolve if neutralized with carbonates (e.g. soda ash). Take precautions to minimize hazards from carbon dioxide gas generation. . 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.

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION MEASURES

COMPONENT	ACGIH TLV	OSHA PEL	Ontario TWAEV	Mexico OEL (TWA)	NIOSH IDLH
Aluminum chloride 7446-70-0	TWA: 2mg/m³	TWA: 2mg/m³		TWA: 2mg/m³	

Engineering Measures: Use local exhaust to keep airborne concentrations below the permissible exposure 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 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 s, "Respirator Decision Logic", may be useful in determining the suitability of various types of respirators.

General Hygiene Considerations:

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.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Clear to water white to pale yellow
Physical State:	liquid
Chemical Formula:	AlCl3 in H²O
Odor:	Odorless
Solubility in water (weight%)	100%
Melting point:	-22℉ (-30℃)
Boiling point:	230℉ (110℃)
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:	~2.2
Specific gravity:	1.28 @ 25℃
Vapor pressure	Not applicable
Vapor density (air=1.0)	Not applicable
Evaporation rate:	Not applicable
Viscosity:	No information available
Molecular Weight:	133.34 (anhydrous AlCl3)
% Volatiles:	50%
Flash point:	Not flammable
Autoignition temperature:	Not applicable

X. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions of use and storage.
Incompatible Products:	Alkalis and water reactive materials such as oleum: causes exothermic reactions.
Haz. Decomposition Products:	Hydrogen chloride gas is formed at elevated temperatures.
Hazardous Polymerization:	Will not occur under normal temperatures and pressures.

XI. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Aluminum chloride	380 mg/kg (Rat)	2000 g/kg (Rabbit)	

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.

XII. ECOLOGICAL INFORMATION

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.

XIII. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Dispose of in accordance with local regulations. 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
Aluminum chloride 7446-70-0						

XIV. Transportation Information

DOT: Regulated
Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (contains Polyaluminum hydroxychloride)
Hazard Class: 8
UN-NO: UN2581
Packing Group: PGlll

TDG: Regulated
Hazard Class: 8
UN-NO: UN2581
Packing Group: PGlll

XV. REGULATORY INFORMATION

International Inventories

TSCA	complies
DSL	complies
NDSL	Does not comply
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
Aluminum chloride	**x**	**x**	**x**		**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

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. 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. 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. The company makes no express or implied warranty of fitness for a purpose for the material or for the information.