Inorganic Coagulant
Solve 10

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.

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I. Product Identification

Product Name: **Solve 10**
Chemical Type: Aluminum Chloride

Ingredient Name:	CAS#	% by weight	OSHA PEL/ACGIH TLV
Aluminum chloride	7446-70-0	25-30	2 mg/m3 as Al

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 Statndard.

II. Hazards Identification

EMERGENCY OVERVIEW: An odorless clear water white to pale yellow liquid. Can cause irritation and/or burns to the skin and eyes. May be harmful if swallowed. Not flammable, but may relase toxic vapors if decomposed in a fire.

Health Effects:

Skin:	May cause irritation, may cause dermatitis after prolonged or repeated contact.
Eye Contact:	May cause severe irritation and/or corneal damage (burns).
Ingestion:	May cause severe damage to mouth, esophagus and stomach.
Inhalation:	Inhalation of mist may irritate mucous membranes, nose, throat and Lungs.
Delayed Effects:	None known.

SARA Title III Hazards:

Fire:	No
Reactivity:	No
Acute:	Yes
Chronic:	No
Sudden release of pressure:	No

Hazards Information Data	NFPA
Health	1
Flammability	0
Reactivity	1

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 if redness and swelling of skin persists.
Inhalation:	Remove person from exposure area to fresh air. If breathing has stopped, give artificial respiration, if breathing is difficult, give oxygen. Seek medical attention if needed.
Ingestion:	Do not induce vomiting. If conscious, give large quantities of water or milk. Follow milk of magnesia or whites of eggs, beaten in 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
Flashpoint 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:	If involved in a fire, use water. Water spray will probable reduce fumes and any irritating gases.
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.
Unusual Fire and Explosion Hazards:	Hydrochloric acid fumes and generated when this product is heated.

V. Accidental Release Measures/Waste Disposal

IN CASE OF SPILL OR OTHER RELEASE:
(See section 8 for recommended personal protective equipment.) Dike area to contain spill. Neutralize spilled material with alkali such as soda ash. When using carbonates for neutralization, adequate precautions should be taken to minimize hazards from carbon dioxide gas generation. 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.

VI. Storage and Handling

NORMAL HADLING: (See section 8 for recommended personal protective equipment.)
Avoid contact wit skin, eyes and clothing. Do not breathe product mists. Use with adequate ventilation. Handle as material of moderate oral toxicity. Do not smoke or eat while handling. Use good housekeeping and personal hygiene. Wash thoroughly after handling

STORAGE RECOMMENDATIONS:

Store at moderate temperatures in a dry, well ventilated area. Protect from physical damage and from freezing. Keep containers tightly closed.

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VII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:
Provide local exhaust if fuming or misty conditions prevail. Natural ventilation is normally adequate in the absence of such conditions.
Personal Protection Equipment:

Eye Protection:	Chemical splash goggles and face shield. Eye wash station should be readily available.
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.
Respiratory Protection:	A respiratory protection program that meets OSHA 1910.134 and ANSIZ88.2 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 GUIDLELINES

INGREDIENT NAME	ACGIH TLV	OSHA PEL	OTHER LIMIT
Aluminum chloride (as Aluminum)	2mg/m³	2mg/m³	None

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:
None

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VIII. Physical and Chemical Properties

Appearance:	Clear water white to slight yellow liquid
Physical state:	liquid
Molecular Weight:	133.34 (anhydrous AICI3)
Chemical Formula:	AICI3 in H²O
Boiling point:	~230°F (110°C)
Melting Point:	-22°F (-30 °C)
Freezing point:	-31 deg. F
Odor:	None
Specific gravity: (water=1.0)	1.28 @ 25°C
Solubility in Water(weight%):	100
pH:	<1
Vapor Pressure:	Not applicable
Vapor Density (air=1.0):	Not applicable
Evaporation Rate:	Not determined

Compared To :	Not applicable
%Volatiles:	~50
Flash Point:	Not flammable

(Flash point method and additional flammability data are found in Section 5)

IX. STABILITY AND REACTIVITY

Normally Stable (conditions to Avoid)	Stable under normal conditions. High temperatures may cause the generation of hydrogen chloride gas.
Incompatibilities:	Alkalis and eater reactive materials which have exothermic reactions.
Hazardous Decomposition Products:	Hydrogen chloride gas is formed at elevated temperature.
Hazardous Polymerization:	Will not occur.

X. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:

Aluminum chloride:
LD 50 (oral – rat) =3450 mg/kg
LD50 (oral-mouse) = 1130mg/kg
LD50 (rabbit-skin) = >2 g/kg

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:

Data not available.

OTHER DATA:

None

XI ECOLOGICAL INFORMATION

Data not available.

XII DIPSOSAL CONSIDERATIONS

RCRA

Is the unused product a RCRA hazardous waste if discarded? YES
If yes, the RCRA ID number is : D002 (corrosive)

OTHER DIPOSAL 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 prodict such as mixing with other materials may significantly change the characteristics of the material and later the RCRA classification and the proper disposal method.

XIII TRANSPORT INFORMATION

US DOT HAZARD CLASS/PACKING GROUP:	**8, PGlll**
US DOT ID NUMBER:	**UN2581**
PROPER SHIPPING NAME:	**Aluminum chloride, solution**
TDG HAZARD CLASS/PACKING GROUP:	**8, PGlll**
TDG ID NUMBER:	**UN2581**
PORPER SHIPPING NAME:	**Aluminum chloride, solution**

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

XIV REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS:	All ingredients listed on the TSCA Inventory
OTHER TSCA ISSUES:	None

SARA TITLE lll/CERCLA

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) Exist for the following ingredients

INGREDIENT NAME	SARA/CERCLA RQ (lb)	SARA EHS TPQ (lb)
No ingredients listed I this section		