Solve 10G

Safety Data Sheet

Date Issued: 05/03/2015
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1. PRODUCT IDENTIFICATION

Product Name: **Solve 10G**
Product Form: Mixture
Company: **WaterSolve LLC. 5031 68TH Street, Caledonia, Michigan 49316 USA**
For product information call 616 575-8693 or visit www.gowatersolve.com
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)

Intended Use of the Product
Use of substance/mixture: Municipal and industrial water and wastewater treatment for the removal of turbidity, color, suspended solids and phosphorus. Sludge compaction and volume reduction. Lagoon treatment. Oily wastewater clarification and dissolved air flotation. Emulsion breaking. Paper machine pitch control.

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Met. Corr. 1	H290
Acute Tox. 4 (oral)	H302
Skin Corr. 1B	H314
Eye Dam. 1	H318
Aquatic Acute 2	H401

Full text of hazard classes and H-statements: see section 16

GHS-Labeling
Hazard pictograms:

GH505 **GH505** **GH507**

Signal word: **DANGER**

Hazard statements:

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H401	Toxic to aquatic life.

Precautionary statements:

P234	Keep only in original container.
P260	Do not breathe spray, mist, vapors.

P264	Wash hands, forearms, and any other exposed skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection.
P301+P312	IF SWALLOWED: Call a doctor or POISON CENTER if you feel unwell.
P301+P330+P331	IF SWALLOWED: rinse mouth. DO NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment (see Section 4 on this SDs).
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in corrosive resistance container with a resistant inner liner.
P501	Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

Other hazards:
Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

Unknown Acute Toxicity: Not available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances/Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Water	CAS No 7732-18-5	70-90	Not classified
Aluminum chloride	CAS No 7446-70-0	10 – 30	H290 Met. Corr. 1 H302 Acute Tox. 4 (oral) H314 Skin Corr. 1B H318 Eye Dam. 1 H401 Aquatic Acute 2

Full text of H-phrases: See Section 16

- The actual concentration of the ingredient(s) is withheld as a trade secret in accordance with Regulations Amending the Hazardous Products Regulations (HPR) SOR/2018-68 and 29 CFR 1910.1200.

4. FIRST AID MEASURES

Description of first aid measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Eye Contact: Rinse cautiously with plenty of water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Skin Contact: Immediately flush skin with plenty of water for at least 30 minutes. Remove all contaminated clothing and shoes. Obtain medical attention. Wash clothing before reuse.

Inhalation: Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Seek medical attention immediately. Symptoms may be delayed.

Ingestion: Rinse mouth with plenty of water. Do NOT induce vomiting. Seek medical attention immediately.

Most important symptoms and effects, both acute and delayed.

General: Harmful if swallowed. Causes severe skin burns and eye damage. May be corrosive to the respiratory tract.

Inhalation: Inhalation may cause immediate severe irritation progressing quickly to chemical burns. Symptoms may be delayed.

Skin contact: Causes severe skin burns.

Eye contact: Causes serious eye damage.

Ingestion: Harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.

Chronic Symptoms: None expected under normal conditions of use.

Indication of Any immediate medical attention and special treatment needed

If you feel unwell, seek medical advice (show the label where possible).

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special hazards arising from the substance or mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: May be corrosive to metals. Contact with metals may evolve flammable hydrogen gas.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting instructions: Keep upwind. Use water spray or fog for cooling exposed containers.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion products: Hydrogen chloride.

Other information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections

Refer to Section 9 for flammability properties.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

General measures: Avoid all unnecessary exposure. Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray.

For non-emergency personnel:

Protective equipment: Use appropriate personal protection equipment (PPE).

Emergency procedures: Evacuate unnecessary personnel. Keep upwind.

For Emergency Personnel
Protective equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Stop leak if safe to do so. Ventilate area. Eliminate ignition sources.

Environmental Precautions:
Avoid release to the environment.

Methods and materials for containment and cleaning up:
For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for clean up: Ventilate area. Cautiously neutralize spilled liquid. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Collect absorbed material and place into a sealed, labeled container for proper disposal. Clear up spills immediately and dispose of waste safely. Practice good housekeeping –spillage can be slippery on smooth surface either wet or dry.

Reference to Other Sections
See section 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Always wash your hands immediately after handling this product, and once again before leaving the workplace. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke in areas where product is used.

Conditions for safe storage including any incompatibilities
Technical measures: Observe all regulations and local requirements regarding storage or containers.
Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Storage areas should be periodically checked for corrosion and integrity. Detached outside storage is preferable.
Incompatible materials: Strong bases, strong oxidizers. Alkalis Metals.

Specific end use:
Municipal and industrial water and wastewater treatment for the removal of turbidity, color, suspended solids and phosphorus. Sludge compaction and volume reduction. Lagoon treatment. Oily wastewater clarification and dissolved air flotation. Emulsion breaking. Paper machine pitch control.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Exposure Controls
Appropriate engineering controls
Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.
Personal protective equipment
Gloves. Protective goggles. Protective goggles. Protective clothing. Face shield. Insufficient ventilation: wear respiratory protection.

Materials for protective clothing: acid resistant clothing.
Hand protection: Impermeable protective gloves.
Eye protection: Chemical safety goggles and face shield.
Skin and body protection: Wear suitable protective clothing. Chemical resistant suit. Rubber apron, boots.
Respiratory protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.
Environmental Exposure Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Consumer Exposure Controls: Do not eat, drink, or smoke during use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state/color/ Odor:	Liquid
Appearance:	Colorless to yellow colored
Odor:	Not available
Odor Threshold:	Not available
pH:	< 2
Evaporation rate:	Not available
Melting point:	-30ºC (-22ºF)
Freezing point:	Not available
Boiling Point:	Not available
Flash point:	Not applicable
Critical temperature:	Not applicable
Auto ignition temperature:	Not applicable
Decomposition temperature:	Not available
Flammability (solid, gas):	Not applicable
Lower flammable limit:	Not applicable
Upper Flammable Limit:	Not applicable
Vapor pressure:	Not available
Relative vapor density at 20ºC:	Not available
Relative Density:	Not available
Specific gravity:	1.27-1.29
Solubility:	100%
Partition coefficient (n-octanol/water):	Not available
Viscosity:	Not available

10. STABILITY AND REACTIVITY

Reactivity: May be corrosive to metals. Contact with metals may evolve flammable hydrogen gas.
Chemical stability: Stable under recommended handling and storage conditions (see Section 7).
Possibility of hazardous reactions: Hazardous polymerization will not occur.
Conditions to avoid: Extremely high or low temperatures and incompatible materials.
Incompatible materials: Strong bases, strong oxidizers, alkalis, metals.
Hazardous decomposition products: Corrosive vapors. Acrid smoke and irritating fumes, hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects - Product
Acute Toxicity (Oral): Harmful if swallowed.
Acute Toxicity (Dermal): Not classified
Acute Toxicity (Inhalation): Not classified

LD50 and LC50 Data:

Product	
ATE (Oral)	1,335.74 mg/kg body weight

Skin corrosion/irritation: Causes severe skin burns and eye damage. pH: <2
Eye damage/eye irritation: Causes serious eye damage. pH <2
Respiratory or skin sensitization: Not classified.
Germ cell mutagenicity: Not classified.
Carcinogenicity: Not classified.
Specific Target organ toxicity (repeated exposure): Not classified.
Reproductive toxicity: Not classified.
Specific target organ toxicity (single exposure): Not classified.
Aspiration Hazard: Not classified.
Symptoms/effects after inhalation: Inhalation may cause immediate severe irritation progressing quickly to chemical burns. Symptoms may be delayed.
Symptoms/effects after skin contact: Causes severe skin burns.
Symptoms/effects after eye contact: Causes serious eye damage.
Symptoms/effects after ingestion: Harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.
Chronic Symptoms: None expected under normal conditions of use.

Information of Toxicological effects-Ingredient(s)
LD50 AND LC50 data:

Aluminum chloride (7446-70-0)	
LD50 Oral rat	**370 mg/kg**

12. ECOLOGICAL INFORMATION

Toxicity
Ecology general: Toxic to aquatic life.

Aluminum chloride (7446-70-0)	
LC50 Fish 1	5.31 – 7.2 mg/l (Exposure time 96h – Species: Oncorhynchus mykiss (flow-through))
EC50 Daphnia 1	3.9 mg/l (Exposure time 48h - Species: Daphnia magna (static))
LC50 Fish 2	6.2-11.9 mg/l (Exposure time 96h - Species: Oncorhynchus mykiss)

Persistence and degradability: Not available

Bioaccumulative potential

Aluminum chloride (7446-70-0)	
BCF Fish 1	(no bioaccumulation)

Mobility in soil: Not available

Other adverse effects: Not available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods: Dispose of waste material in accordance with local, regional, national, provincial, territorial and international regulations.

Sewage Disposal recommendations: Do not dispose of waste into sewer. Do not empty into drains, dispose of this material and its container in a safe way.

14. TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

TRANSPORTATION CLASSIFICATION	DOT	TDG	IMDG	IATA
Identification Number	UN3264	UN3264	UN3264	UN3264
Proper Shipping Name	Corrosive Liquid, Acidic, Inorganic, N.O.S., (Contains Aluminum Sulfate)	Corrosive Liquid, Acidic, Inorganic, N.O.S., (Contains Aluminum Sulfate)	Corrosive Liquid, Acidic, Inorganic, N.O.S., (Contains Aluminum Sulfate)	Corrosive Liquid, Acidic, Inorganic, N.O.S., (Contains Aluminum Sulfate)
Transport Hazard Class(es)	8	8	8	8
				
Packing Group	III	III	III	III
Environmental Hazards	Marine Pollutant: No	Marine Pollutant: No	Marine Pollutant: No	Marine Pollutant: N/A
Emergency Response	ERG Number: 154	ERAP Index: Not applicable	EMS: F-A, S-B	ERG code (IATA): 8L
Additional Information	Not applicable	Not applicable	Not applicable	Not applicable

15. REGULATORY INFORMATION

US Federal Regulations

Chemical Name (CAS No.)	CERCLA RQ	EPCRA 304 RQ	SARA 302 TPQ	SARA 313
Aluminum chloride (7446-70-0	Not applicable	Not applicable	Not applicable	No

SARA 311/312

Product	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

US TSCA Flags Not present

US STATE REGULATIONS

California Proposition 65

Chemical Name (CAS No.)	Carcinogenicity	Developmental	Female	Male

		Toxicity	Reproductive Toxicity	Reproductive Toxicity
Aluminum chloride (7446-70-0	No	No	No	No

State Right-to-Know Lists

Aluminum chloride (7446-70-0)
U.S.- Massachusetts-Right to Know List - Yes U.S.- New Jersey-Right to Know Hazardous Substance List - Yes U.S.- Pennsylvania-RTK (Right to Know) – Environmental Hazard List – No U.S.- Pennsylvania – RTK (Right to Know) – Special Hazardous Substances – No U.S.- Pennsylvania – RTK (Right to Know) List - Yes

Canadian Regulations

Product

Aluminum chloride (7446-70-0)
Listed on the Canadian DSL (Domestic Substances List) Not listed on the Canadian NDSL (Non-Domestic Substances List)

International Inventories/Lists

Chemical Name (CAS No.)	**Australia AICS**	**Turkey CICR**	**Korea ECL**	**EU EINECS**	**EU ELINCS**	**EU SVHC**	**EU NLP**	**Mexico INSQ**
Aluminum chloride (7446-70-0)	**Yes**	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**	**Yes**

Chemical Name (CAS No.)	**China IECSC**	**Japan ENCS**	**Japan ISHL**	**Japan PDSCL**	**JAPAN PRTR**	**Philippines PICCS**	**New Zealand NZIOC**	**US TSCA**
Aluminum chloride (7446-70-0)	**Yes**	**Yes**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**

16. OTHER INFORMATION

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR).

GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment-Acute Hazard Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
H290	May be corrosive to metals
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage
H401	Toxic to aquatic life

NFPA 704

NFPA Health Hazard: 3

NFPA Fire Hazard:	0
NFPA Reactivity Hazard:	0

HMIS Rating

Health:	3
Flammability:	0
Physical:	0
PPE:	See section 8

OTHER INFORMATION

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. 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, 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. Users of any chemical should educate themselves on all aspects of its use by independent investigation of current scientific and medical knowledge that the material can be used safely.

List of abbreviations and acronyms that could be, but not necessarily are, used in the safety data sheet:

ACGIH: American Conference of Industrial Hygienists
BEI: Biological Exposure Index
CAS: Chemical Abstracts Service (Division of the American Chemical Society)
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CMR: Carcinogenic, Mutagenic or Toxic for Reproduction
DOT: Department of Transportation
FG: Food grade
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
H-statement: Hazard Statement
HMIRC: Hazardous Materials Information Review Commission
HMIS: Hazardous Materials Identification System
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI (ICAO): Technical Instructions by the "International Civil Aviation Organization"
IMDG: International Maritime Code for Dangerous Goods
ISO: International Organization for Standardization
logPow: octanol-water partition coefficient
LCxx: Lethal Concentration, for xx percent of test population
LDxx: Lethal Dose, for xx percent of test population
ICxx: Inhibitory Concentration for xx of a substance
ECxx: Effective Concentration of xx
N.O.S.: Not otherwise Specified
NFPA: National Fire Protection Association
NIOSH: National Institute for Occupational Safety and Health
OECD: Organization for Economic Co-operation and Development
OEL: Occupational Exposure Limit
OSHA: Occupational Safety and Health Administration
P-Statement: Precautionary Statement
PBT: Persistent, Bioaccumulative and Toxic
PMRA: Health Canada Pest Management Regulatory Agency
PPE: Personal Protective Equipment
RTK: Right to Know
STEL: Short-term exposure limit
SDS Safety Data Sheet
STOT: Specific Target Organ Toxicity
TLV: Threshold Limit Value
TWA: Time-weighted average

VPVB: Very Persistent and Very Bioaccumulative
WEL: Workplace Exposure Level
WHMIS: Workplace Hazardous Materials Information System
(*WAF*): w*ater-accommodated fraction*