



SOLVE 350

Safety Data Sheet

Date Issued: 03/12/2015

Date Revised: 03/12/2015

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Solve 350
SYNONYMS: Water and Wastewater Treatment coagulant/flocculant
Recommended Use: No information available
Uses Advised Against: No information available
COMPANY: WaterSolve, LLC, 5031 68th Street, Caledonia, Michigan 49316, 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.

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status: This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29CFR 1910.1200).

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Corrosive to metals	Category 1

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Physical state	Color	Appearance	Odor
Liquid	Colorless to yellow	Clear	No appreciable odor



SIGNAL WORD:

WARNING

Hazard statements

Causes skin irritation. Causes serious eye irritation. May be corrosive to metals.

Precautionary statements- Prevention

Do not breathe dust/fumes/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Keep only in original container

Precautionary Statements-Response

EYE CONTACT: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention



SKIN CONTACT: Wash with plenty of soap and water. If skin irritation persists: Get medical advice/attention. Remove/Take off immediately all contaminated clothing and wash before reuse.

Absorb spillage to prevent material damage.

Precautionary Statements-Storage

Store locked up in a corrosive resistant container with a resistant inner liner

Other information

May be harmful in contact with skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	%WT/WT	TRADE SECRET
Trade Secret Ingredient	PROPRIETARY	45 - 55%	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

Eye Contact: Remove contact lenses. Immediately flush with plenty of water for at least 20 minutes, holding eyelids apart to ensure flushing of the entire surface. Washing within one minute is essential to achieve maximum effectiveness. Seek immediate medical attention.

Ingestion: Seek medical attention immediately. Give large amounts of water to drink. If vomiting should occur spontaneously, keep airway clear. Never give anything by mouth to an unconscious person.

Skin Contact: Remove contaminated clothing and shoes without delay. Wash immediately with plenty of soap and water for at least 15 minutes. Do not reuse contaminated clothing without laundering. If skin irritation occurs: Get medical advice/attention if irritation should develop.

Inhalation: Remove to fresh air.

Most important symptoms and effects, both acute and delayed

Acute effects: Possible eye, skin and respiratory tract irritation.

Chronic effects: May aggravate existing skin, eye, and lung conditions. Persons with kidney disorders have an increased risk from exposure based on general information found on aluminum salts.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Aluminum soluble salts may cause gastroenteritis if ingested. Treatment includes the use of demulcents. Note: Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.



5. **FIRE FIGHTING MEASURES**
Extinguishing media

Suitable Extinguishing Media:

Use water fog, carbon dioxide or dry chemical or foam.

Extinguishing media which must not be used for safety reasons.

No information available

Special hazards arising from the substance or mixture

Special Hazards:

May produce hazardous fumes or hazardous decomposition products.

Advice for firefighters

Fire Fighting Measures:

Product is a water solution and nonflammable. In a fire, this product may build up pressure and rupture a sealed container; cool exposed containers with water spray. Use self-contained breathing apparatus in confined areas; avoid breathing vapors, mist, spray or dust.

Special protective equipment for fire-fighters:

Not determined

Explosion data

Sensitivity to Mechanical impact

None

Sensitivity to static discharge

None

6. **ACCIDENTAL RELEASE MEASURES**
Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear adequate personal protective clothing, gloves and equipment. Approved breathing apparatus may be necessary.

Environmental precautions

Environmental Precautions

Do not permit run-off to get into sewers or surface waterways.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills.

Methods for cleaning up

Clear spills immediately. Contain large spill and remove using a vacuum truck. Soak up small spills with inert absorbent material and place in a labeled waste container for disposal. Ventilate area of leak or spill. Spills of solution are extremely slippery so all residue must be removed promptly. Provide adequate ventilation to spill area.



7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Keep container closed when not in use. Keep away from heat and open flame. Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, gloves, and protective clothing when handling. Wash thoroughly after handling. Avoid breathing vapor or mist. Use with adequate ventilation and employ respiratory protection where mist or spray may be generated.

FOR INDUSTRIAL USE ONLY.

Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Do not store in unlined metal containers. Product may slowly corrode iron, brass, copper, aluminum, mild steel, and stainless steel. Keep in tightly closed container when not in use. Store in a cool, dry place away from direct heat.

Incompatible products

Oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls:

Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details. If there are no applicable or established limit requirements or guidelines, general ventilation should be sufficient.

Individual protection measures, such as personal protective equipment

Eye/Face Protection:

Wear chemical splash proof goggles and face shield (when eye and face contact is possible due to splashing or spraying of material). Eyewash equipment and safety shower should be provided in areas of potential exposure.

Hand Protection:

Appropriate chemical resistant gloves should be worn.

Skin / body Protection:

Avoid skin contact. Wear impermeable gloves and suitable protective clothing and protective shoes.

Respiratory Protection:

If exposures exceed the PEL or TLV, use NOISH/MSHA approved respirator in accordance with OSHA Respiratory Protection Requirements under 29 CFR 1910.134.

Other personal protection data

Eyewash fountains and safety showers must be easily accessible.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice..

Additional Advice :

Food, beverages and tobacco products should not be carried, stored or consumed where this material is in use. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. Safety shower and eye wash located in immediate area.



9. **PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

Physical state: liquid
 Color: colorless to yellow
 Appearance and Odor: Clear
 Odor threshold: No information available
 Odor: No appreciable odor

<u>Property</u>	<u>Values</u>	<u>Remarks/Method</u>
pH:	3.5	as is
Melting Point and Freezing:	-7°C / 19 °F	No information available
Boiling Point/Boiling range:	No information available	No information available
Flash point:	Not applicable	No information available
Evaporation Rate:	No information available	No information available
Flammability (solid, gas):	No information available	No information available
Flammability Limit In Air		
Upper limit:	Not applicable	No information available
Lower limit:	Not applicable	No information available
Vapor Pressure:	No information available	No information available
Vapor Density:	No information available	No information available
Specific gravity:	1.33 – 1.35	No information available
Solubility in Water:	Soluble	
Solubility in other solvents:	No information available	No information available
Partition coefficient: N-octanol/water:	No information available	No information available
Autoignition temperature:	Not applicable	No information available
Decomposition temperature:	No information available	No information available
Kinematic viscosity:	No information available	No information available
Dynamic viscosity:	< 100 cps @ 20°C	No information available
Other information		

Density:	11.0 – 11.3 lb/gal
Bulk Density:	No information available
Explosive properties:	No information available
Oxidizing properties:	No information available
Softening point:	No information available
Molecular weight:	No information available
Volatile organic compounds (VOCs) content:	No information available
% Volatile (By Wt):	40 - 50 %

10. **STABILITY AND REACTIVITY**

Reactivity: No data available
Chemical stability: Stable
Possibility of hazardous reactions: None under normal processing.
Hazardous polymerization: No.
Conditions to avoid: None known.
Incompatible materials
Materials to avoid: Oxidizing agents.
Hazardous decomposition products:

Thermal decomposition may release toxic and /or hazardous gases such as aluminum, Cl₂, and HCl.



11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure: Skin, eyes, ingestion and respiratory

INHALATION: Inhalation of mist, vapor, or spray may cause respiratory tract irritation.

SKIN CONTACT: Maybe be harmful in contact with skin. Prolonged and/or repeated contact will cause skin irritation.

EYE CONTACT: May cause moderate eye irritation that can become severe with prolonged contact. Prolonged exposure to Aluminum salts may cause conjunctivitis.

INGESTION: May cause irritation of the mouth, throat and stomach. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Acute Toxicity:

Oral LD50 (mg/kg): No information available

Dermal LD50 (mg/kg): No information available

Inhalation LC50 (mg/kg): No information available

Acute toxicity- Component information

Component/Case #	Weight %	LD50 Oral	LD50 Dermal	LC50 Inhalation
Trade Secret ingredients	45 - 55%	=9187 mg/kg (Rat)	>2000mg/kg (Rat)	-

Information on toxicological effects

Symptoms

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Irritating to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Sensitization

No information available

Germ cell mutagenicity

No information available

Carcinogenicity

This product does not contain any components in concentrations greater than or equal to 0.1% that are listed as known or suspected carcinogens by NTP, IARC, ACGIH, OR OSHA.

Reproductive toxicity

No information available

Specific target organ toxicity- Single exposure

No information available

Specific target organ toxicity-repeated exposure

No information available

Aspiration hazard

No information available

Numerical measures of toxicity—Product information

The following values are calculated based on chapter 3.1 of the GHS document

ATE mix (oral) 18374 mg/kg

ATE mix (dermal) 4004 mg/kg

Other information

Conclusions are drawn from sources other than direct testing.



12. ECOLOGICAL INFORMATION

Ecotoxicity

Acute aquatic Toxicity – Product information

Fish: LC50 (96hour static) 776.4 mg/L Fathead minnow (*Pimephales promelas*)
 EC50 (96hour static) 265.5 mg/L Fathead minnow (*Pimephales promelas*)

Crustacea: LC50 (48hour static) 803.8 mg/L Water Flea (*Ceriodaphnia dubia*)
 LC50 (48hour static) 33.2 mg/L Water Flea (*Ceriodaphnia dubia*)

Algae/aquatic plants: No information available

Acute aquatic toxicity- Component Information

Component	Weight-%	Algae/aquatic plants	Fish	Toxicity to daphnia and other aquatic invertebrates
Trade Secret Ingredient	45-55%	--	LC50 (96hr static) 100 – 500 mg/L (Brachydanio rerio)	--

Mobility: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Results of PBT and vPvB assessment: No information available

Other adverse effects:

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Do NOT mix with other chemical wastes. Do not put solutions containing this product into sewer systems. Dispose of product in an approved chemical waste landfill or incinerate in accordance with applicable Federal, State and local regulations. Do not reuse empty containers.

Contaminated packaging

Since empty containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

DOT

NOT REGULATED FOR TRANSPORTATION

This product is excepted from DOT regulations under 49 CFR 173.154(d) when shipped by road or railway. The product exception is referenced in 49 CFR 172.101 Table. Packaging material must not be aluminum, steel or be degradable by this product.

ICAO/IATA

Status: REGULATED MATERIAL

Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S. (Polyaluminum Chloride Solution)

UN Number: UN3264

Hazard Class: 8

Packing Group: III

ERG Code: 8L

**IMDG:**

Status: REGULATED MATERIAL
Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S. (Polyaluminum Chloride Solution)
UN Number: UN3264
IATA-DGR Class: 8
Packing Group: III
EmS Schedules: F-A, S-B
Harmonized Tariff Number: 2827.32

15 **REGULATORY INFORMATION****International Inventories:**

TSCA (United States): All ingredients are on the inventory or exempt from listing.

Australia (AICS): All ingredients are on the inventory or exempt from listing.

Canada DSL: All ingredients are on the inventory or exempt from listing.

Canada NDSL: All ingredients are on the inventory or exempt from listing.

China (IECSC): All ingredients are on the inventory or exempt from listing.

EINECS (European Inventory of Existing Chemical Substances): All ingredients are on the inventory or exempt from listing.

ELINCS (European List of Notified Chemical Substances): All ingredients are on the inventory or exempt from listing.

Japan (ENCS): All ingredients are on the inventory or exempt from listing.

South Korea(KECL) : All ingredients are on the inventory or exempt from listing.

Philippines (PICCS): All ingredients are on the inventory or exempt from listing.

Legend

TSCA- United States Toxic Substances Control Act Section 8(b) Inventory

AICS- Australian Inventory of Chemical Substances

DSL/NDSL-Canadian Domestic Substances List/Non-Domestic Substances List

IECSE-China Inventory of Existing Chemical Substances

EINECS/ELINCS-European Inventory of Existing Commercial Chemical Substances

ENCS-Japan Existing and New Chemical Substances

KECL-Korean Existing and Evaluated Chemical Substances

PICCS-Philippines Inventory of Chemical and Chemical Substances

U.S. Federal Regulations**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirement at the local, regional, or state level pertaining to releases of this material.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40CFR 122.21 and 40 CFR 122.42).

SARA Section 311/312 Hazard Class:

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	No



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 Act and Title 40 of the Code of Federal Regulations, Part 372.

U. S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations.

16. OTHER INFORMATION

NFPA Rating: Health-1

Flammability-0

Instability-0

Special hazard-COR

HMIS Rating: Health-1

Flammability-0

Physical hazard-0

Personal protection-x

DATE REVISED: 03/12/2015

Revision number: 1

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