



Solve 413

Safety Data Sheet

Date Issued: 03/08/2021

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1. **IDENTIFICATION**

PRODUCT NAME: **SOLVE 413**

Recommended use of the chemical or Substance/mixture and restrictions on use:
Sludge dewatering, flocculation of solids.

COMPANY: **WaterSolve, LLC, 5031 68th St. S.E. Caledonia, MI 49316, USA**
For Product information call 616-575-8693. 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)

2. **HAZARDS IDENTIFICATION**

GHS Classification

The product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS-Labeling:

Product is not hazardous under US GHS.

Hazards not otherwise classified (HNOC) or not covered/classified by GHS

Advice: Contaminated surfaces will be extremely slippery.

Potential environmental effects: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. **COMPOSITION/INFORMATION ON INGREDIENTS**

Substances/Mixtures

Mixture

Chemical nature Aqueous solution of polymeric quaternary amine.

No ingredients are hazardous according to OSHA criteria.

4. **FIRST AID MEASURES**

Description of first aid measures

General advice: Show this safety data sheet to the doctor in attendance.

Ingestion: No hazards which require special first aid measures.

Skin contact: Wash off immediately with soap and plenty of water.

Eye contact: Rinse immediately with plenty of water for at least 15 minutes, also under eyelids.

Inhalation: Move to fresh air. No hazards which require special first aid measures.

Most important symptoms and effects, both acute and delayed.

Symptoms: No information available.

Hazards: No information available

Indication of immediate medical attention and special treatment needed, if necessary

Treatment: Symptomatic treatment.

5. **FIRE FIGHTING MEASURES**

Suitable Extinguishing Media: Use water mist, carbon dioxide (CO₂), or dry chemical.

Unsuitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special hazards arising from the substance or mixture: Contaminated surfaces will be extremely slippery.

Special protective actions for fire-fighters: In the event of a fire firefighters wear self-contained breathing apparatus.

Further information: In the event of fire, cool tanks with water spray.

6. **ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. For personal protection see section 8.

Environmental precautions

Prevent undiluted product from entering the environment.

Methods and materials for containment and cleaning up

Spills are very slippery. Soak up with inert absorbent material. Sweep up and shovel into suitable container for disposal. Remove residues by scrubbing. Prevent product from entering drains.

Additional advice

For personal protection see section 8.

7. **HANDLING AND STORAGE**

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. For personal protection see Section 8.

Conditions for safe storage, including any incompatibilities

Store at room temperature.

Materials for packaging

Unsuitable material: To avoid product degradation and equipment corrosion, do not use iron, copper or aluminum containers or equipment.

Material to avoid: Strong oxidizing agents, acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Contains no substances with occupational exposure limit values.

Appropriate Engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Wash hands and face before breaks and immediately after handling the product. Ensure adequate ventilation.

Individual protection measures, such as personal protective equipment

Industrial Hygiene

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with skin, eyes and clothing. Wash hands and face before breaks and immediately after handling the product.

Respiratory protection:

None under normal use.

Hand protection

Glove material: Imperious gloves. Permeability tests are not available for this product. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Skin and body protection: Protective clothing.

Eye protection: Safety goggles

Environmental exposure controls: No data available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state:	liquid
Color:	colorless, amber
Odor:	amine-like
Odor Threshold:	No data available
pH:	5-8
Freezing point/Melting Point:	-18°C
Initial boiling point/range:	Boiling point/boiling range ca. 212°F
Flash point:	> 199.4°F
Flammability (solid, gas):	Not classified as a flammability hazard
Explosive properties	
Lower explosion limit	No data available
Upper explosion limit	No data available
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Vapour pressure:	No data available
Relative vapour density:	No data available

Density:	1,030 – 1,050 kg/m ³
Water solubility (ies):	completely soluble
Partition coefficient:	
n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	>200 °C
Viscosity:	
Viscosity, dynamic:	No data available
Viscosity, kinematic:	No data available
Oxidizing potential:	The substance or mixture is not classified as oxidizing.
Surface tension:	No data available

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability:	The product is chemically stable.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	No information available
Incompatible materials	Strong oxidizing agents, acids
Hazardous decomposition products	Carbon dioxide (CO ₂), Carbon monoxide, Ammonia, nitrogen oxides (NO _x), Hydrogen chloride (HCl), Dimethylamine

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects	
Acute oral toxicity:	Conclusion: The acute toxicological results displayed may not be the results of actual testing of this material but based on a similar tested material. LD50/Rat/ > 10,000 mg/kg
Acute oral toxicity:	Poly(diallyldimethylammoniumchloride) LD50/Rat/Oral/3,000 mg/kg
	Poly(diallyldimethylammoniumchloride) LD50/Mouse/Oral/1,720 mg/kg
Acute inhalation toxicity:	LC50/Rat/4h/> 20mg
Acute dermal toxicity:	LD50/Rabbit/ >10,000 mg/kg
Skin corrosion/irritation:	Result: No skin irritation.
Serious eye damage/eye irritation	Result: No eye irritation.
Respiratory or skin sensitization	
Skin sensitization:	Conclusion: Not sensitizing.
Carcinogenicity	

Reproductive toxicity

Toxicity for reproduction:

Conclusion: Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity

Remarks: Ecotoxicological information provided is based on a structurally or compositionally similar product.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

LC50/96 h/Branchydanio rerio (zebra Fish)/OECD Test Guideline 203: > 10-100 mg/l

Remarks: Fresh water

EC 50/48hr Water Flea (Daphnia magna)/Immobilization/OECD Test Guideline 202: >10-100 mg/l

EC50/240h/Amphipoda (Corophium Volutator)/PARCOM: 8,871 mg/l

Remarks: seawater

EC50/48h/Copepod/(Acartia tonsa)/PARCOM: 7,283 mg/l

Remarks: seawater

IC50/72hr. /Green algae (Pseudokirchneriella subcapitata)/Growth inhibition/OECD Test Guideline 201: >10 – 100 mg/l

IC50/72h/Diatom/(Skeletonema costatum)/ISO 10253: 0.67 mg/l

Remarks: Seawater

Toxicity to other organisms

No data available

Persistence and degradability

Biological degradability:

Remarks: Ecotoxicological information provided is based on a structurally or compositionally similar product.

Modified Sturm Test/OECD Test Guideline 301B/28d: < 70%

Not readily biodegradable.

/OECD Test Guideline 306/28 d: 25%

Remarks: Seawater

Bioaccumulative potential

Partition coefficient: n-octanol/water: No data available

Mobility in soil

Water solubility: completely soluble.

Surface tension: No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Product

Where possible recycling is preferred to disposal or incineration. In accordance with local and national regulations.

13. TRANSPORT INFORMATION

Land transport

Not classified as dangerous in the meaning of transport regulations.

Sea Transport

Not classified as dangerous in the meaning of transport regulations.

Air transport

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Title III Section 311 Categories:

No SARA Hazards

SARA 302 Extremely Hazardous Substances

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 – Specific Toxic Chemical Listings

The material does not contain any chemical components with known CAS numbers that exceed the threshold (DeMinimis) reporting levels established by SARA Title III, Section 313.

Notification status:

USA: All components of this product are included in the United States TSCA Chemical Inventory or are not required to be listed on the TSCA Chemical Inventory.

Canada: All components of this product are included in the Canada Domestic Substances List (DSL) or are not required to be listed on the Canada Domestic Substances List (DSL).

European Union (EU): All components of this product are included on the European Inventory of Existing Chemical Substances (EINECS) or are not required to be listed on EINECS.

Australia: All components of this product are included in the Australian Inventory of Chemical Substances (AICA) or are not required to be listed on the Australian Inventory of Chemical Substances (AICS).

Japan: All components of this product are included in the Japanese (ENCS) inventory or are not required to be listed on the Japanese (ENCS) inventory.

South Korea: All components of this product are included on the Korean (ECL) inventory or are not required to be listed on the Korean (ECL) inventory.

New Zealand: This product's New Zealand Inventory of Chemical Substances (NZIoC) status has NOT been determined.

Philippines: All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine (PICCS) inventory.

Taiwan: All components of this product are on the Taiwan Toxic Chemical Substances Control Act Inventory.

15. OTHER INFORMATION

NFPA RATING

Health: 0
Fire: 1
Reactivity: 0

HMIS Rating:

Health: 0
Flammability: 0
Reactivity: 0

Training advice

Read the safety data sheet before using this product.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. 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. Both the supplier and manufacturer make no representations and assume no liability for any direct, incidental or consequential damages resulting from its use. Both the supplier and manufacturer make no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. 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. 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. The buyer assumes all responsibility for using and handling the product in accordance with applicable federal, state and local regulations.

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
SDS: Safety Data Sheet
STEL: Short-term exposure limit
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