



## Solve 148

### Safety Data Sheet

Date Issued: 03/20/2015

Date Revised: 03/20/2015

#### 1. IDENTIFICATION OF SUBSTANCE/MIXTURE AND OF COMPANY/UNDERTAKING

PRODUCT NAME: **SOLVE 148**

Use of the Substance/mixture: Flocculating agent

Recommended restrictions on use:

COMPANY: **WaterSolve, LLC, 5031 68<sup>th</sup> St. S.E. Caledonia, MI 49316, 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)**

#### 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

Skin corrosion/irritation; Category 2; Causes skin irritation.

**GHS-Labeling**

**Signal Word:**

**WARNING**

**Hazard pictograms**



**Hazard statements:**

H315

Causes skin irritation.

**Precautionary Statements:**

**Prevention:**

P264

Wash hands thoroughly after handling.

P280

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

**Response:**

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P332 + P313

If skin irritation occurs: Get medical advice/attention.

P362

Take off contaminated clothing.

**Disposal:**

P501

Dispose of contents/container as special waste in compliance with local and national regulations.

**Other hazards which do not result in classification**

**Advice:** Contaminated surfaces will be extremely slippery.

**Eyes:** May cause slight irritation.

3. **COMPOSITION/INFORMATION ON INGREDIENTS**

**Substances/Mixtures**

Chemical nature

Cationic polyacrylamide

**Hazardous components**

CHEMICAL NAME	CAS-NO.	CONCENTRATION %
Distillates (petroleum), hydrotreated light	064742-47-8	20 - 24 %
Citric acid monohydrate	5949-29-1	2 - 3 %
Alcohols, C10-16, ethoxylated	68002-97-1	0 – 3.5%
Alcohols, C12-16, ethoxylated	68551-12-2	0 – 3.5%
Alcohols, C12-14, ethoxylated	68439-50-9	0 – 3.5%

Components listed above that have a zero minimum and a common maximum range are interchangeably used components based on availability. Only one of these components is contained in the product up to the maximum amount noted.

4. **FIRST AID MEASURES**

**Description of first aid measures**

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

**Ingestion:** Rinse mouth with water. DO NOT induce vomiting. Consult a physician. Never give anything by mouth to an unconscious person.

**Skin contact:** Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water. Do not reuse contaminated clothing without laundering. Consult a physician if necessary.

**Eye contact:** Rinse immediately and thoroughly with plenty of water for at least 15 minutes, also under eyelids. Keep eye wide open when rinsing. Obtain medical attention.

**Inhalation:** Remove to fresh air. Consult a physician if necessary.

**Most important symptoms and effects, both acute and delayed.**

5. **FIRE FIGHTING MEASURES**

**Suitable Extinguishing Media:** Use water spray, carbon dioxide, or dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media:** Do not use a solid water stream as it may scatter and spread fire.

**Special Hazards arising from the substance or mixture:** Contaminated surfaces will be extremely slippery. Spills are very slippery when wet.

**Special protective actions for fire-fighters:** Firefighters, and others exposed, wear self-contained breathing apparatus and protective suit. Wear full firefighting protective clothing. Use NIOSH/MSHA approved respiratory protection. For personal protection see Section 8.

**Further information:** In the event of fire, cool containers/tanks with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. **ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin, eyes and clothing. Where the exposure level is not known, wear approved, positive pressure, self-contained respirator. Where the exposure level is known, wear approved respirator suitable for the level of exposure. For personal protection refer to Section 8 (Exposure Controls/Personal Protection) for appropriate personal protective equipment. Use chemical resistant boots.

**Environmental precautions**

Should not be released into the environment.

**Methods and materials for containment and cleaning up**

Hazard of slipping on spilt product. Soak up with inert absorbent material. Shovel into suitable container for disposal. Flush with plenty of water. Spill area should be re-cleaned in case slipperiness remains.

**7. HANDLING AND STORAGE**

For personal protection see Section 8. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**Conditions for safe storage, including any incompatibilities**

Store at room temperature in the original container. Flashpoint determination was performed using a Pensky Martens type closed cup method. The method indicates a flash point greater than 93.3 °C (200°F). Although there was no flashpoint detected below 93.3 °C (200°F) some flammable vapours were evolved during the test as evidenced by the enlargement of the flame. Therefore caution should be exercised during storage and handling. Do not freeze. Keep containers tightly closed in a dry, cool and well-ventilated place.

**Materials for packaging**

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

**Material to avoid:**

Strong oxidizing agent.

Storage temperature: 39.2 – 89.6 °F

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Components with workplace control parameters**

Components	CAS-No.	Value	From of exposure	Control parameters	Update	Basis
Distillates (petroleum), hydrotreated light	64742-47-8	TWA	Vapour	200 mg/m <sup>3</sup>	2006-11-29	CA BC OEL
		TWA		197ppm 1200 mg/m <sup>3</sup>		

**Appropriate Engineering controls:**

Avoid contact with skin, eye and clothing. Do not breathe vapours, aerosols. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking, or smoking. Wash hands before breaks and immediately after handling the product. Ensure adequate ventilation. Ensure that eyewash stations and safety showers are close to workstation location. Keep away from tobacco products.

**Individual protection measures, such as personal protective equipment**

**Respiratory protection:**

Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

**Hand protection**

Glove material: chemical resistant 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. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. 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.

**Eye protection:**

Tightly fitting safety goggles. Ensure that eyewash equipment and safety shower are close to the workstation location.

**Skin/Body protection:**

Avoid skin, eyes, and clothing contact. Chemical resistant protective clothing, including long sleeved clothing.

**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.

**Environmental exposure controls**

No data available

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

Physical state:	liquid, viscous
Odor:	slight hydrocarbon-like
Color:	off-white
Melting point/range:	Not applicable
Initial Boiling Point/Range:	212 °F aqueous phase
Flash point:	>199.4 °F (closed cup) (Pensky-Martens) >93 °C (closed cup)
Evaporation rate:	No data available
Vapor Pressure:	Similar to water
Relative vapor density:	like water
Density:	Similar to water
pH:	3-4 (as aqueous solution)
Solubility in Water:	Limited by viscosity
Explosive properties	
Limits Lower/Upper):	Not available
Decomposition temp:	Not available
Partition coefficient:	
n-octanol/water:	Not applicable
Surface tension:	No data available
Viscosity kinematic:	>7 mm <sup>2</sup> /s (104°F)
Oxidizing potential:	The substance or mixture is not classified as oxidizing.
Saturation in air (% vol.):	No data available
Surface tension:	No data available

**10. STABILITY AND REACTIVITY**

**Reactivity:** stable under recommended storage conditions.

**Chemical stability:** No decomposition if stored and applied as directed.

**Possibility of hazardous reactions**

Hazardous reactions: hazardous polymerization does not occur.

**Conditions to avoid**

Conditions to avoid: Stable under recommended storage conditions.

**Incompatible materials**

Material to avoid: Strong oxidizing agents.

**Hazardous decomposition products**

Hazardous decomposition: Products: Carbon monoxide, carbon dioxide, Ammonia, oxides of nitrogen, Hydrogen chloride

**Thermal decomposition:** No data available

**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: > 5,000 mg/kg Remarks: estimated

**Acute oral toxicity**

**Distillates (petroleum), hydrotreated light:**

LD50/Rat: > 5,000 mg/kg

<b>Acute inhalation toxicity</b>	LD50/Rat/4h/ >20mg	Remarks: estimated
<b>Acute inhalation toxicity</b>	<b>Distillates (petroleum), hydrotreated light:</b>	
	LC50/Rat/4h/ >5.2 mg/l	
<b>Acute dermal toxicity</b>	LD50/Rabbit/> 2,000 mg/kg	Remarks: estimated
<b>Acute dermal toxicity</b>	<b>Distillates (petroleum), hydrotreated light:</b>	
	LD50/Rabbit/> 2,000 mg/kg	
<b>Skin corrosion/irritation</b>	Remarks: The toxicological data has been taken from products of similar composition.	
	<b>Conclusion:</b> Irritating to skin.	
<b>Serious eye damage</b>		
<b>/eye irritation</b>	Remarks: The toxicological data has been taken from products of similar composition.	
	Conclusion: No eye irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Skin sensitization</b>	Conclusion: Not sensitizing.	
<b>Skin sensitization</b>	<b>Distillates (petroleum), hydrotreated light:</b>	
	Conclusion: This substance is not classified as a sensitizer.	
<b>Germ cell mutagenicity</b>		
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.	
<b>Carcinogenicity</b>	<b>Distillates (petroleum), hydrotreated light:</b>	
	Not classified by IARC or NTP.	
<b>Reproductive toxicity</b>		

## 12. ECOLOGICAL INFORMATION

### **Ecotoxicity effects**

#### **Aquatic toxicity**

Remarks: This material is not classified as dangerous for the environment. The effects on aquatic organisms are due to an external (non-systemic) mode of action and are significantly reduced (by a factor of 7-20) within 30 minutes due to the binding of the product to dissolved organic carbon and inorganic sorbents such as clays and silts. Ecotoxicological information provided is based on a structurally or compositionally similar product.

LC50/96h/(*Branchydanio rerio*)Zebra fish/Acute toxicity/OCEDTest Guideline 203:>1-10 mg/l fresh water  
EC50/48h/(*Daphnia magna*) Water Flea (Immobilization/OECD Test Guideline 202: >10 – 100mg/l  
IC50/72h/ Algae/Growth inhibition/OECD Test Guideline 201:

Test is not appropriate due to the flocculating characteristics of the product.

**Toxicity to other organisms:** No data available.

#### **Persistence and degradability:**

Biological degradability: Modified Sturm TEST/OECD Test Guideline 301B:

The polymeric ingredient is not readily biodegradable, but degradable by hydrolysis.

#### **Biological degradability:**

**Bioaccumulative potential:** Bioaccumulation is unlikely. Because of the high molecular weight of the polymer diffusion through biological membranes is very small.

Partition coefficient: n-octanol/water: Not applicable

#### **Mobility in soil**

Water solubility: Limited by viscosity.

Surface tension: No data available

**Other adverse effects:** No data available

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

## 13. DISPOSAL CONSIDERATIONS

**Product**

Recycling, recovery and reuse of materials is recommended if permitted by regulations. If recycling is not practicable, dispose of in compliance with local regulations. Incineration is recommended.

EPA Hazardous Waste- NO

**Contaminated packaging**

Dirty package must be disposed of in the same way as the product itself.

**14. 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.

**Special precautions for user**

None known

**15. REGULATORY INFORMATION**

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

**SARA Title III Section 311 Categories:**

Immediate (Acute) Health Effects: Yes

Delayed (Chronic) Health Effects: No

Fire Hazard: No

Sudden Release of Pressure Hazard: No

Reactivity Hazard: No

**SARA 302 Extremely Hazardous Substances**

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

None present

**SARA 313- Specific Toxic chemical Listings**

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

None present.

**California Proposition 65**

Acrylamide (79-06-1) < 0.1 %

Remarks: This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects of other reproductive harm.

**Notification status:**

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

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

China: All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese Inventory.

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

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

Taiwan: This product's Taiwan Toxic Chemical Substances Control Act Inventory status has NOT been determined.

### **OTHER INFORMATION**

#### **NFPA HAZARD RATING (National Fire Protection Association)**

**Health 2-** Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

**Fire 1** – Materials that must be preheated before ignition can occur.

**Reactivity 0** –Materials that in themselves are normally stable, even under fire exposure conditions.

#### **HMIS Rating:**

**Health: 2**

**Flammability: 1**

**Reactivity: 0**

**Training advice: Read the Safety Data Sheet before using the product.**

**DATE ISSUED: 03/20/2015**

**DATE REVISED: 03/20/2015**

**Revision number: 0**

### **OTHER INFORMATION**

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