



# Organic Cationic Emulsion Solve 125

## Material Safety Data Sheet

Date Issued: 11/05/2009

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **SOLVE 125**  
CHEMICAL FAMILY: Cationic Polymer  
MOLECULAR FORMULA Polymer

COMPANY: **WaterSolve, LLC, 4964 Starr S.E. Grand Rapids, MI 49546, 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. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA Regulated Components

Component	CAS NO.	%	OSHA (pel)	AGGIH (TLV)
Petroleum distillate	064742-47-8	22-23	500 ppm 1200mg/m <sup>3</sup>	(skin)
Hydrotreated light			165ppm (Supplier)	
Alcohols (C10-16)	68002-97-1	0-4.5	N/A	N/A
Alcohols ethoxylated (12-16)	68551-12-2	0-4.5	N/A	N/A
C12-C14 Alcohol ethoxylated	68439-50-9	0-4.5	N/A	N/A

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

Appearance and odor: Greenish-white liquid: slight hydrocarbon odor

Statement of Hazard: **WARNING! Causes Skin Irritation; May cause Eye Irritation**

#### Potential Health effects

Effects of overexposure:

Direct contact with this material may cause moderate skin and mild eye irritation. Overexposure to vapor may cause respiratory tract irritation and central nervous system depression. Refer to section 11 for toxicology information on the regulated components of this product. The acute oral (rat) LD50, acute dermal (rabbit) LD50 and 4-hour inhalation LC50 (rat) value for this material are 5,000 mg/kg and greater than 2,000 mg/kg and >20mg/L, respectively.

### 4. FIRST AID MEASURES

Ingestion: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Skin Contact: Remove contaminated clothing and shoes without delay. Do not reuse contaminated clothing and shoes without laundering. Wash immediately with plenty of water. Do not reuse contaminated clothing

without laundering. Get medical attention if pain of irritation persists after washing or if signs and symptoms of overexposure appear.

Eye Contact:

Rinse immediately with plenty of water for at least 15 minutes.

Inhalation:

Remove to fresh air. If breathing is difficult, give oxygen. Obtain medical advice if there are persistent symptoms.

## 5. **FIRE FIGHTING MEASURES**

**Suitable Extinguishing Media:**

Use water spray, carbon dioxide or dry chemical.

**Protective Equipment:**

Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (exposure Controls/Personal Protection)

**Special Hazards:**

Keep containers cool by spraying with water if exposed to fire.

**Mechanical/Static Sensitivity Statements:**

None

## 6. **ACCIDENTAL RELEASE MEASURES**

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Personal precautions:

Where exposure level is not known, wear NIOSH approved, positive pressure, self-contained respirator.

Where exposure level is known, wear NIOSH approved respirator suitable for level of exposure. In addition to the protective clothing/equipment in Section 8, wear impervious boots.

Methods For Cleaning Up:

Products may cause a slip hazard. Spilled material should be absorbed onto an inert material and scooped up. Flush spill area with water. If slipperiness remains apply more dry-sweeping compound.

## 7. **HANDLING AND STORAGE**

Handling

Precautionary Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling

Special Handling Statements: None

STORAGE:

To avoid product degradation and equipment corrosion, do not use iron, copper or aluminum containers or equipment. Flashpoint determinations on materials of this type are required by certain regulations and scientific standards to be performed using a Pensky-Martens type closed cup test method. This method indicates a flash point greater than 93.3C (200F). Although there was no flashpoint detected below 93.3C (200F) by the Pensky-Martens Closed Tester method, some flammable vapors were evolved during the test as evidenced by the enlargement for the test flame. Therefore, caution should be excised during storage and handling.

Storage Temperature: room temperature

Reason: integrity

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### Engineering Measures:

Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure.

#### 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.

#### Eye Protection:

Wear eye/face protection such as chemical splash proof goggles or face shield. Eyewash equipment and safety shower should be provided in areas of potential exposure.

#### Skin Protection:

Avoid skin contact. Wear impermeable gloves and suitable protective 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:	greenish-white, viscous, opaque liquid; slight hydrocarbon odor
Boiling Point:	Aqueous phase 100 °C; 212°F
Melting Point:	Not available
Vapor Pressure:	Similar to water
Specific Gravity:	~1.02
Vapor Density:	Similar to water
% Volatile (By Wt):	~57
pH:	3-6 (upon dilution in water)
Saturation in Air (% by Vol):	Not applicable
Evaporation Rate:	Not available
Solubility in Water:	Limited by viscosity
Volatile Organic Content:	22% (g/g)
Flash point:	>93°C 200°F closed cup
Flammable Limits (% by vol):	Not available
Autoignition temp:	Not available
Decomposition temp:	Not available
Odor Threshold	Not available
Partition coefficient (n-octanol/water)	Not available

## 10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to avoid:	None known
Polymerization:	Will not occur
Conditions to Avoid:	None known
Materials to avoid:	strong oxidizing agents

Hazardous decomposition Products:	Oxides of nitrogen carbon monoxide Carbon dioxide Ammonia Hydrogen chloride
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## 11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under Section 3.

Toxicological information on the OSHA regulated components of this product is as follows:

C12-14 alcohol ethoxylated toxicological properties have not been fully investigated. The oral LD50 (rat) of this mixture is expected to be consistent with the chemical family of ethoxylated alcohol surfactants and range from 1.6 to 2.5 g/kg. The acute dermal (rabbit) LD50 value is estimated to be >2.0 g/kg. One expected component of this mixture was severely irritating to rabbits eyes (undiluted, Draize score=60). This mixture is expected to be moderately irritating to skin, based on data reported for C9-C11 6EO: (primary irritation index) PII=5.3/8.

Petroleum distillates, hydrotreated light(CAS#64742-47-8) has acute oral (rat) and dermal (rabbit) LD50 values of >5 g/kg and >3.16 g/kg, respectively. Prolonged or repeated skin contact tends to remove skin oils, possibly leading to irritation and dermatitis. Direct contact may cause eye irritation. Overexposure to high vapor concentrations, >~700PPM, are irritating to the eyes and respiratory tract and may cause headaches, dizziness, drowsiness, and other central nervous system effects, including death. In a 90-day oral gavage (rats) study at 100, 500 and 1000 mg/kg, no treatment related mortalities were observed. There were no significant changes in body weights or food consumption in any dose groups. Increased liver weights were observed in male and female rats a 500 and 1000 mg/kg. Increased kidney weights were observed only in male rats at 500 and 1000mg/kg. Testes weights were significantly elevated in male rats at 1000 mg/kg. Kidney effects indicative of light hydrocarbon nephropathy, occurred in male rat kidneys at all dose levels. Histological findings of hepatocellular hypertrophy were seen in the livers of male rats at 1000mg/kg and in female rats at 500 and 1000 mg/kg. All treatment-related effects were reversible within the 4- week recovery period. Observed kidney effects ( including light hydrocarbon nephropathy and increased kidney weight) are a unique response by male rats to chronic hydrocarbon exposure, which the U> S >EPA has declared no relevant to humans. High-dose liver effects (including hepatocellular, or enlarged liver cells) are a direct consequence of the sustained high-fat hydrocarbon diet. The No observed Adverse Effect Level (NOAEL) for this study was 1000mg/kg.

Alcohols (c10-16), ethoxylated toxicological properties have not been fully investigated. Based on similar materials, the acute oral (rat) LD50 is estimated to range from 1600-2500 mg/kg and the acute dermal (rabbit) LD50 value is estimated to be >2000mg/kg. Similar materials produced severe eye irritation and moderate skin irritation in studies with rabbits.

Alcohols (c12-16), ethoxylated toxicological properties have not been fully investigated. Based on similar materials, the acute oral (rat) LD50 is estimated to range from 1600-2500 mg/kg and the acute dermal (rabbit) LD50 value is estimated to be >2000 mg/kg. Similar materials produced severe eye irritation and moderate skin irritation in studies with rabbits.

California Proposition 65 Warning (applicable in California only)- This product contains (a) chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

## 12. ECOLOGICAL INFORMATION LC50

**This 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 reduce (by a factor of 7-20) within 30 minutes due to binding of the product to dissolved organic and inorganic sorbents such as clays and silts. Acute toxicity tests conducted on the polymer using environmentally representative water gave the following results:**

**ALGAE TEST RESULTS:**

Test: Growth inhibition (OECD 201) Due to the cationicity of the polymer, an algae growth inhibition test is not appropriate.

**FISH TEST RESULTS:**

Test: Acute toxicity, freshwater (OECD 203)

Duration: 96hr

Species: Zebra Fish (Brachydanio rerio) 96 hr LC 50 >1-10 mg/l

**INVERTEBRATE TEST RESULTS:**

Test: Acute immobilization (OECD 202)

Duration: 48hr

Water Flea (Daphnia magna) 48hr EC 50 >10-100 mg/l

**DEGRADATION**

Test: CO2 Evolution: Modified Sturm (OECD 301B)

The polymeric ingredient is not readily biodegradable, but degradable by hydrolysis. The large polymer size is incompatible with transport across biological membranes and diffusion; the bioconcentration factor is therefore considered to be zero.

**13. DISPOSAL CONSIDERATIONS**

The information on RCRA waste classification and disposal methodology provided below applies only to the product, as applied. If the material has been altered or contaminated, or it has exceeded its recommended shelf life, the guidance may be inapplicable. Hazardous waste classification under federal regulations (40 CFR Part 261 et seq) is dependent upon whether a material is a RCRA "listed hazardous waste" or has any of the four RCRA "hazardous waste characteristics." Refer to 40 CFR Part 261.33 to determine if a given material to be disposed of is a RCRA "listed hazardous waste"; information contained in Section 15 of this MSDS is not intended to indicate if the product is a "listed hazardous waste." RCRA Hazardous Waste Characteristic. There are four characteristics defined in 40 CFR Section 261.21-61.24: Ignitability, Corrosivity, Reactivity, and Toxicity. To determine Ignitability, See Section 5 of this MSDS (flash point). For Corrosivity, see sections 9 and 14 (pH and DOT corrosivity). For Reactivity, see Section 10 (incompatible materials). For Toxicity, see Section 2 (composition). Federal regulations, may also apply to the classification of the material to be disposed. The company encourages the recycle, recovery and reuse of materials classified as RCRA hazardous wastes to be disposed of by thermal treatment or incineration at EPA approved facilities. The company has provided the foregoing for information only; the person generating the waste is responsible for determining the waste classification and disposal method.

**14. TRANSPORT INFORMATION**

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

**USDOT**

Proper Shipping Name: Not applicable/Not regulated

Hazardous Substances: Not applicable

**TRANSPORT CANADA**

Proper Shipping Name: Not applicable/Not regulated

**ICAO/IATA**

Proper Shipping name: Not applicable/Not regulated

Packing instructions/maximum net quantity per package:

Passenger Aircraft:

Cargo Aircraft:

**IMO**

Proper shipping name: Not applicable/Not regulated

**15. REGULATORY INFORMATION**  
**INVENTORY INFORMATION**

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).

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

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

**OTHER ENVIRONMENTAL INFORMATION**

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product. This product does not contain any components regulated under sections of the EPA.

Product Classification under section 311 of SARA
Acute (Y)

**16. 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.

REASON FOR ISSUE: New Format

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.