Organic Cationic Emulsion
Solve 122

Material Safety Data Sheet

Date Issued: 08/19/2008
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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **SOLVE 122**
CHEMICAL TYPE: Cationic Polyacrylamide in water-in-oil emulsion
CHEMICAL FAMILY: Cationic polymer
Molecular Formula: Polymer

COMPANY: WaterSolve, LLC, 4694 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 Hydrotreated light	064742-47-8	25	500 ppm 1200mg/m3 165ppm (Supplier)	(hud)

3. HAZARDS IDENTIFICATION

Emergency Overview
Appearance and odor: White, viscous liquid, 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. Refer to section 11 for toxicology information on the regulated components of this product.The acute oral (rat) LD 50 and , acute dermal (rabbit) LD50 values are estimated to be greater than 5,000mg/kg, respectively. The 4 hour inhalation LC50 (rat) value is estimated to be greater than 20 mg/L.

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. 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. Material is not expected to be harmful if inhaled.

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: store at 4.4- 32.2℃ 40- 90 ℉
Reason: integrity

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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 color	white, viscous liquid
Odor:	hydrocarbon
Boiling Point:	Similar to water
Melting Point:	Similar to water
Vapor Pressure:	Similar to water
Specific Gravity:	~1.0
Vapor Density:	Similar to water
% Volatile (By Wt):	~20%
pH:	4-6 (aqueous solution)
Saturation in Air (% by Vol):	Not applicable
Evaporation Rate:	Not available
Solubility in Water:	Limited by viscosity
Volatile Organic Content	20%
Partition coefficient (n-octanol/water)	Not available
Flash point:	>200 ^{o}F; 93 ^{o}C (method: Pensky-Martens Closed Cup)
Flammable Limits (% by vol):	Not available
Autoignition temp:	Not available
Decomposition temp:	Not available
Odor Threshold	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to avoid:	None known
Polymerization:	Will not occur
Conditions to Avoid:	None known
Incompatible Materials:	strong bases or amines, oxidizing agents.
Hazardous Decomposition Products:	carbon monoxide, Carbon dioxide, Ammonia, Oxides of nitrogen

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:

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.

Petroleum distillates, hydrotreated light (Cas.# 64742-47-8) has acute oral (rat) and dermal (rabbit) LD50 values of >5g/kg and >3.16 g/kg, respectively. Prolonged or repeated skin contact tends to remove skin oils, possible leading to irritation and dermatitis. Direct contact may cause eye irritation. Overexposure to high vapor concentrations, >~700 ppm, are irritating to the eyes and respiratory tract and may cause headaches, dizziness, drowsiness, and other central nervous system effects, including death. Aspiration of minute amounts during ingestion or vomiting may cause mild to severe pulmonary injury and possible death. In a 90-day oral gavage (rats) study at 100, 500, or 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. Testes weights were significantly elevated in male rats at 1000 mg/kg. Kidney effects, indicative of light hydrocarbon nephropathy, occurred in male rats kidneys at all dose levels. Histological findings of hepatocellular hypertrophy were seen in the livers of mal rats at 1000 mg/kg and in female rats of 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 in the U.S. EPA has declared 'not relevant to humans'. High-dose liver effects (including hepatocellular hypertrophy, 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 1000 mg/kg.

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 LC 50

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 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:
Zebra Fish (Brachydanio rerio) 96 hr LC 50 >1-10 mg/l Information bases on a structurally similar material.

Invertebrate Test Results:
Water Flea (Daphnia magna) 48hr EC 50 >10-100 mg/l Information bases on a structurally similar material.

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 indicated 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 are subject to change. State and local requirements, which may differ from or be more stringent that the federal regulations, may also apply to the classification of the material if it is to be disposed. Federal regulations, may also apply to the classification of the material to be disposed. The company encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste. The company recommends that organic 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. All local and federal regulations should be followed.

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(AICS) 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

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 INFORMATION

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 HAZARD CLASSIFIACTION UNDER SECTION 311 OF SARA

- Acute

- 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.