



Solve 9406

Safety Data Sheet

Date Issued: 01/21/2016

Date Revised: 01/21/2016

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Solve 9406
Use of Substance/Mixture: Flocculating agent
Company Identification: WaterSolve, LLC
5031 68th Street
Caledonia, Michigan 49316, USA
www.gowatersolve.com
For Product Information: 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)

29 CFR 1910.1200 (OSHA HazCom 2012)

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Carcinogenicity (Dermal): Category 2

GHS Label element

Hazard pictograms:



Signal word: Warning

Hazard statements: Suspected of causing cancer in contact with skin.

Precautionary Statements:

Prevention:

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:

If exposed or concerned: Get medical advice/attention.

Storage:

Store locked up.

Disposal:

Dispose of contents/container to an approved waste disposal plant.

Other hazards: None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Hazardous components

CHEMICAL NAME	CAS-No.	CLASSIFICATION	CONCENTRATION (%)
CITRIC ACID, MONOHYDRATE	5949-29-1	Eye Irrit. 2A; H319	>= 1.50 - < 5.00
UREA	57-13-6	Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)	>= 1.50 - < 5.00
COCO DIETHANOLAMIDE	68603-42-9	Skin Irrit. 2; H315 Eye Irrit. 2A; H319	>= 0.10 - < 0.50

Trade Secret Composition – conceal concentration

4. FIRST AID MEASURES

General Advice: No hazards which require special first aid measures.

If swallowed: Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

In case of Skin Contact: First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.

In case of Eye Contact: Remove contact lenses. Protect unharmed eye.

If Inhaled: If breathed in, move person into fresh air. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed:

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), headache, dizziness. Suspected of causing cancer in contact with skin.

Notes to physician: No hazards which require special first aid measures.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, foam.

Specific hazards during firefighting: Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products: Carbon dioxide and carbon monoxide, Nitrogen oxides (NOx), hydrogen chloride, acid vapors, Sodium oxides, ammonia

Specific extinguishing methods: Product is compatible with standard fire-fighting agents.

Further information: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special Protective Equipment for fire-fighters:

In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Avoid dust formation. Avoid breathing dust. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions:

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up:

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers, for disposal.

Other information: Comply with all applicable federal, state and local regulations.

7. HANDLING AND STORAGE

Advice on safe handling:

Avoid dust formation. Container hazardous when empty. Smoking, eating, and drinking should be prohibited in the application area. For personal protection see Section 8.

Conditions for safe storage:

Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations/working materials must comply with the technological safety standards.

Materials to avoid: No materials to be especially mentioned.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters/Permissible concentration	Basis
UREA	57-13-6	TWA	10 mg/m ³ Total particulate	WEEL
COCO DIETHANOLAMIDE	68603-42-9	ST ESL	100 µg/m ³	TX ESL
		AN ESL	10 µg/m ³	TX ESL

Engineering measures:

Provide appropriate exhaust ventilation at places where dust is formed. General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and / or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection:

No personal respiratory protective equipment normally required.

Eye protection

Safety glasses.

Skin and body protection

Wear resistant gloves (consult with your safety equipment supplier). Wear as appropriate: safety shoes.

Hygiene measures: Avoid breathing dust.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	solid
Color:	white, light yellow
Odor:	amine-like
Odor threshold:	No data available
pH:	4, Concentration: 10 g/l (20°C)
Melting point/freezing point:	Not applicable
Boiling Point/boiling range:	Not applicable
Flash point:	Not applicable
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper explosion limit:	No data available
Lower explosion limit:	30,000 mg/m ³
Vapour pressure:	0.00007 hPa Calculated Vapor Pressure
Relative vapour Density:	No data available
Relative density:	No data available
Density:	0.7 g/cm ³
Bulk Density:	550 - 750 kg/m ³
Solubility in Water:	Soluble
Solubility in other solvents:	No data available
Partition coefficient: n- Octanol/water:	No data available
Auto-ignition temperature:	> 400 °C
Thermal decomposition:	> 200 °C
Viscosity, dynamic	200 mPa.s
Viscosity, kinematic:	No data available
Oxidizing properties:	No data available

10. STABILITY AND REACTIVITY

Reactivity:	No decompositions if stored and applied as directed.
Chemical Stability:	Stable under recommended storage conditions.
Possibility of Hazardous reactions:	Product will not undergo hazardous polymerization.
Conditions to avoid:	Keep away from heat, flames, sparks and other ignition sources.
Incompatible Materials:	Chlorine, nitrates, acids, metals, Strong reducing agents, Strong oxidizing agents, strong bases
Hazardous decomposition products:	acid vapors, carbon dioxide and carbon monoxide, hydrogen chloride, nitrogen oxides (NOx), sodium oxides, ammonia

11. **TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure: Inhalation, skin contact, eye contact, ingestion

Acute toxicity

Not classified based on available information.

Components:

CITRIC ACID, MONOHYDRATE

Acute oral Toxicity:

LD 50 (Rat): 3g/kg

COCO DIETHANOLAMIDE:

Acute oral toxicity:

LD 50 (Rat): > 5,000 mg/kg

Acute dermal toxicity:

LD 50 (Rabbit): > 2g/kg

Assessment: Not classified as acutely toxic by dermal absorption under GHS.

Skin corrosion/irritation

Not classified based on available information.

Components:

CITRIC ACID, MONOHYDRATE

Result: Slightly irritating to skin

UREA:

Result: Not irritating to skin.

COCO DIETHANOLAMIDE:

Result: Irritating to skin.

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Remarks: Unlikely to cause eye irritation or injury. Product dust may be irritating to eyes, skin and respiratory system.

Components:

CITRIC ACID, MONOHYDRATE

Result: Severely irritating to eyes.

UREA:

Result: Not irritating to eyes.

COCO DIETHANOLAMIDE:

Result: Severely irritating to eyes.

Respiratory or skin sensitization:

Skin sensitization: Not classified based on available information

Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Components:

UREA:

Genotoxicity in vitro:

Test Type: Ames test

Result: Negative

Carcinogenicity:

Suspected of causing cancer in contact with skin.

Components:

COCO DIETHANOLAMIDE:

Carcinogenicity- Assessment: Limited evidence of carcinogenicity in animal studies (dermal)

Reproductive toxicity:

Not classified based on available information

STOT – single exposure:

Not classified based on available information

STOT – repeated exposure:

Not classified based on available information

Aspiration toxicity:

Not classified based on available information

Further information:

Product:

Remarks: No data available

Carcinogenicity:

IARC: Group 2B: Possibly carcinogenic to humans
COCO DIETHANOLAMIDE 68603-42-9

OSHA:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP:

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish:

LC 50 (Danio rerio (Zebra fish)): > 1 - 10 mg/l
Exposure time: 96hr.
Method: OECD Test Guideline 203
Remarks: Based on a similar product formulation.

Components:

CITRIC ACID, MONOHYDRATE:

Toxicity to fish:

LC50 (Carassius auratus (goldfish)): 400-706 mg/l
Exposure time: 96 h

UREA:

Toxicity to fish:

LC50 (Leuciscus idus (Golden orfe)): >6,810 mg/l
Exposure time: 96 h

LC50 (Poecilia reticulata (guppy)): 17,500 mg/l
Exposure time: 96 h

**Toxicity to daphnia and other
Aquatic invertebrates:**

EC50 (Water flea (Daphnia magna)): 3,910 mg/l

Exposure time: 48 hr.
Method: Static

COCO DIETHANOLAMIDE:

Toxicity to fish:

LC50 (Danio rerio (zebra fish)): 3.6 mg/l
Exposure time: 96h
Test type: Semi-static test

**Toxicity to daphnia and other
Aquatic invertebrates:**

EC50 (Water flea (Daphnia pulex)): 2.15 mg/l
Exposure time: 48 h
Test type: Static test

Toxicity to algae:

EC50 (Desmodesmus subspicatus (green algae)): 2.2 mg/l
Exposure time: 72h

Persistence and degradability

Components:

UREA:

Biodegradability:

Remarks: Expected to be ultimately biodegradable

COCO DIETHANOLAMIDE:

Biodegradability:

Result: Readily biodegradable

Bioaccumulative potential

Components:

UREA:

Bioaccumulation:

Species: Green algae (Chlorella fusca vacuolata)
Bioconcentration factor (BCF): 11,700
Exposure time: 24 h
Concentration: 0.05 mg/l
Method: Static

Partition coefficient: n-
Octanol/water:

log Pow: -2.11

Mobility in soil:

Components:

No data available

Other adverse effects:

No data available

Product:

Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Disposal methods:

General Advice: The product should not be allowed to enter drains, water courses or the soil. Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging: Empty remaining contents. Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. **TRANSPORT INFORMATION**
International Transport Regulations
REGULATION

ID NUMBER	PROPER SHIPPING NAME	*Hazard Class	Subsidiary hazards	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
-----------	----------------------	---------------	--------------------	---------------	------------------------------

U.S. DOT - ROAD

UN 3077	Environmentally hazardous Substance, solid, n.o.s. (1-PROPANAMINIUM, N,N,N-TRIMETHYL-3-[(1-OXO-2-PROPWNYL) AMINO]-, CHLORIDE, POLYMER WITH 2-PROPENAMIDE	9		III	
---------	--	---	--	-----	--

U. S. DOT RAIL

UN 3077	Environmentally hazardous Substance, solid, n.o.s. (1-PROPANAMINIUM, N,N,N-TRIMETHYL-3-[(1-OXO-2-PROPWNYL) AMINO]-, CHLORIDE, POLYMER WITH 2-PROPENAMIDE	9		III	
---------	--	---	--	-----	--

U.S. DOT - INLAND WATERWAYS

UN 3077	Environmentally hazardous Substance, solid, n.o.s. (1-PROPANAMINIUM, N,N,N-TRIMETHYL-3-[(1-OXO-2-PROPWNYL) AMINO]-, CHLORIDE, POLYMER WITH 2-PROPENAMIDE	9		III	
---------	--	---	--	-----	--

TRANSPORT CANADA-ROAD

UN 3077	Environmentally hazardous Substance, solid, n.o.s. (1-PROPANAMINIUM, N,N,N-TRIMETHYL-3-[(1-OXO-2-PROPWNYL) AMINO]-, CHLORIDE, POLYMER WITH 2-PROPENAMIDE	9		III	
---------	--	---	--	-----	--

TRANSPORT CANADA – RAIL

UN 3077	Environmentally hazardous Substance, solid, n.o.s. (1-PROPANAMINIUM, N,N,N-TRIMETHYL-3-[(1-OXO-2-PROPWNYL) AMINO]-, CHLORIDE, POLYMER WITH 2-PROPENAMIDE	9		III	
---------	--	---	--	-----	--

INTERNATIONAL MARITIME DANGEROUS GOODS

UN 3077	Environmentally hazardous Substance, solid, n.o.s. (1-PROPANAMINIUM, N,N,N-TRIMETHYL-3-[(1-OXO-2-PROPWNYL) AMINO]-, CHLORIDE, POLYMER WITH 2-PROPENAMIDE	9		III	Marine Pollutant:(Cationic Acrylic Copolymer)
---------	--	---	--	-----	---

INTERNATIONAL AIR TRANSPORT ASSOCIATION – CARGO

UN 3077	Environmentally hazardous Substance, solid, n.o.s. (1- PROPANAMINIUM, N,N,N- TRIMETHYL-3-[(1-OXO-2- PROPWNYL) AMINO]-, CHLORIDE, POLYMER WITH 2-PROPENAMIDE	9	III
---------	---	---	-----

INTERNATIONAL AIR TRANSPORT ASSOCIATION – PASSENGER

UN 3077	Environmentally hazardous Substance, solid, n.o.s. (1- PROPANAMINIUM, N,N,N- TRIMETHYL-3-[(1-OXO-2- PROPWNYL) AMINO]-, CHLORIDE, POLYMER WITH 2-PROPENAMIDE	9	III
---------	---	---	-----

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN 3077	SUSTANCIA SOLIDA POTENCIALMENTE PELIGROSA PARA EL MEDIO AMBIENTE, N.E.P. (1- PROPANAMINIUM, N,N,N- TRIMETHYL-3-[(1-OXO-2- PROPWNYL) AMINO]-, CHLORIDE, POLYMER WITH 2-PROPENAMIDE	9	III
---------	---	---	-----

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		yes
------------------	--	-----

Dangerous good descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

**EPCRA – Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ	Calculated product RQ (lbs)
DIETHANOLAMIDE	111-42-2	100	546448.087432

SARA 311/312 Hazards: Chronic Health Hazard

SARA 313

Component(s) SARA 313: 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.

California Prop 65: Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA: On TSCA Inventory
 DSL: All components of this product are on the Canadian DSL.
 AUSTR: On the inventory, or in compliance with the inventory.
 ENCS: On the inventory, or in compliance with the inventory.
 KECL: On the inventory, or in compliance with the inventory.

PHIL: On the inventory, or in compliance with the inventory.
IECSC: On the inventory, or in compliance with the inventory.

Inventories:

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZLoC (New Zealand), PICCS (Philippines), TSCA (USA)

16. OTHER INFORMATION

Full text of H-Statements referred to under Sections 2 and 3.

OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. 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. 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
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
(WAF): water-accommodated fraction