



Solve 9228

Safety Data Sheet

Date Issued: 12/20/2018

Date Revised: 05/07/2018

1. IDENTIFICATION

Product Name: Solve 9228
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)

Recommended use of the chemical and restrictions on use

2. HAZARDS IDENTIFICATION

GHS Classification in accordance with 29 CFR 1910.1200

Eye irritation: Category 2A

GHS Label Elements
Hazard pictograms:



Signal Word: Warning

Hazard Statements: H319 Causes serious eye irritation.

Precautionary Statements:

PREVENTION: P264 Wash skin thoroughly after handling.
P280 Wear eye protection/face protection

RESPONSE: P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.

Other Hazards: None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Hazardous Components

Chemical Name	CAS#	Classification	CONCENTRATION %
Alkane, C16-20-Iso	Trade Secret	Asp. Tox. 1; H304	>= 20 - < 30
ALKOXYLATED ALCOHOL	Trade Secret	Eye Dam. 1; H318	>= 1.5 - < 3

4. FIRST AID MEASURES

General Advice: Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.

If swallowed: If swallowed, call a poison center/doctor if you feel unwell. 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: Immediately flush eyes with plenty of water. 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). Causes serious eye irritation.

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, carbon dioxide (CO₂) or dry chemical.

Unsuitable extinguishing media: High volume water jet

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

Hazardous combustion products: Carbon dioxide (CO₂), Carbon monoxide, Nitrogen oxides (NO_x)

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 a fire, wear self-contained breathing apparatus.

6. **ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures: Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Comply with all applicable federal, state, and local regulations.

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:

Soak up with inert absorbent material, (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. **HANDLING AND STORAGE**

Advice on protection against fire and explosion: Normal measures for preventive fire protection.

Advice on safe handling: Do not breathe vapours/dust. Do not smoke. Container hazardous when empty. Avoid contact with skin and eyes. Eating, drinking or smoking should be prohibited in the application area. For personal protection see Section 8. Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. 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.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures:

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:

Hand protection: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection: Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection: Wear resistant gloves (consult your safety equipment supplier). Wear as appropriate: impervious clothing, safety shoes. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures: Wash hands before breaks and at the end of the workday. Do not eat, drink or smoke when using this product.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

Appearance:	liquid
Color:	white
Odor:	hydrocarbon-like
Odour threshold:	No data available

pH:	3.7 (20 °C)
	Concentration: 10 g/l
Melting point/freezing point:	< -15 °C
Boiling Point/boiling range:	> 100 °C
Flash point:	> 100 °C
Evaporation Rate:	< 1
Flammability (solid, gas):	No data available
Self-ignition:	No data available
Upper Explosion limit:	No data available
Lower Explosion limit:	No data available
Vapor Pressure:	ca. 3 hPa Calculated Vapor Pressure
Relative vapor density:	No data available
Relative density:	1.03 (20 °C)
Density:	ca. 1.03 g/cm ³ (20 °C)
Solubility in Water:	Soluble
Solubility in other solvents:	No data available
Partition coefficient:	
n-octanol/water:	No data available
Auto-ignition temperature:	> 200°C
Decomposition temperature:	No data available
Viscosity, dynamic	< 4,000 mPa.s (20°C)
Viscosity, kinematic	> 20.5 mm ² /s (40°C)
	Based on a similar product formulation.
Oxidizing properties:	No data available

10. STABILITY AND REACTIVITY

Reactivity:	No decomposition 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. Heat, flames, and sparks.
Incompatible Materials:	Acids, Strong oxidizing agents
Hazardous decomposition products:	Carbon dioxide (CO ₂), carbon monoxide, nitrogen oxides (NO _x)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity LD 50 (Mouse): >5,000 mg/kg

Acute dermal toxicity Acute toxicity estimate: >5,000 mg/kg
Method: Calculation method

Components:

ALKANE, C16-20-Iso

Acute oral toxicity:

LC 50 (Rat, male and female): > 10,000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity:

LD 50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: Not classified as acutely toxic by dermal absorption under GHS

ALKOXYLATED ALCOHOL

Acute oral toxicity:

LD 50 (Rat): 2,000 mg/kg

Acute inhalation toxicity:

Remarks: No data available

Acute dermal toxicity:

LD 50 (Rabbit): 2,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Remarks: May cause skin irritation in susceptible persons.

Components:

ALKANE, C16-20-Iso:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Slightly irritating to skin.
GLP: yes

ALKOXYLATED ALCOHOL

Result: not irritating to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks: Vapors may cause irritation to the eyes, respiratory system and the skin.
Causes serious eye irritation.

Components:

ALKANE, C16-20-Iso:

Species: Rabbit
Result: not irritating to eyes.
Method: OECD Test Guideline 405
GLP: no

ALKOXYLATED ALCOHOL

Result: Corrosive

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information

Respiratory sensitization

Not classified based on available information

Components:

ALKANE, C16-20-Iso:

Test type: Maximisation Test

Species: Guinea pig

Method: OECD TEST Guideline 406

Germ cell mutagenicity

Not classified based on available information

Components:

ALKANE, C16-20-Iso:

Genotoxicity in vitro

Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

GLP: yes

Test Type: In vitro mammalian cell gene mutation test

Test species: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

GLP: yes

Test Type: Chromosome aberration test in vitro

Test species: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

GLP: yes

Carcinogenicity:

Not classified based on available information

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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.

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.

Components:

ALKANE, C16-20-Iso:

May be fatal if swallowed and enters airways.

Further information

Product:

Remarks: No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish:

LC 50 (Danio rerio (zebra fish)): Approximate 14 mg/l
Exposure time: 96 hr.
Method: OECD Test Guideline 203
Remarks: Based on a similar product formulation

LC 50 (Cyprinodon variegatus (sheepshead minnow)): >100 mg/l
Exposure time: 96 hr.
Method: EPA-821-R-02-012
GLP: no

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

EC 50 (Water flea (Daphnia magna)): >10 mg/l
Exposure time: 48hr.
Method: OECD Test Guideline 202
Remarks: Based on a similar product formulation.

EC 50 (Mysidopsis bahia (opossum shrimp)): 1.15 mg/l
Exposure time: 48hr.
Method: EPA-821-R-02-012
GLP: no

Ecotoxicology Assessment

Acute aquatic toxicity:

Acute aquatic toxicity Category 2; Toxic to aquatic life.

Chronic aquatic toxicity:

Not classified based on available information.

Components:

ALKANE, C-16-20-Iso:

Toxicity to fish:

LC50 (Danio rerio (zebra fish)): > 0.026 mg/l
Exposure time: 96 hr.
Test Type: semi-static test
Method: Directive 67/548/EEC, Annex V, C.1.
Remarks: No toxicity at the limit of solubility.

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

EC50 (Daphnia (water flea)): > 0.077 mg/l
Exposure time: 48 h
Test type: static test
Method: Directive 67/548/EEC, Annex V, C.2.
Remarks: No toxicity at the limit of solubility.

Toxicity to algae:

ErC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)):
> 0.021 mg/l
Exposure time: 72 hr.
Test type: static test
Method: Directive 67/548/EEC, Annex V, C.3.
GLP: yes

Remarks: No toxicity at the limit of solubility.

NOEC (Desmodesmus subspicatus (Scenedesmus subspicatus)):
> 0.021 mg/l

Exposure time: 72 hr.

Test type: static test

Method: Directive 67/548/EEC, Annex V, C.3.

GLP: yes

Remarks: No toxicity at the limit of solubility.

**Toxicity to daphnia and other
Aquatic invertebrates (Chronic
Toxicity):**

NOEC (Daphnia magna (Water flea)): 100 mg/l

Exposure time: 21 D.

Test type: semi-static test

Analytical monitoring: yes

Method: OECD Test Guideline 211

GLP: yes

Toxicity to microorganisms:

EC 50 (Pseudomonas putida): > 2.0 mg/l

Exposure time: 5.25 h

Test Type: Static

GLP: yes

ALKOXYLATED ALCOHOL

Toxicity to fish:

LC50 (Danio rerio (zebra fish)): 0.876 mg/l

Exposure time: 96 hr.

Test type: semi-static test

Method: Directive 67/548/EEC, Annex V, C.1.

Remarks: Information given is based on data obtained from similar substances.

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

EC50 (Water flea (Daphnia magna)): 0.999 mg/l

Exposure time: 48 h

Test type: static test

Toxicity to algae:

EC50 (Pseudokirchneriella subcapitata (green algae)): 0.41 mg/l

End point: Growth inhibition

Exposure time: 72 hr.

Test type: static test

Method: OECD Test Guideline 201

Remarks: Information given is based on data obtained from similar substances.

Toxicity to fish (Chronic toxicity):

NOEC (Lepomis macrochirus (Bluegill sunfish)): 0.16 mg/l

Exposure time: 10 d

Test Type: flow-through test

**Toxicity to daphnia and other
Aquatic Invertebrates
(Chronic toxicity):**

NOEC (Water flea (Daphnia magna)): 0.77 mg/l

End point: Reproduction Test

Exposure time: 21 d

Test type: flow-through test

Remarks: Information given is based on data obtained from similar substances.

Persistence and degradability

Product:

Biodegradability: Remarks: Readily biodegradable

Stability in water: Remarks: Hydrolyses readily

Components:

ALKANE, C16-20-Iso

Biodegradability: aerobic
Inoculum: activated sludge
Theoretical oxygen demand
Result: Not readily biodegradable.
Biodegradation: 32%
Exposure time: 28 d
Remarks: Not readily biodegradable.
Inherently biodegradable.

ALKOXYLATED ALCOHOL

Biodegradability: Result: Readily biodegradable.
Biodegradation: 95%
Exposure time: 28 d
Method: OECD Test Guideline 301F

Bioaccumulative potential

Components:

ALKANE, 16-20-Iso

**Partition coefficient:
n-octanol/water:** log Pow: 9.5 – 10.1 (26 °C)
Method: OECD Test Guideline 117

Mobility in soil: No data available

Other adverse effects:

Product:

Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues: The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

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. Do not re-use empty containers.

14. **TRANSPORT INFORMATION**

International Transport Regulations

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT /LTD. QTY.
-----------	----------------------	---------------	--------------------	---------------	-----------------------------

Mexican Regulation for the Land Transport of Hazardous Materials and Wastes

	Not dangerous goods				
--	---------------------	--	--	--	--

International Air Transport Association – Passenger

	Not dangerous goods				
--	---------------------	--	--	--	--

International Air Transport Association – Cargo

	Not dangerous goods				
--	---------------------	--	--	--	--

International Maritime Dangerous Goods

	Not dangerous goods				
--	---------------------	--	--	--	--

Transport Canada – Rail

	Not dangerous goods				
--	---------------------	--	--	--	--

Transport Canada – Road

	Not dangerous goods				
--	---------------------	--	--	--	--

U.S. DOT – Inland Waterways

	Not dangerous goods				
--	---------------------	--	--	--	--

U.S. DOT – Rail

	Not dangerous goods				
--	---------------------	--	--	--	--

U.S. DOT – Road

	Not dangerous goods				
--	---------------------	--	--	--	--

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

Marine pollutant		no
------------------	--	----

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

15. **REGULATORY INFORMATION**

EPCRA – Emergency Planning and Community Right-to-Know Act

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards: Serious eye damage or eye irritation

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:

DSL:	This product contains the following components that are not on the Canadian DSL nor NDSL.
AICS:	On the inventory, or in compliance with the inventory.
ENCS:	Not in compliance with the inventory.
KECI:	On the inventory, or in compliance with the inventory.
PICCS:	Not in compliance with the inventory.
IECSC:	On the inventory, or in compliance with the inventory.
TCSI:	Not in compliance with the inventory.
TSCA:	On TSCA Inventory

TSCA List:

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

16. OTHER INFORMATION

Further information:

DATE REVISED: 05/07/2018

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

H304	May be fatal if swallowed and enters airways.
H318	Causes serious eye damage

Full test of other abbreviations

Asp. Tox.	Aspiration Hazard
Eye Dam.	Serious eye damage

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
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