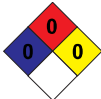


Biofilm Remover

SECTION 1: IDENTIFICATION

- 1.1 GHS Product identifier:** Biofilm Remover
- Other means of identification:**
53032
- 1.2 Recommended use of the chemical and restrictions on use:**
Relevant uses: Water treatment. For professional users/industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:**
Highside Chemicals, Inc.
11114 Reichold Rd.
39503 Gulfport - Mississippi - United States
Phone: 228-896-9220
- 1.4 Emergency phone number:** ChemTel Inc. (800)255-3924, +1 (813)248-0585

SECTION 2: HAZARD(S) IDENTIFICATION

- 2.1 Classification of the substance or mixture:**
NFPA:
Health Hazards: 0
Flammability Hazards: 0
Instability Hazards: 0
Special Hazards: Not applicable (N/A)
29 CFR 1910.1200:
While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
- 2.2 Label elements:**
NFPA:
- 
- 29 CFR 1910.1200:**
None
- 2.3 Hazards not otherwise classified (HNOC):**
Not applicable (N/A)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances:**
Chemical description: Mixture composed of chemical products
Components:
Remaining components are non-hazardous and/or present at amounts below reportable limits. The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200. Therefore, in accordance with Appendix D to § 1910.1200, the product contains:
- | Identification | Chemical name/Classification | Concentration |
|----------------|------------------------------|----------------------|
| CAS: 57-55-6 | Propane-1,2-diol | 10 - <25 % |
- To obtain more information on the hazards of the substances consult sections 11, 12 and 16.
- 3.2 Mixtures:**
Non-applicable

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Biofilm Remover

SECTION 4: FIRST-AID MEASURES

4.1 Description of necessary measures:

Consult a doctor in case of discomfort with this Safety data Sheet.

By inhalation:

In case of symptoms, move the person affected into fresh air.

By skin contact:

In case of contact it is recommended to clean the affected area thoroughly with water and neutral soap. In case of changes to the skin (stinging, redness, rashes, blisters,...), seek medical advice with this Safety Data Sheet

By eye contact:

Rinse with water until the product has been eliminated. In case of problems, consult a doctor with the SDS of this product.

By ingestion/aspiration:

In case of consumption in large quantities, it is recommended to seek medical assistance.

4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Not applicable (N/A)

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable (and unsuitable) extinguishing media:

Suitable extinguishing media:

Product is non-flammable, low risk of fire by the inflammability characteristics of the product in normal conditions of storage, manipulation and use. In the case of the existence of sustained combustion as a result of improper manipulation, storage or use any type of extinguishing agent can be used (ABC Powder, water,...)

Unsuitable extinguishing media:

Non-applicable

5.2 Specific hazards arising from the chemical:

Due to its non-flammable nature, the product does not present a fire risk under normal conditions of storage, manipulation and use.

5.3 Special protective equipment and precautions for fire-fighters:

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

Additional provisions:

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Isolate leaks provided that there is no additional risk for the people performing this task.

For emergency responders:

Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions:

This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

6.3 Methods and materials for containment and cleaning up:

For accidental releases in excess of reportable quantities (RQ) (Table 302.4), refer to 40 CFR 302 for detailed instructions concerning reporting requirements and notify the National Response Center (800) 424-8802.

- CONTINUED ON NEXT PAGE -

Biofilm Remover**SECTION 6: ACCIDENTAL RELEASE MEASURES (continued)**

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling:**

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks with regards manually handling weights. Maintain order, cleanliness and dispose of using safe methods (section 6).

B.- Technical recommendations for the prevention of fires and explosions

It is recommended to transfer at a slow speed to avoid the creation of electrostatic charges that could affect flammable products. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is not necessary to take special measures to prevent environmental risks. For more information see subsection 6.2

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Minimum Temp.: 41 °F

Maximum Temp.: 86 °F

Maximum time: 6 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters:**

Substances whose occupational exposure limits have to be monitored in the workplace:

There are no applicable occupational exposure limits for the substances contained in the product

8.2 Appropriate engineering controls:

A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protection Equipment. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgment, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

B.- Respiratory protection


The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.

C.- Specific protection for the hands


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Biofilm Remover

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Pictogram	PPE	Remarks
 Mandatory hand protection	Protective gloves against minor risks	Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional /industrial users, we recommend using chemical protection gloves. Use gloves in accordance with manufacturer´s use limitations and OSHA standard 1910.138 (29CFR)

D.- Eye and face protection

Pictogram	PPE	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	Clean daily and disinfect periodically according to the manufacturer´s instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer´s use limitations and OSHA standard 1910.133 (29CFR)

E.- Bodily protection

Pictogram	PPE	Remarks
	Work clothing	Replace before any evidence of deterioration.
	Anti-slip work shoes	Replace before any evidence of deterioration.

F.- Additional emergency measures

It is not necessary to take additional emergency measures.

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

40 CFR Part 59 (VOC):

V.O.C.(weight-percent): 21.6 % weight
V.O.C. at 68 °F: 945.27 kg/m³ (945.27 g/L)

California Air Resources Board (CARB) - VOC Regulatory:

V.O.C.(weight-percent): 21.6 % weight
V.O.C. at 68 °F: 945.27 kg/m³ (945.27 g/L)

South Coast Air Quality Management District (AQMD) - VOC Regulatory:

V.O.C.(weight-percent): 21.6 % weight
V.O.C. at 68 °F: 945.27 kg/m³ (945.27 g/L)

Ozone Transport Commission (OTC) Rules - VOC Regulatory:

V.O.C.(weight-percent): 21.6 % weight
V.O.C. at 68 °F: 945.27 kg/m³ (945.27 g/L)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 68 °F: Liquid
Appearance: Not available
Color: Not available

*Not relevant due to the nature of the product, not providing information property of its hazards.

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Biofilm Remover

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Odor:	Not available
Odour threshold:	Not applicable (N/A) *
Volatility:	
Boiling point at atmospheric pressure:	233 °F
Vapour pressure at 68 °F:	2206 Pa
Vapour pressure at 122 °F:	11624.58 Pa (11.62 kPa)
Evaporation rate at 68 °F:	Not applicable (N/A) *
Product description:	
Density at 68 °F:	1036.5 kg/m ³
Relative density at 68 °F:	1.036
Dynamic viscosity at 68 °F:	Not applicable (N/A) *
Kinematic viscosity at 68 °F:	Not applicable (N/A) *
Kinematic viscosity at 104 °F:	Not applicable (N/A) *
Concentration:	Not applicable (N/A) *
pH:	Not applicable (N/A) *
Vapour density at 68 °F:	Not applicable (N/A) *
Partition coefficient n-octanol/water 68 °F:	Not applicable (N/A) *
Solubility in water at 68 °F:	Not applicable (N/A) *
Solubility properties:	Not applicable (N/A) *
Decomposition temperature:	Not applicable (N/A) *
Melting point/freezing point:	Not applicable (N/A) *
Flammability:	
Flash Point:	Non Flammable (>199.4 °F)
Flammability (solid, gas):	Not applicable (N/A) *
Autoignition temperature:	372 °F
Lower flammability limit:	Not applicable (N/A) *
Upper flammability limit:	Not applicable (N/A) *
Particle characteristics:	
Median equivalent diameter:	Non-applicable

9.2 Other information:

Information with regard to physical hazard classes:

Explosive properties:	Not applicable (N/A) *
Oxidising properties:	Not applicable (N/A) *
Corrosive to metals:	Not applicable (N/A) *
Heat of combustion:	Not applicable (N/A) *
Aerosols-total percentage (by mass) of flammable components:	Not applicable (N/A) *

Other safety characteristics:

Surface tension at 68 °F:	Not applicable (N/A) *
Refraction index:	Not applicable (N/A) *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

- CONTINUED ON NEXT PAGE -

Biofilm Remover

SECTION 10: STABILITY AND REACTIVITY (continued)

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Not applicable	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

LD50 oral > 5000 mg/kg (rat)

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met
- Corrosivity/Irritability: Based on available data, the classification criteria are not met

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met
- Corrosivity/Irritability: Based on available data, the classification criteria are not met

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Based on available data, the classification criteria are not met
- Contact with the eyes: Based on available data, the classification criteria are not met

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met
IARC: Not applicable (N/A)
- Mutagenicity: Based on available data, the classification criteria are not met
- Reproductive toxicity: Based on available data, the classification criteria are not met

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met
- Skin: Based on available data, the classification criteria are not met

F- Specific target organ toxicity (STOT) - single exposure:

Based on available data, the classification criteria are not met

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met

Other information:

Not applicable (N/A)

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Biofilm Remover

SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
	LD50 oral	LD50 dermal	
Propane-1,2-diol CAS: 57-55-6	LD50 oral	22000 mg/kg	Rat
	LD50 dermal	>2000 mg/kg	Rabbit
	LC50 inhalation	>317 mg/L (168 h)	Rabbit

SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity (aquatic and terrestrial, where available):

Acute toxicity:

Identification	Concentration		Species	Genus
	LC50	EC50		
Propane-1,2-diol CAS: 57-55-6	LC50	51400 mg/L (96 h)	Pimephales promelas	Fish
	EC50	10000 mg/L (24 h)	Daphnia magna	Crustacean
	EC50	19100 mg/L (336 h)	Selenastrum capricornutum	Algae

Chronic toxicity:

Identification	Concentration		Species	Genus
	NOEC	NOEC		
Propane-1,2-diol CAS: 57-55-6	NOEC	Not applicable (N/A)		
	NOEC	13020 mg/L	Ceriodaphnia sp.	Crustacean

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability		Biodegradability	
	BOD5	COD	Concentration	Period
Propane-1,2-diol CAS: 57-55-6	BOD5	1.08 g O2/g	Concentration	100 mg/L
	COD	1.63 g O2/g	Period	28 days
	BOD5/COD	0.66	% Biodegradable	90 %

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulation potential	
	BCF	Pow Log
Propane-1,2-diol CAS: 57-55-6	BCF	1
	Pow Log	-0.92
	Potential	Low

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
	Koc	Surface tension	Henry	Dry soil
Propane-1,2-diol CAS: 57-55-6	Koc	Not applicable (N/A)	Henry	Not applicable (N/A)
	Conclusion	Not applicable (N/A)	Dry soil	Not applicable (N/A)
	Surface tension	3.547E-2 N/m (77 °F)	Moist soil	Not applicable (N/A)

12.5 Results of PBT and vPvB assessment:

Non-applicable

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

IT IS THE RESPONSIBILITY OF THE WASTE GENERATOR TO EVALUATE WHETHER HIS WASTES ARE HAZARDOUS BY CHARACTERISTICS OR LISTING.

Waste management (disposal and evaluation):

Follow RCRA framework and EPA regulation for to ensure that hazardous waste is managed safely and properly. Waste should not be disposed of to drains. Remind, It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristics or listing. See section 6 for further information about Accidental release measures.

Regulations related to waste management:

- CONTINUED ON NEXT PAGE -

Biofilm Remover

SECTION 13: DISPOSAL CONSIDERATIONS (continued)

Legislation related to waste management:

40 CFR Solid Wastes - Part 239 through 282.

State regulatory requirements for generators may be more stringent than those in the federal program. Be sure to check the state's policies.

SECTION 14: TRANSPORT INFORMATION

This product is not regulated for transport.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

- CALIFORNIA LABOR CODE - The Hazardous Substances List: Not applicable (N/A)
 - California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Birth defects or other reproductive harm: Not applicable (N/A)
 - California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Cancer: Not applicable (N/A)
 - CANADA-Domestic Substances List (DSL): *Propane-1,2-diol (57-55-6)*
 - CANADA-Non-Domestic Substances List (NDSL): Not applicable (N/A)
 - Hazardous Air Pollutants (Clean Air Act): Not applicable (N/A)
 - Massachusetts RTK - Substance List: Not applicable (N/A)
 - Minnesota - Hazardous substances ERTK: Not applicable (N/A)
 - New Jersey Worker and Community Right-to-Know Act: *Propane-1,2-diol (57-55-6)*
 - New York RTK - Substance list: Not applicable (N/A)
 - NTP (National Toxicology Program): Not applicable (N/A)
 - OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096): Not applicable (N/A)
 - Pennsylvania Worker and Community Right-to-Know Law: *Propane-1,2-diol (57-55-6)*
 - Rhode Island - Hazardous substances RTK: Not applicable (N/A)
 - The Toxic Substances Control Act (TSCA) : *Propane-1,2-diol (57-55-6)*
 - Toxic chemical release reporting under EPCRA section 313 (40 CFR Part 372): Not applicable (N/A)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantities: Not applicable (N/A)

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

Take into consideration other applicable federal, state, and local laws and local regulations.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Appendix d to §1910.1200 - Safety data sheets

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

29 CFR 1910.1200:

Not applicable (N/A)

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

Occupational Safety & Health Administration (OSHA).

Abbreviations and acronyms:

- CONTINUED ON NEXT PAGE -

Biofilm Remover

SECTION 16: OTHER INFORMATION (continued)

IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
COD: Chemical Oxygen Demand
BOD5: 5-day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
CL50: Lethal Concentration 50
EC50: Effective concentration 50
Log-POW: Octanol-water partition coefficient
Koc: Partition coefficient of organic carbon
IARC: International Agency for Research on Cancer
Date of compilation: 5/11/2023



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END OF SAFETY DATA SHEET