

GreenSeal 3.0 HFC



1. Identification of Substance:

Product Name: GreenSeal HFC

Chemical Family: Water-borne Acrylic Coating

Field of Application: Silicone Coating for Roofing Applications

Company Details:

Green Shield Products

Address:

4008 Louetta Rd. Suite #464
Spring, TX 77388

Telephone:

1-877-GRN-SHLD 24-Hr. Emergency Response:
CHEMTREC (800) 424-9300
INTERNATIONAL: +1-(703) 527-3887

2. Hazards Identification

GHS Ratings:

Skin corrosive	2	Reversible adverse effects in dermal tissue, Draize score: $\geq 2.3 < 4.0$ or persistent inflammation
Eye corrosive	1	Serious eye damage: Irreversible damage 21 days after exposure, Draize score: Corneal opacity ≥ 3 , Iritis > 1.5
Skin sensitizer	1	Skin sensitizer
Organ toxin single exposure	2	Presumed to be harmful to human health- Animal studies with significant toxic effects relevant to humans at generally moderate exposure (guidance) - Human evidence in exceptional cases
Organ toxin repeated exposure	2	Presumed to be harmful to human health- Animal studies with significant toxic effects relevant to humans at generally moderate exposure (guidance)- Human evidence in exceptional cases

GHS Hazards

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H371	May cause damage to organs
H373	May cause damage to organs through prolonged or repeated exposure

GHS Precautions

P260	Do not breathe dust/fume/gas/mist/vapors/spray
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P264	Wash hands thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P272	Contaminated work clothing should not be allowed out of the workplace



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P280	Wear protective gloves/protective clothing/eye protection/face protection
P310	Immediately call a POISON CENTER in case of overexposure.
P314	Get Medical advice/attention if you feel unwell
P321	Specific treatment is urgent (see Section 4 First Aid measures)
P362	Take off contaminated clothing and wash before reuse
P363	Wash contaminated clothing before reuse
P302+P352	IF ON SKIN: Wash with soap and water
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present to do – continue rinsing
P332+P313	If skin irritation occurs: Get medical advice/attention
P333+P313	If skin irritation or a rash occurs: Get medical advice/attention
P405	Store locked up
P501	Dispose of contents/container in accordance with existing federal, state, and local environmental control laws.



Acute Toxicity:

Eyes: Corrosive to eyes.

Skin: Irritating to skin.

Inhalation: Not expected to be a route of exposure.

Ingestion: Harmful if swallowed. Consult physician.

Chronic Effects: Possible harmful target organ effects.

3. Composition/information on ingredients:

Chemical Name	CAS number	Weight Concentration %
Oxirane, 2-methyl-, polymer with oxirane, ether with 2,6-bis[[bis(2-hydroxyethyl)amino]methyl]-4-branched	940912-28-7	20.00% - 30.00%
2-Propanol, 1-chloro-, phosphate (3:1)	13674-84-5	5.00% - 10.00%
1,1,1,3,3-Pentafluoropropane	460-73-1	5.00% - 10.00%
2-(Dimethylamino) ethanol	108-01-0	1.00% - 5.00%
Triethyl phosphate	78-40-0	1.00% - 5.00%
Glycerin	56-81-5	1.00% - 5.00%
Diethylene glycol	111-46-6	1.00% - 5.00%
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl-	33329-35-0	1.00% - 5.00%



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4. First Aid Measures:

Inhalation: If symptoms ensue, move to fresh air. If breathing is difficult, give oxygen.

After Eye Contact: Rinse opened eye for at least 15 minutes under running water. Remove contact lenses if present and easy to do so, and continue rinsing. If irritation persists contact physician

After Skin Contact: Clean affected area with soap and plenty of water.

After Swallowing: Consult physician.

Notes to Physician: Treat symptomatically

5. Firefighting measures

Flash Point: 102 C (216 F)

LEL: N/A UEL: N/A

Upper and lower explosive limits listed if known.

Suitable Extinguishing Agents: Water spray, CO₂, Foam, Dry chemical

Information about Protection against Explosions and Fires: Keep away from flames and sources of heat. Closed containers may rupture when exposed to extreme heat.

Dangerous Products of Decomposition: Oxides of carbon, oxides of nitrogen, oxides of phosphorus, hydrocarbons, traces of HCN, hydrogen chloride gas, hydrogen fluoride.

Protective Equipment: Firefighters should wear a pressure demand self-contained breathing apparatus and

6. Accidental release measures

Person-Related Safety Precautions: Use appropriate personal protective equipment during clean up. Evacuate and keep unnecessary people out of spill area. Avoid contact with skin and eyes.

Measures for Environmental Protection: Cover and contain spill with absorbent material. Collect for proper disposal according to local, state, and federal regulations.

Small Spills: Absorb with earth, sand or other absorbent material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece) clean surface thoroughly to remove residual contamination.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use an absorbent material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.



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7. Handling and Storage

Information for Safe Handling: Avoid contact with skin or inhalation.

Storage Requirements: Store in dry, well ventilated area. Avoid contact with moisture. Keep containers tightly closed. Store between 60°F-100°F. Material may settle.

Regulatory Requirements: Store according to all local, state, and federal regulations.

8. Exposure Controls and Personal Protection:

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limit
Oxirane, 2-methyl-, polymer with oxirane, ether with 2,6-bis[[bis(2-hydroxyethyl)amino]methyl]-4-branched nonylphenol 940912-28-7	Not Established	Not Established	Not Established)
2-Propanol, 1-chloro-, phosphate (3:1) 13674-84-5	Not Established	Not Established	Not Established
1,1,1,3,3-Pentafluoropropane 460-73-1	Not Established	Not Established	Not Established
2-(Dimethylamino)ethanol 108-01-0	Not Established	Not Established	Not Established
Triethyl phosphate 78-40-0	Not Established	Not Established	Not Established
Bis(2-dimethylaminoethyl) ether 3033-62-3	Not Established	0.15 ppm STEL 0.05 ppm TWA	Not Established
Diethylene glycol 111-46-6	Not Established	Not Established	Not Established
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl- 33329-35-0	Not Established	Not Established	Not Established
Ethylene glycol 107-21-1	50 ppm Ceiling	100 mg/m3 Ceiling (aerosol only)	

Engineering Controls: No specific measures required if proper PPE precautions are followed.

General Protective and Hygienic Measures: Usual precautionary measures should be adhered to when handling chemicals.

Respiratory Protection: In spray applications, an organic vapor/particulate respirator or air supplied unit is necessary.

Protection of Hands: Protective chemical resistant gloves.

Eye Protection: Chemical resistant goggles must be worn.

Body Protection: Protective work clothing. Launder separately.

Contaminated Gear: Observe local requirements. Dispose of in accordance with local/state/federal regulations.



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9. Physical and Chemical Properties:

Appearance: Amber liquid Vapor Pressure: N/A Vapor Density: N/A Specific Gravity: 1.13 Freezing point: N/A Boiling range: 92 - 342°C Evaporation rate: N/A Explosive Limits: N/A Autoignition temperature: 229°C	Odor: Amine odor Odor threshold: N/A pH: N/A Melting point: N/A Solubility: N/A Flash point: 216°F, 102°C Flammability: N/A Partition coefficient (n-octanol/water): N/A Decomposition temperature: N/A
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10. Stability and Reactivity:

Incompatible Materials: Avoid contact with fluorine, strong acids, strong bases, and oxidizing agents.

Hazardous Polymerization: Not expected to occur.

Dangerous Products of Decomposition: Oxides of carbon, oxides of nitrogen, oxides of phosphorus, hydrocarbons, traces of HCN, hydrogen chloride gas, hydrogen fluoride

11. Toxicological Information:

Mixture Toxicity

Oral Toxicity LD50: 2,321 mg/kg

Inhalation Toxicity LC50: 27 mg/L

Component Toxicity

13674-84-5 2-	Propanol, 1-chloro-, phosphate (3:1) Oral LD50: 500 mg/kg (Rat) Dermal LD50: 1,230 mg/kg (Rabbit) Inhalation LC50: 5 mg/L (Rat)
108-01-0 2-	(Dimethylamino)ethanol Oral LD50: 1,803 mg/kg (Rat) Dermal LD50: 3,000 mg/kg (Rabbit) Inhalation LC50: 1,641 ppm
111-46-6	Diethylene glycol Oral LD50: 1,120 mg/kg (Rat) Dermal LD50: 5,000 mg/kg (Rabbit) Inhalation LC50: 5 mg/L (Rat)
33329-35-0	1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N',N'-dimethyl- Dermal LD50: 1,150 mg/kg (Rabbit) Inhalation LC50: 2 mg/L (Rat)
3033-62-3	Bis(2-dimethylaminoethyl) ether Oral LD50: 910 mg/kg (Rat) Dermal LD50: 238 mg/kg (Rabbit) Inhalation LC50: 117 ppm (Rat)
107-21-1	Ethylene glycol Oral LD50: 2,000 mg/kg (Rat) Dermal LD50: 3,500 mg/kg (Rat) Inhalation LC50: 3 mg/kg (Rat)



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Toxicity Values Listed if Known

Acute Toxicity:

Eyes: Corrosive to eyes.

Skin: Irritating to skin.

Inhalation: Not expected to be a route of exposure.

Ingestion: Harmful if swallowed. Consult physician.

Chronic Effects: Possible harmful target organ effects.

Routes of Entry: Ingestion, inhalation, skin contact, eye contact

Target Organs: Eyes, skin, respiratory system, reproductive system.

Chemicals with Known or Possible Carcinogenic Effects:

<u>CAS Number</u>	<u>Description</u>	<u>% Weight</u>	<u>Carcinogen Rating</u>
None			None

12. Ecological Information:

General Information: Based on experience, no adverse effects are to be expected if correct disposal procedures have been followed as indicated in section 13.

Individual component ecotoxicity listed if known.

Component Ecotoxicity

2-Propanol, 1-chloro-, phosphate (3:1)	96 Hr LC50 Brachydanio rerio: 56.2 mg/L [static]; 96 Hr LC50 Pimephales promelas: 98 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 30 mg/L [static] 48 Hr EC50 Daphnia magna: 63 mg/L 72 Hr EC50 Desmodesmus subspicatus: 45 mg/L; 96 Hr EC50 Pseudokirchneriella subcapitata: 4 mg/L
cis-1,1,1,4,4,4-Hexafluoro-2-butene	96 h LC50 Oryzias latipes (Orange-red killifish): 76.1 mg/l OECD Test Guideline 203 72 h ErC50 Pseudokirchneriella subcapitata (green algae): > 23.7 mg/l OECD Test Guideline 201 72 h NOEC Pseudokirchneriella subcapitata: (green algae) 6.92 mg/l 48 h EC50 Daphnia magna (Water flea): 22.5 mg/l OECD Test Guideline 202 21 d NOEC Daphnia magna (Water flea) 10 mg/l OECD Test Guideline 211
2-(Dimethylamino)ethanol	96 Hr LC50 Pimephales promelas: 81 mg/L [static] 48 Hr EC50 Daphnia magna: 98.77 mg/L 72 Hr EC50 Desmodesmus subspicatus: 35 mg/L
Diethylene glycol	96 Hr LC50 Pimephales promelas: 75200 mg/L [flow-through] 48 Hr EC50 Daphnia magna: 84000 mg/L
1,3-Propanediamine, N,N-bis[3-(dimethylamino)propyl]-N	48 Hr LC50 Orzias latipes 430 mg/L 48 Hr EC50 Daphnia 48 mg.L
Ethylene glycol	96 Hr LC50 Oncorhynchus mykiss: 41000 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 14 - 18 mL/L [static]; 96 Hr LC50 Lepomis macrochirus: 27540 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 40761 mg/L [static]; 96 Hr LC50 Pimephales promelas: 40000 - 60000 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 16000 mg/L [static] 48 Hr EC50 Daphnia magna: 46300 mg/L 96 Hr EC50 Pseudokirchneriella subcapitata: 6500 - 13000 mg/L



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13. Disposal considerations

Recommendation: Observe local requirements. Dispose of in accordance with local/state/federal regulations.

Empty Container Precautions: Recondition or dispose of empty container in accordance with governmental regulations. If container is to be disposed, ensure all product residues are removed and container is empty prior to disposal.

14. Transport Information

DOT Regulated Components:

This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods unless specifically cited below:

<u>Agency</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>Hazard Class</u>
	None			

15. Regulatory Information:

OSHA HAZARD COMMUNICATION STANDARD: This material is classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

SARA 311/312 Hazard Categories: Acute health hazard, chronic health hazard.

WARNING: This product can expose you to chemicals listed below, which are known to the State of California to cause cancer, birth defects, or reproductive harm. For more information, visit www.P65Warnings.ca.gov

Formaldehyde	50-00-0	< 1 PPM	CARC
Diethanolamine	111-42-2	< 1 PPM	CARC
Acetaldehyde	75-07-0	337 PPM	CARC
1,4-Dioxane	123-91-1	337 PPM	CARC
Ethylene glycol	107-21-1	0.1 to 1.0 %	DEVELOPMENTAL

Massachusetts Right To Know List:

2-(Dimethylamino)ethanol 108-01-0 1 to 5 %

New Jersey Right To Know List:

2-(Dimethylamino)ethanol 108-01-0 1 to 5 %

Pennsylvania Right To Know List:

Diethylene glycol 111-46-6 1 to 5 %
2-(Dimethylamino)ethanol 108-01-0 1 to 5 %

SARA 302 Extremely Hazardous Substances:

- None



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Chemicals subject to SARA 313 Reporting:

- None

<u>Country</u>	<u>Regulation</u>	<u>All Components Listed</u>
Canada	Canada DSL	Yes
US	Toxic Substances Control Act	Yes

16. Other Information:

Safety Data Sheet issued by Product Safety Department

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Green Shield Products. The data on these sheets relates only to the specific material designated herein. Green Shield Products. assumes no legal responsibility for use or reliance upon this data. It is the user's responsibility to ensure that their activities comply with federal, state, or local laws

Date revised: 2022-03-30

Reviewer Revision 0

Date Prepared: 03/30/2022

SAFETY DATA SHEET



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