

SOILTAC®

Letter of Introduction

Soilworks®, LLC is the innovator and manufacturer of Soiltac® soil stabilizer and dust control agent. Soiltac® is an eco-safe, biodegradable, liquid copolymer used to stabilize and solidify any soil or aggregate as well as erosion control and dust suppression.

Soilworks® recent advances in simulation, chemistry, processing techniques, and analytical instrumentation have allowed a whole host of new types of polymer particles and polymer nanotechnology applications to be realized. These advances led to the revolutionary development of nanotechnology into Soiltac's® superior performance.

Once applied to the soil or aggregate, the copolymer molecules coalesce forming bonds between the soil or aggregate particles. The key advantage of Soiltac® originates with its long, nanoparticle molecular structure that link and cross-link together. As the water dissipates from the soil or aggregate, a durable and water resistant matrix of flexible solid-mass is created. Once cured, Soiltac® becomes completely transparent, leaving the natural landscape to appear untouched.

Soiltac® results are based on the application rate used. Modest application rates are useful for dust suppression and erosion control by creating a three-dimensional cap or surface crust. Heavier rates can generate qualities similar to cement; useful for soil solidification and stabilization found in road building. By adjusting the application rate, Soiltac® can remain effective from weeks to several years. Most importantly, Soiltac® is a truly biodegradable product that is completely environmentally safe to use.

Soiltac® has been rigorously evaluated and its performance verified by the U.S. Army Engineering Research and Development Center (ERDC) against the industry's traditional top performing soil stabilizers and dust control agents. As a result, the Department of Defense continues to award Soilworks® with contracts to supply Operation Iraqi Freedom, Enduring Freedom and the on-going Iraq rebuilding efforts with Soiltac®. Its success with the U.S Military and Allied Forces has led to Soilworks® GSA contract (# GS-07F-5364P) and a complete listing of National Stock Numbers for the U.S. Department of Defense warehouses.

Soiltac's® advanced nanotechnology is modernizing the way we stabilize soils and aggregates in addition to controlling dust and erosion for a whole new generation. Soiltac® applications are extensive ranging from simple backyard trails and construction sites to heavy-lift military cargo runways and global transportation infrastructure.

Soilworks® is dedicated to economically solving soil stabilization challenges throughout the world's residential, commercial, industrial and military markets. For more information about Soiltac®, please visit us online at www.soilworks.com or call 1-800-545-5420.

Respectfully,



Chad Falkenberg
President



Soilworks, LLC®

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Specializing in Soil Stabilization & Dust Control

Global Manufacturer & Distributor of
Soiltac® / Powdered Soiltac®
Durasoil® AND Gorilla Snot®

SOILTAC®

Applications & Uses Examples



Unpaved Dirt Roads
Road Dust Control
Erosion Control
Road Stabilization



Construction Sites
Fugitive Dust Control
Erosion Control
Road Stabilization



Heavy Haul Roads
Road Dust Control
Erosion Control
Road Stabilization



Land Development
Fugitive Dust Control
Erosion Control
Silt Loading Control



Road Base & Sub-Base
Road Base Stabilization
Sub-Base Stabilization
Mud Suppression



Unpaved Driveways
Driveway Dust Control
Erosion Control
Soil Stabilization



Aircraft Runways
Runway Dust Control
FOD Control
Runway Stabilization



Helipads & FARPs
Helipad Dust Control
LZ FOD Control
Pad Stabilization



Airport Taxiways
Airfield Dust Control
Airport FOD Control
Soil Stabilization



Recycled Asphalt
Road Dust Control
Road Reclamation
Milling Stabilization



Forestry Roads
Road Dust Control
Erosion Control
Road Stabilization



Agricultural Roads
Road Dust Control
Erosion Control
Road Stabilization



Mine Tailings
Tailings Dust Control
Tailings Erosion Control
Tailings Reclamation



Storage & Stock Piles
Stock Pile Dust Control
Stock Pile Capping
Stock Pile Stabilization



Power Plants
Facility Dust Control
Stock Pile Capping
Road Dust Control



Border Patrol Roads
Road Dust Control
Erosion Control
Road Stabilization



Hydroseeding
Hydroseed Tackifier
Hydromulch Tackifier
Erosion Control



Construction Parking
Parking Lot Dust Control
Haul Road Dust Control
Parking Lot Solidification



Event Parking Lots
Parking Lot Dust Control
Event Dust Control
Parking Lot Stabilization



Road Shoulders
Shoulder Dust Control
Shoulder Erosion Control
Shoulder Stabilization



Slopes & Berms
Slope Erosion Control
Slope Stabilization
Silt Containment



Military Operations
Dust Suppression
Soil Solidification
Road Stabilization



Defense Compounds
Suppress Fugitive Dust
Soil Stabilization
Dust Prevention



Military Training Sites
FARP Dust Control
Road Dust Suppression
Land Target Coloration



Airport Infields
Infield Dust Retardant
Shoulder FOD Control
Infield Dust Stabilization





SOILTAC®

Standard Application Coverage Rates

(Topical Only)	Undiluted Concentrate									Parts Water	Traffic Area	Dilution		Life (months)
	Standard					Metric						gal./Acre	gal./SY	
	ft ² /gal.	gal./ft ²	yd ² /gal.	gal./yd ²	gal./acre	m ² /gal	gal./m ²	m ³ /L	L/m ²					
Water Retention Basin & Pond Lining	20	0.0500	2.2	0.450	2,178	1.9	0.538	0.5	2.04	2	No	6,534	1.35	12-24
Aircraft Runways (Heavy use)	35	0.0286	3.9	0.257	1,245	3.3	0.308	0.9	1.16	4	Yes	6,223	1.29	12-24
Aircraft Runways (single engine)	50	0.0200	5.6	0.180	871	4.6	0.215	1.2	0.81	6	Yes	6,098	1.26	12-24
Helicopter Landing Pads (Heavy Craft)	45	0.0222	5.0	0.200	968	4.2	0.239	1.1	0.91	5	Yes	5,808	1.20	12-24
Helicopter Landing Pads (Light Craft)	70	0.0143	7.8	0.129	622	6.5	0.154	1.7	0.58	8	Yes	5,601	1.16	12-24
Heavy Haul Roads & Mining Roads	60	0.0167	6.7	0.150	726	5.6	0.179	1.5	0.68	6	Yes	5,082	1.05	12-24
Military Convoy & Supply Roads	65	0.0154	7.2	0.138	670	6.0	0.166	1.6	0.63	6	Yes	4,691	0.97	12-24
Roads (High Traffic)	65	0.0154	7.2	0.138	670	6.0	0.166	1.6	0.63	6	Yes	4,691	0.97	12-24
Residential Driveways	65	0.0154	7.2	0.138	670	6.0	0.166	1.6	0.63	6	Yes	4,691	0.97	12-24
Parking Lots	65	0.0154	7.2	0.138	670	6.0	0.166	1.6	0.63	6	Yes	4,691	0.97	12-24
Roads (Light Traffic)	70	0.0143	7.8	0.129	622	6.5	0.154	1.7	0.58	7	Yes	4,978	1.03	12-24
Golf Course Bunker Liner	50	0.0200	5.6	0.180	871	4.6	0.215	1.2	0.81	5	Yes	5,227	1.08	12-24
Golf Course Cart Paths	80	0.0125	8.9	0.113	545	7.4	0.135	2.0	0.51	8	Yes	4,901	1.01	12-24
Walking Trails and Paths	100	0.0100	11.1	0.090	436	9.3	0.108	2.5	0.41	10	Yes	4,792	0.99	12-24
Road Sealer over Soiltac Stabilized Base	100	0.0100	11.1	0.090	436	9.3	0.108	2.5	0.41	4	Yes	2,178	0.45	12-24
BMX Tracks	120	0.0083	13.3	0.075	363	11.1	0.090	2.9	0.34	10	Yes	3,993	0.83	9-16
Temporary Parking Lots	120	0.0083	13.3	0.075	363	11.1	0.090	2.9	0.34	10	Yes	3,993	0.83	1-3
Temporary Roads & Detours	150	0.0067	16.7	0.060	290	13.9	0.072	3.7	0.27	13	Yes	4,066	0.84	1-3
Road Shoulders	160	0.0063	17.8	0.056	272	14.9	0.067	3.9	0.25	14	Yes	4,084	0.84	12-24
Slope Erosion Control (Steep Slope)	100	0.0100	11	0.090	436	9	0.108	2	0.41	5	No	2,614	0.54	12-24
Slope Erosion Control (Average Slope)	180	0.0056	20	0.050	242	17	0.060	4	0.23	10	No	2,662	0.55	12-24
Slope Erosion Control (Light Slope)	220	0.0045	24	0.041	198	20	0.049	5	0.19	12	No	2,574	0.53	12-24
Stock Pile Dust Capping (Steep Slope)	220	0.0045	24	0.041	198	20	0.049	5	0.19	9	No	1,980	0.41	12-24
Stock Pile Dust Capping (Average Slope)	270	0.0037	30	0.033	161	25	0.040	7	0.15	12	No	2,097	0.43	12-24
Stock Pile Dust Capping (Light Slope)	320	0.0031	36	0.028	136	30	0.034	8	0.13	14	No	2,042	0.42	12-24
Hazardous Material Capping & Sealing	160	0.0063	18	0.056	272	15	0.067	4	0.25	8	No	2,450	0.51	12-24
Landfill Capping & Reclamation	360	0.0028	40	0.025	121	33	0.030	9	0.11	10	No	1,331	0.28	12-24
Odor & Vapor Suppression	360	0.0028	40	0.025	121	33	0.030	9	0.11	20	No	2,541	0.53	12-24
Mine Tailings Capping & Reclamation	450	0.0022	50	0.020	97	42	0.024	11	0.09	12	No	1,258	0.26	12-24
Coal Rail Car Capping	1,000	0.0010	111	0.009	44	93	0.011	25	0.04	29	No	1,307	0.27	1+
Dust Control (30 Days)	1,250	0.0008	139	0.007	35	116	0.009	31	0.03	34	No	1,220	0.25	1+
Dust Control (90 days)	795	0.0013	88	0.011	55	74	0.014	20	0.05	21	No	1,205	0.25	3+
Dust Control (6 Months)	580	0.0017	64	0.016	75	54	0.019	14	0.07	15	No	1,202	0.25	6+
Dust Control (12 Months)	415	0.0024	46	0.022	105	39	0.026	10	0.10	11	No	1,260	0.26	12+
Dust Control (12-24 Months)	320	0.0031	36	0.028	136	30	0.034	8	0.13	8	No	1,225	0.25	12-24
Hydroseed & Hydromulch Tackifier	1,740	0.0006	193	0.005	25	162	0.006	43	0.02	40	No	1,026	0.21	3-6
(Mixed-in / Processed)														
Base Stabilization Light (4"-10cm deep)	45	0.0222	5.0	0.200	968	4.2	0.239	1.1	0.91					
Base Stabilization Average (4"-10cm deep)	35	0.0286	3.9	0.257	1,245	3.3	0.308	0.9	1.16					
Base Stabilization Heavy (4"-10cm deep)	25	0.0400	2.8	0.360	1,742	2.3	0.431	0.6	1.63					
Road Pot Hole Repair (4"-10cm deep)	25	0.0400	2.8	0.360	1,742	2.3	0.431	0.6	1.63					
Adobe Blocks & Earth Blocks (6"-15cm Tall)	35	0.0286	3.9	0.257	1,245	3.3	0.308	0.9	1.16				**	
Base Stabilization Light (6"-15cm deep)	35	0.0286	3.9	0.257	1,245	3.3	0.308	0.9	1.16					
Base Stabilization Average (6"-15cm deep)	25	0.0400	2.8	0.360	1,742	2.3	0.431	0.6	1.63					
Base Stabilization Heavy (6"-15cm deep)	15	0.0667	1.7	0.600	2,904	1.4	0.718	0.4	2.72					

**Dilution rates for mix-in/processed applications are based on the difference between optimum moisture and in-situ moisture levels. Please consult with your local Soiltac® representative to calculate recommended dilution rates for all mix-in applications.

Application coverage and dilution rates may vary depending on traffic volume, load bearing capacity, soil type, weather conditions, soil moisture levels and compaction. All Mixed-in/Processed applications require laboratory and on-site testing to determine optimal application and dilution rates.











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SOILTAC®

Unique Product Advantages

	Dries Flexible
	Biodegradable
	Simple and Easy to Apply
	Dries Transparent / Clear
	Dries Completely Odorless
	Non-Flammable & Non-Volatile
	Non-Hazardous
	Non-Corrosive & Safe for All Equipment
	Non-Slippery & Safe to Walk and Drive on
	Non-Regulated for Transportation (land/Ocean/Air)
	Ecologically & Environmentally Safe
	Cumulative Effect with Maintenance
	Dyes & Pigments can be Added for Color
	Human, Animal, Marine Life and Vegetation Safe
	Water Resistant (will not break down with water)
	Non-Tracking & Non-Transferable (will not be picked up onto vehicles)
	Non-Leaching (will not continue to seep into the soil)
	Ultraviolet Ray Resistant (will not break down in sunlight)
	Non-Dissipating (will not wash away with water once cured)
	Alkaline Soil Resistant (will not break down in alkaline soils)
	Self Mixes with Water for Diluting (prior to applying to the soil)
	PM ₁₀ & PM _{2.5} Compliant (stops hazardous dust particles of 2.5+ microns in size)



SOILTAC®

Frequently Asked Questions

Prices	Current Soiltac® pricing is based on volume and is available upon request.
GSA Schedule	Soiltac® is available for wholesale through our Federal GSA contract (#GS07F5364P).
Payment Terms	Prepaid or Net 30 Days upon approved credit.
Payment Method	Cash, Check, Visa, MSTC, AMEX, Letter of Credit, Govt. Cards & Wire Transfer.
Bids / Proposals	Formal bids and proposals are available upon request.
Minimum Order	5 gallons square poly pail (one liter test samples are available).
Availability	40,000+ gallons (150,000 liters) are stocked and available on an immediate basis.
Turn-Around	Same day or next day shipments (< 24 hrs) upon order.
Large Volumes	3-14 day turn-around for single order shipments of 100,000+ gallons (400,000+ liters).
Production Limits	None. Soiltac® can be manufactured rapidly in unlimited volumes worldwide.
Prime Material	Unlike traditional stabilizers, Soiltac® is a “Prime” material, not blended or recycled.
By-Products	Unlike traditional stabilizers, Soiltac® is not an ultra-filtrate, by-product or off-grade.
Curing	Unlike cement, Soiltac® does not cure chemically, it cures as the water evaporates.
Cure Time	Typically, 24 hours (@70°F/21°C) is normal. Temperature is the primary factor.
Penetration Depth	1/8 th to 2” deep for topical applications. Soil type & compaction are the primary factors.
Cold Weather	Will significantly increase cure time. The lower the temperature the longer the cure time.
Freezing	Do not freeze uncured Soiltac®. Cured Soiltac is unaffected by freezing temperatures
Shipping	National & International. Non-Hazardous and Non-Regulated. Worldwide production.
Guarantee	Soilworks® guarantees that each batch of Soiltac® meets the stated specifications
Normal Life Span	Indefinitely with maintenance. Typically, 12-24 months prior to first maintenance coat.
Shelf Life	12 Months. If stored for longer than 12 months, agitation may be required.
Maintenance	Approximately 30% the original volume used after the first 12-24 months. Cumulative.
Soil Type	Any. Best with non-plastic materials with a well graded grain size distribution and fines.
Rain / Precipitation	Once cured, Soiltac® is no longer water soluble and will not dissipate or wash away.
Uncured Cleaning	Rinse equipment immediately. Simply use water to rinse out any uncured Soiltac®.
Cured Cleaning	Difficult to remove. Use hot water pressure washer with scrub brush and solvents.
Gray Water Dilution	Soiltac® can be diluted with almost any water including grey water.
Sea Water Dilution	Soiltac® can be diluted with sea salt water. Do not store sea salt water dilution over 8hrs.
Performance Factors	Application rate, soil type, dilution, compaction, traffic, penetration, climate & others
Harmonized Code	The International Tariff Code for Soiltac® is 3905.21.00.00.

SOILTAC®

Standard Container & Shipping Options

Image	Description	Maximum Volume	Dimensions (LxWxH)	Weight (gross)
	Sample Bottle	¼ gallon 1 liter	4"x4"x12" 10x10x31cm	3 lbs 1.3 kg
	Square Poly Pail	5 gallons 19 liters	11"x11"x14" 28x28x36cm	50 lbs 22.7 kg
	Poly Drum NSN: 6850-01-519-4706	55 gallons 208 liters	24"x24"x36" 61x61x91cm	540 lbs 245 kg
	Standard IBC Tote (Steel Cage & Poly) NSN: 6850-01-519-4708	275 gallons 1,041 liters	40"x48"x46" 101x121x117cm	2,600 lbs 1,180 kg
	Bulk Tanker <i>(U.S. Only)</i>	5,000 gallons 18,927 liters	Variable	45,000 lbs 20,412 kg
	53' Box Van with 80 Poly Drums	4,400 gallons 16,656 liters	Variable	44,400 lbs 20,140 kg
	53' Box Van with 17 Standard IBC Totes	4,675 gallons 17,697 liters	Variable	44,200 lbs 20,049 kg
	53' Flatbed with 80 Poly Drums	4,400 gallons 16,656 liters	Variable	44,400 lbs 20,140 kg
	53' Flatbed with 17 Standard IBC Totes	4,675 gallons 17,697 liters	Variable	44,200 lbs 20,049 kg
	20' Ocean Container with 40 Poly Drums	2,200 gallons 8,328 liters	Variable	22,200 lbs 10,070 kg
	20' Ocean Container with 17 Standard IBC Totes	4,675 gallons 17,698 liters	Variable	43,101 lbs 19,550 kg



SOILTAC® Product Selection Guide Chart

Project Requirements					Soilworks® Complete Product Line Recommendations				
					Soiltac®	Powdered Soiltac®	Gorilla-Snot®	Durasoil®	
Dust Control	Non-Traffic	Non-Water Resistant / Solidification			YES	YES	YES	NO	
		Water Resistant / Solidification	Short Term			YES	YES	Best	NO
			Short & Long Term			Best	Best	NO	NO
	Vehicle / Aircraft / Foot Traffic Areas	Tracked Vehicles, Skid Steers or Forklifts (No Solidification)			NO	NO	NO	Best	
		Equestrian / Livestock / Animals (No Solidification)			NO	NO	NO	Best	
		Rubber Tire / Foot Traffic Only	Uncompacted or Loose Soil / Aggregate / Gravel (No Solidification)			NO	NO	NO	Best
			95% Compacted & No Loose Gravel / Aggregate (Solidification)	Non-Water Resistant		YES	YES	YES	NO
				Water Resistant	Short Term	YES	YES	Best	NO
					Short & Long Term	Best	Best	NO	NO
	Soil Stabilization	Water Resistant			Best	Best	NO	NO	
Non-Water Resistant			YES	YES	YES	NO			
Erosion Control	Water Resistant	Short Term			YES	YES	Best	NO	
		Short & Long Term			Best	Best	NO	NO	
	Non-Water Resistant			YES	YES	YES	NO		



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Application Equipment Examples



Highway Accessible
Water Trucks



All Wheel Drive
Water Trucks



Water Wagons
"Water Pulls"



Mining Water Trucks
"Mining Pigs"



Heavy Expanded Mobility
Tactical Truck Tankers



Flat Bed Trucks with
Tanks & Pumps



In-situ road reclaimers
In-situ soil stabilizers



Computerized Rate
Control Distributor Trucks



Truck Mounted
Hydroseeders



Trailer Mounted
Hydroseeders



Agricultural Tractors with
Towable Spray Bars



Agricultural Tractors with
Towable Spray Booms



Water Trucks with
Gravity Feed Spray Bars



Single Axle
Water Trucks



Military "DAV"
(Dust Abatement Vehicle)



Pick-up Trucks with
IBC Tote & Pumps



Towable Spray Tanks
"Water Buffalo"



Truckbed Water Tanks
"Skid Sprayers"



Standard Hose & Pump
Hand Spraying



Airplane Sprayers
"Crop Duster"



Helicopters
"Water Drop"



ATV Towable Tank
Sprayers



ATV Mounted
Tank Sprayers



Watering Cans

Anything capable of spraying water can be used to apply Soiltac®.





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Price Schedule

			
Pail	Drum	IBC Tote	Tanker / Bulk* U.S. Only
5 gallons 19 liters	55 gallons 208 liters	275 gallons 1,041 liters	Up to 5,000 gallons 18,927 liters
<p>Please contact us or your local distributor today for our current price schedule.</p> <p>1-800-545-5420 U.S. Toll Free 001-480-545-5454 International info@soilworks.com</p>			



SOILTAC®

Topical Traffic & Non-Traffic Application Overview (for 1-Liter Sample Bottle Test Plot)

1.) Prepare the Site:

Dry Soil: The test plot should be completely dry and free from water.

Weather: The test plot must be free from rain for a minimum of 72 hours after the application. Temperature must be at least 40°F (4°C).

Compaction: Compact the test plot to a minimum of 95%. (*Optional for No-Traffic test plot*)

Drainage: Contour and crown the test plot to provide for proper drainage.

Loose Aggregate: Remove any loose aggregate, soil or debris from the test plot. (*Optional for No-Traffic*)

Pre-Wetting (Optional): Optimally, pre-wet the test plot with water (only) at a rate of 100 ft²/gal. (2 m²/L) to break the surface tension and increase penetration depth.



Non-Traffic Test Plot Specifications – Based on “Dust Control (12-24 month)” rate of 320 ft²/gal. (8 m²/L)

Test Plot Size = 85 ft² (8 m²) = **110”x110” (280cm x 280cm)**

Optional Water Only Pre-Wet = **0.85 gallons or 14 cups (4 liters)**

Water to Soiltac® Ratio = 14 Parts Water = **3.7 gallons or 60 cups (14 liters)**

Total Soiltac® Dilution = **4 gallons or 64 cups (15 liters)**

Traffic Area Test Plot Specifications – Based on “Roads (high traffic)” rate of 65 ft²/gal. (1.6 m²/L)

Test Plot Size = 17 ft² (1.6 m²) = **50”x50” (130cm x 130cm)**

Optional Water Only Pre-Wet = **0.17 gallons or 3 cups (0.65 liters)**

Water to Soiltac® Ratio = 6 Parts Water = **1.6 gallons or 26 cups (6 liters)**

Total Soiltac® Dilution = **1.85 gallons or 30 cups (7 liters)**



2.) Prepare the Soiltac® Dilution:

Water: Fill the application equipment with the recommended volume of water (see above).

Soiltac®: Fill the application equipment with the recommended volume of Soiltac® concentrate (see above).

3.) Apply the Soiltac® Dilution

Multiple Coats: Apply the Soiltac® dilution in (1-2 coats for non-traffic) or (4-5 coats for traffic) onto the test plot.

Drying: Each successive coat of Soiltac® dilution should be applied in a timely manner to ensure that the surface always stays wet with the Soiltac® dilution.

DO NOT allow the Soiltac® dilution to dry between the application coats.

Failure to do so will result in an underperforming “skin” layer rather than a penetrating layer.



4.) Clean the Application Equipment

Rinse: Rinse off the application equipment thoroughly with water until clean.

5.) Finish - Allow Site to Dry/Cure

Curing: Allow the test plot to dry and cure for a minimum of 24 hours (@70°F/21°C).

Non-Traffic Test Area: Prevent any human activity over the test plot .

Traffic Test Area: Prevent any human activity over the test plot until it has completely cured.



(1 Liter = 0.26 gallons = 4.2 cups)



SOILTAC®

Topical Traffic Area Application Overview

1.) Prepare the Site:

- Dry Soil:** The site should be completely dry and free from water.
- Weather:** The site must be free from rain for a minimum of 72 hours after the application. Temperature must be at least 40°F (4°C).
- Compaction:** Compact the site to a minimum of 95%.
(per ASTM D 698 D 1557 modified Proctor Density).
- Drainage:** Contour and crown the site to provide for proper drainage.
- Loose Aggregate:** Remove any loose aggregate, soil or debris from the treatment area.

2.) Prepare Application Equipment

- Spray Nozzles:** Set spray nozzles to the desired width, height and output rate. Test equipment (off-site) if necessary.
- Coverage:** The spray nozzles should provide an even coat over the treatment area with each pass.
- Spray Rate:** Set the spray rate high enough to allow even coverage with multiple coats and low enough to prevent material from draining away from the treatment area.
- Pre-Wetting (Optional):** Optimally, pre-wet the treatment area with water (only) to break the surface tension and increase penetration depth. Pre-wet at a rate of 100 SF/gallon (2.5m²/liter) of water.
- Release Agent (Optional):** Optionally, a form release agent (like Durasoil®) can be sprayed onto the equipment to prevent Soiltac® overspray from adhering onto the outside of the equipment

3.) Prepare the Soiltac® Dilution:

- Water:** Fill the application equipment with the recommended volume of water. Reference the "application coverage rates" chart.

Example: Roads (Light Traffic) = 70 ft²/gallons (1.7m²/liter) +7 parts water.
Equipment: 4,000 gallon (15,142 liters) water truck
Calculation: 7+1 = 8 parts dilution total.
 4,000 gallons / 8 parts = 500 gallons (1,893 liters) per part
 Volume of Water: 500 gallons X 7 parts = 3,500 gallons (13,249 liters) of water
 Volume of Soiltac®: 500 gallons X 1 part = 500 gallons (1,893 liters) of Soiltac® concentrate
 Volume of Dilution: 500 gallons X 8 parts = 4,000 gallons (15,142 liters) of Soiltac® dilution

- Soiltac®:** Fill the application equipment with the recommended volume of Soiltac® concentrate.
- Foaming:** To prevent foaming, add the Soiltac® concentrate last, directly into the water.

4.) Apply the Soiltac® Dilution

- Multiple Coats:** Apply the Soiltac® dilution in coats over the treatment area.

Example: (See Above) Roads (Light Traffic) typically require a minimum of 4 even coats.
 500 gallons / 4 coats = 125 gallons (473 liters) (Soiltac® concentrate) per coat.
 4,000 gallons / 4 coats = 1,000 gallons (3,785 liters) (Soiltac® dilution) per coat.
 500 gallons (Soiltac® concentrate) X 70 ft²/gal. = 35,000 ft² (3,252 m²) treatment per water truck

- Drying:** Each successive coat of Soiltac® dilution should be applied in a timely manner to ensure that the surface always stays wet with the Soiltac® dilution. DO NOT allow the Soiltac® dilution to dry between the application coats. Failure to do so will result in an underperforming "skin" layer rather than a penetrating layer.

5.) Clean the Application Equipment

- Rinse:** Rinse off all application equipment thoroughly with water until clean. If Soiltac® is allowed to dry and cure use a hot pressure washer or steam cleaner and brush to remove residue.
- Traffic:** Prevent any human activity over the treated area until the site has completely cured.
- Curing:** Allow the treated area to dry and cure for approximately 24 hours (@70°F/21°C).



SOILTAC®

Topical Non-Traffic & Slope Area Application Overview

1.) Prepare the Site:

Dry Soil: The site should be completely dry free from water.

Weather: The site must be free from rain for a minimum of 72 hours after the application. Temperature must be at least 40°F (4°C).

Compaction (Optional): Compaction is not required but is recommended for optimal longevity. A minimum of 95% density is recommended (per ASTM D 698 D 1557 modified Proctor Density).

Drainage: Optimally, contour the site to provide for proper drainage to prevent channeled water flow.

2.) Prepare Application Equipment

Spray Nozzles: Set spray nozzles to the desired width, height and output rate.
Test equipment (off-site) if necessary.

Coverage: The spray nozzles should provide an even coat over the treatment area with each pass.

Spray Rate: Set the spray rate high enough to allow even coverage with multiple coats and low enough to prevent material from draining away from the treatment area.

Pre-Wetting (Optional): Optimally, pre-wet the treatment area with water (only) to break the surface tension and increase penetration depth. Pre-wet at a rate of 100 SF/gallon (2.5m²/liter) of water.

Release Agent (Optional): Optionally, a form release agent (like Durasoil®) can be sprayed onto the equipment to prevent Soiltac® overspray from adhering onto the outside of the equipment

3.) Prepare the Soiltac® Dilution:

Water: Fill the application equipment with the recommended volume of water.
Reference the "application coverage rates" chart.

Example: 6 Month Dust Control (no traffic)=75 gal./acre=580 ft²/gal.)(2.5m²/liter) + 15 parts water

Equipment: 4,000 gallon (15,142 liters) water truck

Calculation: 15+1 = 16 parts dilution total.

4,000 gallons / 16 parts = 250 gallons (946 liters) per part

Volume of Water: 250 gallons X 15 parts = 3,750 gallons (14,195 liters) of water

Volume of Soiltac®: 250 gallons X 1 part = 250 gallons (946 liters) of Soiltac® concentrate

Volume of Dilution: 250 gallons X 16 parts = 4,000 gallons (15,142 liters) of Soiltac® dilution

Soiltac: Fill the application equipment with the recommended volume of Soiltac® concentrate.

Foaming: To prevent foaming, add the Soiltac® concentrate last, directly into the water.

4.) Apply the Soiltac® Dilution

Multiple Coats: Apply the Soiltac® dilution in coats over the treatment area. On slopes, the steeper the slope, the need for more coats (to prevent run-off and increase penetration depth).

Example: (See Above) 6 Month Dust Control Rate (no traffic) typically requires 1-2 Coats

250 gallons / 2 coats = 125 gallons (473 liters) (Soiltac® concentrate) per coat.

4,000 gallons / 2 coats = 2,000 gallons (7,571 liters) (Soiltac® dilution) per coat.

250 gallons (Soiltac® concentrate) / 75 gal./acre = 3 1/3 acre (13,489 m²) treatment per water truck

Drying: On slopes, each successive coat of Soiltac® dilution should be applied in a timely manor to ensure that the surface always stays wet with the Soiltac® dilution. On slopes, DO NOT allow the Soiltac® dilution to dry in between the application coats. Failure to do so will result in an underperforming "skin" layer rather than a penetrating layer.

5.) Clean the Application Equipment

Rinse: Rinse off all application equipment thoroughly with water until clean. If Soiltac® is allowed to dry and cure, use a pressure washer or steam cleaner and a brush to remove residue.

Traffic: Prevent any human activity over the treated area.

Curing: Allow the treated area to dry and cure for approximately 24 hours (@70°F/21°C).



SOILTAC®

Mixed-In (2-6" ↔ 5-15cm Deep) Soil Stabilization Application Overview

1.) Prepare the Site:

Dry Soil: The site must be below the optimum moisture level

(minimally low enough to reach optimum with the addition of Soiltac® at a 1:1 water ratio).

Weather: The site must be free from rain for a minimum of 72 hours after the application. Temperature must be at least 40°F (4°C).

1.) Scarification:

Scarification: Scarify or till the soil completely (without clods) to the recommended depth.

Large Aggregate: Remove any large aggregate (4"+/10cm+) that could effect the final compaction.

2.) Prepare Application Equipment

Spray Nozzles: Set spray nozzles to the desired width, height and output rate.

Test equipment (off-site) if necessary.

Coverage: The spray nozzles should provide an even coat over the treatment area with each pass.

Spray Rate: Set the spray rate high enough to allow even coverage with multiple coats and low enough to prevent material from draining away from the treatment area.

Release Agent (Optional): Optionally, a form release agent (like Durasoil®) can be sprayed onto the equipment to prevent Soiltac® overspray from adhering onto the outside of the equipment

3.) Prepare the Soiltac® Dilution:

Water: Fill the application equipment with the recommended volume of water.

Dilution Calculation: The amount of water required to achieve optimum moisture must be field determined by comparing the in place moisture content to the optimum moisture content (determined by a laboratory proctor test ASTM D2216-92). The in place moisture content can be determined by the average of four in place readings with a nuclear density gauge. Testing the native soil for optimum moisture levels **is required** to determine the exact parts of water to use for diluting Soiltac® properly. *Not enough water will generate dry spots / too much water will create mud or "pumping". Optimum moisture is critical when compacting for maximum compressive strength.*

Example: Base Stabilization Average (6"/15cm deep) rate (25 ft²/gal.)(1.63L/m²),

4,000 gallon (15,142 liter) water truck, 4 parts water (laboratory & field calculated) dilution rate

Calculation: 3+1 = 4 parts dilution total.

4,000 gallons / 4 parts = 1,000 gallons (3,785 liters) per part

Volume of Water: 1,000 gal. X 3 parts = 3,000 gallons (11,356 liters) of water

Volume of Soiltac: 1,000 gal. X 1 part = 1,000 gallons (3,785 liters) of Soiltac® concentrate

Volume of Dilution: 1,000 gal. X 4 parts = 4,000 gallons (15,142 liters) of Soiltac® dilution

Soiltac: Fill the application equipment with the recommended volume of Soiltac® concentrate.

Foaming: To prevent foaming, add the Soiltac® concentrate last, directly into the water.

4.) Apply and Process the Soiltac® Dilution

Application: Apply the Soiltac® dilution evenly over the scarified treatment area.

Example: (See Above) Base Stabilization Average (6"/15cm deep) rate (25 ft²/gal.) (1.63L/m²),

1,000 gallons (Soiltac® concentrate) X 25 ft²/gal. = 25,000 ft² (2,323 m²) treatment per water truck

Processing: Till, disc or manipulate the treated soil until the dilution is uniformly distributed into the soil.

Grading: Contour, shape and crown the site to provide for proper drainage.

Compaction: Compact the site to a minimum of 95% (per ASTM D 698 D 1557 modified Proctor Density). Optimally, use a pneumatic compactor for initial compaction to prevent soil adhering to the drum and finishing with a vibratory smooth steel drum compactor.

5.) Clean the Application Equipment

Rinse: Rinse off all application equipment thoroughly with water until clean. If Soiltac® is allowed to dry and cure use a hot pressure washer or steam cleaner and brush to remove residue.

Traffic: Prevent any human activity over the treated area until the site has completely cured.

Curing: Allow the treated area to dry and cure for approximately 24 hours (@70°F/21°C).

Topical Wear Coarse: If the mix-in/processed area is not going to be covered with an alternate topical wear coarse (example: asphalt, concrete, chip-seal, etc.), then a topical application of Soiltac® must be applied as a topical road sealer and surface wear coarse (see our "Standard Application Coverage Rates" for details).



SOILTAC®

Topical Water Retention Basin & Pond Lining Application Overview

1.) Prepare the Site:

Dry Soil: The site should be completely dry and free from water.

Weather: The site must be free from rain for a minimum of 72 hours after the application.
Temperature must be at least 40°F (4°C).

Compaction: Compact the site to a minimum of 95%.
(per ASTM D 698 D 1557 modified Proctor Density).

Loose Aggregate: Remove any loose aggregate, soil or debris from the treatment area.

2.) Prepare Application Equipment

Spray Nozzles: Set spray nozzles to the desired width, height and output rate.
Test equipment (off-site) if necessary.

Coverage: The spray nozzles should provide an even coat over the treatment area with each pass.

Spray Rate: Set the spray rate high enough to allow even coverage with multiple coats and low enough to prevent material from draining away from the treatment area.

Release Agent (Optional): Optionally, a form release agent (like Durasoil®) can be sprayed onto the equipment to prevent Soiltac® overspray from adhering onto the outside of the equipment

3.) Prepare the Soiltac® Dilution:

Water: Fill the application equipment with the recommended volume of water.
Reference the "application coverage rates" chart.

Example: Water Retention Basin & Pond Lining = 20 ft²/gallons (0.5m²/liter) +2 parts water.

Equipment: 4,000 gallon (15,142 liters) water truck

Calculation: 2+1 = 3 parts dilution total.

4,000 gallons / 3 parts = 1,333 gallons (5,050 liters) per part

Volume of Water: 1,333 gallons X 2 parts = 2,670 gallons (10,100 liters) of water

Volume of Soiltac®: 1,333 gallons X 1 part = 1,333 gallons (5,050 liters) of Soiltac® concentrate

Volume of Dilution: 1,333 gallons X 3 parts = 4,000 gallons (15,142 liters) of Soiltac® dilution

Soiltac®: Fill the application equipment with the recommended volume of Soiltac® concentrate.

Foaming: To prevent foaming, add the Soiltac® concentrate last, directly into the water.

4.) Apply the Soiltac® Dilution

Multiple Coats: Apply the Soiltac® dilution in coats over the treatment area.

Example: (See Above) Water Retention & Pond Lining typically require a minimum of 6 coats.

1,333 gallons / 6 coats = 222 gallons (840 liters) (Soiltac® concentrate) per coat.

4,000 gallons / 6 coats = 667 gallons (2,520 liters) (Soiltac® dilution) per coat.

1,333 gallons (Soiltac® concentrate) X 20 ft²/gal. = 26,667 ft² (2,480 m²) treatment per water truck

Drying: Each successive coat of Soiltac® dilution should be applied in a timely manner to ensure that the surface always stays wet with the Soiltac® dilution. DO NOT allow the Soiltac® dilution to dry between the application coats. Failure to do so will result in an underperforming "skin" layer rather than a penetrating layer.

5.) Clean the Application Equipment

Rinse: Rinse off all application equipment thoroughly with water until clean. If Soiltac® is allowed to dry and cure use a hot pressure washer or steam cleaner and brush to remove residue.

Traffic: Prevent any human activity over the treated area.

Curing: Allow the treated area to dry and cure for approximately 24 hours (@70°F/21°C).



SOILTAC®

Topical Golf Course Bunker Stabilization Application Overview

1.) Prepare the Site:

Dry Soil: The site should be completely dry and free from water.

Weather: The site must be free from rain for a minimum of 72 hours after the application.
Temperature must be at least 40°F (4°C).

Compaction: Compact the site to a minimum of 95%.
(per ASTM D 698 D 1557 modified Proctor Density).

Drainage: Contour the site and drainage channels to provide for proper drainage. For optimal results, steep slopes must be aerated (with a pitchfork or similar) to maximize penetration depth and serve as stabilization anchor points.

Loose Aggregate: Remove any loose aggregate, soil or debris from the treatment area.

2.) Prepare Application Equipment

Spray Nozzles: Set spray nozzles to the desired width, height and output rate.
Test equipment (off-site) if necessary.

Coverage: The spray nozzles should provide an even coat over the treatment area with each pass.

Spray Rate: Set the spray rate high enough to allow even coverage with multiple coats and low enough to prevent material from draining away from the treatment area.

Pre-Wetting (Optional): Optimally, pre-wet the treatment area with water (only) to break the surface tension and increase penetration depth. Pre-wet at a rate of 100 SF/gallon (2.5m²/liter) of water.

Release Agent (Optional): Optionally, a form release agent (like Durasoil®) can be sprayed onto the equipment to prevent Soiltac® overspray from adhering onto the outside of the equipment

3.) Prepare the Soiltac® Dilution:

Water: Fill the application equipment with the recommended volume of water.
Reference the "application coverage rates" chart.

Example: Golf Course Bunker Liner = 50 ft²/gallons (1.2m²/liter) +5 parts water.

Equipment: 4,000 gallon (15,142 liters) water truck

Calculation: 5+1 = 6 parts dilution total.

4,000 gallons / 6 parts = 667 gallons (2,520 liters) per part

Volume of Water: 667 gallons X 5 parts = 3,333 gallons (12,620 liters) of water

Volume of Soiltac®: 667 gallons X 1 part = 667 gallons (2,520 liters) of Soiltac® concentrate

Volume of Dilution: 667 gallons X 6 parts = 4,000 gallons (15,142 liters) of Soiltac® dilution

Soiltac®: Fill the application equipment with the recommended volume of Soiltac® concentrate.

Foaming: To prevent foaming, add the Soiltac® concentrate last, directly into the water.

4.) Apply the Soiltac® Dilution

Multiple Coats: Apply the Soiltac® dilution in coats over the treatment area.

Example: (See Above) Golf Course Bunker typically require a minimum of 3 even coats.

667 gallons / 3 coats = 222 gallons (840 liters) (Soiltac® concentrate) per coat.

4,000 gallons / 4 coats = 1,000 gallons (3,785 liters) (Soiltac® dilution) per coat.

667 gallons (Soiltac® concentrate) X 50 ft²/gal. = 33,333 ft² (3,100 m²) treatment per water truck

Drying: Each successive coat of Soiltac® dilution should be applied in a timely manner to ensure that the surface always stays wet with the Soiltac® dilution. DO NOT allow the Soiltac® dilution to dry between the application coats. Failure to do so will result in an underperforming "skin" layer rather than a penetrating layer.

Drainage Systems: For optimal results, Soiltac® must be applied prior to installing a drainage system to completely seal the bunker (and seal the drainage channels). If the bunker has an existing drainage system, DO NOT apply Soiltac® over the existing drainage areas or allow any Soiltac® to run-off into the drainage areas.

5.) Clean the Application Equipment

Rinse: Rinse off all application equipment thoroughly with water until clean. If Soiltac® is allowed to dry and cure use a hot pressure washer or steam cleaner and brush to remove residue.

Traffic: Prevent any human activity over the treated area until backfilled and covered with sand.

Curing: Allow the treated area to dry and cure for approximately 24 hours (@70°F/21°C).



MATERIAL SAFETY DATA SHEET

SECTION 1 - MATERIAL IDENTIFICATION

PRODUCT NAME	SOILTAC*
MANUFACTURER	*SOILTAC is a registered trademark of Soilworks, LLC. Soilworks, LLC. 681 North Monterey Street Gilbert, Arizona 85233-8318 USA www.soilworks.com 800-545-5420 www.Soiltac.com
TELEPHONE NUMBER	800-545-5420 (National & International)
ONLINE INFORMATION	November 2006 (<i>supersedes March 2006</i>)
EMERGENCY TELEPHONE NUMBERS	
REVISION DATE	
PHYSICAL FORM	Mobile liquid
COLOR	Milky White (transparent once cured)
ODOR	Mild / Slight (no odor once cured)
C.A.S. CHEMICAL NAME	Mixture
SYNONYMS	Soil stabilizer, soil stabilization agent, soil solidifier, soil amendment, soil additive, soil crusting agent, dust control agent, dust inhibitor, dust palliative, dust suppressant, dust retardant
CHEMICAL FAMILY	Vinyl Copolymer Emulsion
EMPIRICAL FORMULA	Mixture
INTENDED USE	Soil stabilization, soil solidification, fugitive dust control, dust suppression, dust abatement, tackifier, dust abatement, PM ₁₀ and PM _{2.5} air quality control and erosion control

SECTION 2 - INGREDIENTS

	%	CAS Number	Chemical Name
1.	50-60	Proprietary	Vinyl Copolymer
2.	40-60	7732-18-5	Water

SECTION 3 - HEALTH HAZARDS

ROUTES OF ENTRY
Eye Contact, Skin Contact, Ingestion and Inhalation

SIGNS AND SYMPTOMS OF ACUTE EXPOSURE
Eyes: Direct contact with this material may cause eye irritation including lachrymation (tearing).
Inhalation: Inhalation of vapor or aerosol may cause irritation to the respiratory tract (nose, throat, and lungs).
Skin: Contact may cause skin irritation.
Ingestion: No hazard in normal industrial use.

SIGNS AND SYMPTOMS OF CHRONIC EXPOSURE
Prolonged or repeated contact with skin may cause irritation and dermatitis (inflammation).

CARCINOGENICITY
This material **does not** contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the Occupational Safety and Health Administration (OSHA) as a carcinogen.

SECTION 4 - FIRST AID

EYE CONTACT
Flush eyes with clean water for at least 15 minutes. Get immediate medical attention.

SKIN CONTACT
Remove contaminated clothing and shoes. Wash affected area with soap and water. Get medical attention if irritation develops or persists.

INHALATION
Move patient to fresh air. If breathing has stopped or is labored give assisted respiration (e.g. mouth-to-mouth). Supplemental oxygen may be indicated. Seek medical advice.

INGESTION
Give the victim one or two glasses of water or milk to drink. Get immediate medical attention. Never give anything by mouth to an unconscious person.



SECTION 5 - FIRE AND EXPLOSION DATA

FLASH POINT (closed cup)	Not applicable
UPPER EXPLOSION LIMIT (UEL)	Not applicable
LOWER EXPLOSION LIMIT (LEL)	Not applicable
AUTOIGNITION TEMPERATURE	Not applicable
FIRE HAZARD CLASSIFICATION (OSHA/NFPA)	Non-Combustible
EXTINGUISHING MEDIA	

Product does not burn. The product will only burn after the water it contains is driven off. For dry polymer use carbon dioxide, foam, dry chemical or water fog to extinguish fire. Aqueous solution **is not flammable**.

FIRE FIGHTING EQUIPMENT

Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use.

FIRE FIGHTING INSTRUCTIONS

Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers.

FIRE AND EXPLOSION HAZARDS

This material **will not burn** unless it is evaporated to dryness. Closed containers may rupture when exposed to extreme heat.

HAZARDOUS COMBUSTION PRODUCTS

When dried polymer burns, water (H₂O), carbon dioxide (CO₂), carbon monoxide (CO) and smoke are produced.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

CONTAINMENT TECHNIQUES (Removal of ignition sources, diking etc)

Stop the leak, if possible. Ventilate the space involved.

CLEAN-UP PROCEDURES

Wear suitable protective equipment. If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent and place in an appropriate chemical waste container. Prevent spilled material from entering sanitary sewers, storm sewers, drainage systems and from entering bodies of water or ditches that lead to waterways. Transfer to containers by suction, preparatory for later disposal. Place in metal containers for recovery or disposal. Flush area with water spray. Wash contaminated property (e.g., automobiles) quickly before the material dries. For large spills, recover spilled material with a vacuum truck.

OTHER EMERGENCY ADVICE

Spilled polymer emulsion is very slippery. Use care to avoid falls. A film will form on drying. Remove saturated clothing and wash contacted skin area with soap and water. Product imparts a milky white color to contaminated waters. Foaming may result. Sewage treatment plants may not be able to remove the white color imparted to the water.

SECTION 7 - HANDLING AND STORAGE

STORAGE

Keep from freezing. Store in a dry area. Keep containers closed when not in use to minimize contact with atmospheric air and prevent inoculation with microorganisms.

HANDLING

Use only in well-ventilated areas. Avoid contact with eyes. Avoid breathing vapors. Avoid prolonged or repeated contact with skin. Wash hands thoroughly after handling and before eating or drinking.

SECTION 8 - PERSONAL PROTECTION / EXPOSURE CONTROLS

EXPOSURE GUIDELINES

There are no Occupational Safety and Health (OSHA) Permissible Exposure Limits (PEL) or American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) or Short Term Exposure Limits (STEL) established for the component(s) of this product.

EYE PROTECTION

Chemical safety glasses.

HAND PROTECTION

Rubber Gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.

RESPIRATORY PROTECTION

Not required under normal use.

PROTECTIVE CLOTHING

No specific recommendation.

ENGINEERING CONTROLS

Good general ventilation should be sufficient to control airborne levels of irritating vapors.



SECTION 9 - TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM	liquid
COLOR	Milky White (transparent once cured)
ODOR	Mild / Slight (no odor once cured)
pH	4.5-6.0
EVAPORATION RATE	< 1 (BuAc=1)
VAPOR DENSITY	> 1 (Air = 1)
BOILING POINT	>100.00°C (>212.00°F)
FREEZING POINT	<0°C (<32°F)
SOLUBILITY IN WATER	Completely (100%) (until cured)
SPECIFIC GRAVITY (Water = 1)	1.05-1.10

SECTION 10 - STABILITY AND REACTIVITY

STABILITY

Stable at ambient temperatures. Coagulation may occur following freezing, thawing or boiling.

INCOMPATIBILITY (Materials to Avoid)

No incompatibilities have been identified.

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition may form: Acetic acid and Acrolein. Thermal decomposition may produce various hydrocarbons and irritating, acrid vapors.

HAZARDOUS POLYMERIZATION

Will not occur

CONDITIONS TO AVOID

Freezing temperatures (until cured).

SECTION 11 - TOXICOLOGICAL PROPERTIES

ACUTE EYE TOXICITY

No Information is available.

ACUTE ORAL TOXICITY

No Information is available.

ACUTE SKIN TOXICITY

No Information is available.

ACUTE INHALATION TOXICITY

No Information is available.

CHRONIC/CARCINOGENICITY

This material **does not** contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the Occupational Safety and Health Administration (OSHA) as a carcinogen.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY

Common Name	Species	Test	Result	Concentration
Green Algae	Raphidocelus Subcapitata	96-hr chronic LC50	>1,000	Undiluted
Fathead Minnow	Pimephales Promelas	96-hr acute LC50	>1,208	Undiluted
Rainbow Trout	Oncorhynchus Mykiss	96-hr acute LC50	>1,000	Undiluted

ENVIRONMENTAL FATE

No data is available.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

This material **is not** a RCRA hazardous waste. Disposal of this material is not regulated under RCRA. Consult federal, state and local regulations to ensure that this material and its containers, if discarded, is disposed of in compliance with all regulatory requirements. NOTE: As supplied or diluted, product material (foam included), when splashed on automobiles or other personal property, is difficult to remove if allowed to dry.

RCRA HAZARD CLASS

This material **is not** a RCRA hazardous waste. When discarded in its purchased form, this material would not be regulated as a RCRA Hazardous waste under 40 CFR 261.



SECTION 14 - TRANSPORT INFORMATION

DOT NON-BULK SHIPPING NAME	Refer to Bill of Lading - Not DOT Regulated // Keep From Freezing // Not dangerous goods
DOT BULK SHIPPING NAME	Refer to Bill of Lading.
IMO SHIPPING DATA	Refer to Bill of Lading.
ICAO/IATA SHIPPING DATA	Refer to Bill of Lading - Not IATA Regulated // Keep From Freezing // Not dangerous goods
CFR	Not Regulated // Keep From Freezing // Not dangerous goods
IMDG	Not Regulated // Keep From Freezing // Not dangerous goods
CTC	Not Regulated // Keep From Freezing // Not dangerous goods

SECTION 15 - REGULATORY INFORMATION

TSCA SECTION 8(b) INVENTORY STATUS

All components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

TSCA SECTION 12(b) EXPORT NOTIFICATION

This material **does not** contain any components that are subject to the U.S. Toxic Substances Control Act (TSCA) Section 12 (b) Export Notification requirements.

OSHA Hazard Communication Standard (29CFR1910.1200) hazard class(es)

This material **is not** classified as hazardous under the criteria of the U.S. Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200

EPA SARA Title III Section 304 CERCLA

Reportable quantities have not been established for any of this material's components.

EPA SARA Title III Section 311/312 HAZARD COMMUNICATION STANDARD (HCS)

This material **is not** a hazardous chemical.

EPA SARA Title III Section 313 TOXIC CHEMICAL LIST (TCL)

This product **does not** contain Section 313 Reportable Ingredients.

CANADIAN INVENTORY STATUS

All components of this material are listed on the Canadian Domestic Substances List (DSL)

CANADIAN WHMIS

This material **is not** classified as a controlled product under the Canadian Workplace Hazardous Material Information System.

ADDITIONAL CANADIAN REGULATORY INFORMATION

This product **does not** contain a substance present on the WHMIS Ingredient Disclosure List (IDL) which is at or above the specified concentration limit.

EUROPEAN INVENTORY STATUS (EINECS)

The polymer portion of this product is manufactured from reactants which are listed on EINECS and meets the EINECS definition of an exempt polymer.

AICS (Australia)

Included on inventory

ENCS (Japan)

Included on inventory

ECL (South Korea)

Included on inventory

SEPA (China)

Included on inventory

SECTION 16 – OTHER INFORMATION

HMIS and NFPA Classification

Health	: 1
Flammability	: 0
Reactivity	: 0
Special Hazard	: 0

