

## Section 1 - CHEMICAL, PRODUCT AND COMPANY IDENTIFICATION

**Manufacturer Information:****Mat, Inc.**

12402 Hwy. 2  
 Floodwood, MN 55736  
 Office Phone #: 1-800-477-3028

**Supplier Information:****American Excelsior Company**

850 Avenue H East  
 Arlington, TX 76011  
 Office Phone #: (817) 385-3500

**Chemical Name:** Mixture**SDS Origination Date:** 12-14-10**Synonyms:** None**Last Revision Date:** 06-01-12**Internal Product Codes:** 043**Product Use:** Erosion control for construction

## Section 2 - HAZARDS IDENTIFICATION

**Product Overview:**

Product is a mulch of wood fibers used in erosion control for construction. This product may contain wood dust. Inhalation of wood dusts may cause irritation and dryness of the respiratory tract. Repeated skin and inhalation exposure to wood dusts may produce allergic contact dermatitis and respiratory sensitization. Accumulation of wood dusts may pose an explosion hazard. *Under normal use, handling and storage conditions, overexposure to wood dust is not anticipated.*

**GHS LABEL:****Signal word: WARNING****Primary Health Hazard(s):**

The primary health hazards posed by this product are thought to be due to exposure to wood dusts. However, handling material inside the water soluble packet contained inside the bale may result in exposure to gaseous formaldehyde.

**Potential Health Effects:**

Eyes	Exposure to dusts may cause mechanical eye irritation.
Skin	Handling of product may cause mechanical skin irritation. Repeated skin contact may cause an allergic skin sensitization reaction.
Ingestion	Ingestion of this product is unlikely. If ingestion does occur, it may produce gastric irritation and discomfort.
Inhalation	<i>Under normal use conditions, overexposure to wood dust is not anticipated.</i> Inhalation of wood dusts may cause irritation and dryness of the respiratory system. Repeated inhalation exposure may cause an allergic respiratory sensitization reaction.

**Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

Components	CAS Number	% Weight
Natural Wood Fibers	N/A	≈88.0
High Grade Organic Tackifier	N/A	≈9.0
Trade Secret	Proprietary	≈1.0
Trade Secret	Proprietary	≈1.0
Green Dye	N/A	≈1.0

**Component Information/Information on Non-Hazardous Components:**

This product may be regulated, have exposure limits or other information identified as the following:  
Wood Dust, All Soft and Hard Woods.

**Section 4 - FIRST AID MEASURES**

<b>Eyes:</b>	In case of contact, flush eyes with water for 15 minutes. Obtain medical attention if irritation persists.
<b>Skin:</b>	In case of contact, wash thoroughly with soap and large amounts of water. If irritation develops, get medical attention.
<b>Ingestion:</b>	Due to the physical nature of this material, ingestion is unlikely to occur. If ingestion does occur, seek medical attention.
<b>Inhalation:</b>	If respiratory irritation or other symptoms develop, seek medical attention.
<b>Notes to Physician:</b>	None.

### Section 5 - FIRE FIGHTING MEASURES

<b>Flash Point:</b>	N/A
<b>Method Used:</b>	N/A
<b>Upper Flammable Limit (UFL):</b>	N/A
<b>Lower Flammable Limit (LFL):</b>	See below under "Unusual Fire and Explosion Hazards"
<b>Auto Ignition:</b>	400° - 500° F
<b>Flammability Classification:</b>	N/A
<b>Rate of Burning:</b>	Moderate to rapid

**General Fire Hazards:**

Product will ignite upon exposure to ignition source.

**Unusual Fire and Explosion Hazards:**

Depending on moisture content and more importantly particle diameter, wood dust may explode in the presence of an ignition source. An airborne concentration of 40 grams (40,000mg) of dust per cubic meter of air is often used as the LEL for wood dusts. 30 grams per cubic meter for cellulose dust.

**Hazardous Combustion Products:**

Carbon monoxide, carbon dioxide, aliphatic aldehydes, rosin acids, terpenes, and polycyclic aromatic hydrocarbons.

**Extinguishing Media:**

Water, dry chemical, or sand.

**Fire Fighting Equipment/Instructions:**

Fire fighters should wear full-face, self contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling any combustion products.

### Section 6 - ACCIDENTAL RELEASE MEASURES

**Containment Procedures:** Contain by any means necessary.

**Clean-Up Procedures:** Vacuum or sweep up material as necessary.

**Evacuation Procedures:** Keep unnecessary people out of area.

**Special Instructions:** Remove sources of ignition during cleanup and a NIOSH/MSHA approved respirator and goggles should be worn when allowable exposure limits may be exceeded.

### Section 7 - HANDLING AND STORAGE

**Procedures for Handling:**

Keep dust generation to a minimum. Avoid inhaling dusts from this product. Remove all sources of ignition when handling this product.

**Recommended Storage Methods:**

Store in a cool, dry area away from moisture, excessive heat, and sources of ignition.

<b>Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION</b>	
<b>Exposure Guidelines:</b>	
A. General Product Information	Keep formation of dusts to a minimum.
B. Component Exposure Limits	
Wood Dust, All Soft and Hard Woods	OSHA PEL: 5 mg/m <sup>3</sup> ; OSHA STEL: 10 mg/m <sup>3</sup>
Western red cedar total dust	OSHA PEL-TWA: 2.5mg/m <sup>3</sup>
Soft wood total dust	ACGIH TVL-TWA: 5mg/m <sup>3</sup> ; ACGIH TVL-STEEL: 10mg/m <sup>3</sup>
Selected hard wood total dust; beech, oak	ACGIH TVL-TWA: 1mg/m <sup>3</sup>
Non-allergenic total dust	WISHA PEL-TWA: 5mg/m <sup>3</sup>
Allergenic total dust	WISHA PEL-TWA: 2.5mg/m <sup>3</sup>
<b>Engineering Controls:</b> Ventilation should be sufficient to effectively remove and prevent buildup of dusts while applying this product. Mechanical ventilation may be necessary.	
<b>Personal Protective Equipment:</b>	
Eye/Face:	Wear safety glasses, goggles, or other appropriate eye/face protection.
Skin:	Normal work clothing and gloves are recommended.
Respiratory:	When necessary, appropriate NIOSH/MSHA approved respiratory protection should be used.
General:	None.

<b>Section 9 - PHYSICAL &amp; CHEMICAL PROPERTIES</b>	
<b>Appearance:</b> Dyed green wood fibers	<b>Odor:</b> Mild
<b>Physical State:</b> Solid	<b>pH:</b> N/A
<b>Vapor Pressure:</b> N/A	<b>Vapor Density:</b> N/A
<b>Boiling Point:</b> N/A	<b>Freezing Point:</b> N/A

<b>Section 10 - CHEMICAL STABILITY &amp; REACTIVITY INFORMATION</b>	
<b>Chemical Stability:</b>	Stable.
<b>Conditions to Avoid:</b>	Avoid excessive heat and ignition sources. Avoid open flame. Product may ignite at temperatures in excess of 400° F.
<b>Incompatibility:</b>	Avoid contact with oxidizing agents and drying oils.
<b>Hazardous Decomposition Products:</b>	Carbon monoxide, carbon dioxide, aliphatic aldehydes, rosin acids, terpenes, and polycyclic aromatic hydrocarbons.
<b>Hazardous Polymerization:</b>	Hazardous polymerization will not occur.

<b>Section 11 - TOXICOLOGICAL INFORMATION</b>	
<b>Acute Toxicity/Target Organ Information:</b>	
A. General Product/Component Information	Wood dusts are generally considered respiratory irritants and sensitizers. However, the ability of the dust to cause sensitization reactions varies greatly with the species of wood. <i>Under normal use, storage and handling conditions, overexposure to wood dust is not anticipated.</i>
<b>Epidemiology:</b>	No data available for this product.
<b>Carcinogenicity:</b>	
A. General Product/Component Information	There is some evidence that exposure to certain wood dusts may be associated with an increased risk of certain nasal cancers. However, that risk appears to vary greatly with the species of wood and the duration and extent of exposure. <i>Under normal use conditions, overexposure to wood dust is not anticipated.</i>
B. Component Carcinogenicity Listings	Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
<b>Reproductive Toxicity:</b>	No data available for this product.
<b>Neurotoxicity:</b>	No data available for this product.
<b>Mutagenicity:</b>	No data available for this product.
<b>Other Information:</b>	No data available for this product.

<b>Section 12 - ECOLOGICAL INFORMATION</b>	
<b>Ecotoxicity:</b>	No data available for this product.
<b>Environmental Fate:</b>	100% of product is composed of natural and biodegradable components.

<b>Section 13 - DISPOSAL CONSIDERATIONS</b>	
<b>US EPA Waste Number &amp; Descriptions:</b>	
A. General Product Information	- As shipped, not regulated as a hazardous waste.
B. Component Waste Numbers	- This product contains components listed under EPA Registry CAS # 9000-30-0
<b>Disposal Instructions:</b>	
Dispose of waste material in accordance with all applicable Federal, State, or provincial and local environmental regulations.	

<b>Section 14 - TRANSPORTATION INFORMATION</b>	
<b>DOT Information:</b>	
Shipping Name:	Not regulated as a hazardous material
Hazard Class:	Not regulated
UN/NA #:	Not regulated
Packing Group:	Not regulated
<b>Label(s) Required:</b>	None
<b>Additional Shipping Information:</b>	None
<b>International Transportation Regulations:</b> Not regulated as dangerous goods	

### Section 15 - REGULATORY INFORMATION

**US Federal Regulations:**

- |    |                             |  |
|----|-----------------------------|--|
| A. | General Product Information | N/A  |
| B. | Component Information       | None of this product's components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4). |

**State Regulations:**

- |    |                             |   |
|----|-----------------------------|---|
| A. | General Product Information | N/A   |
| B. | Component Information       | None of this product's components are listed on the state lists from CA, FL, MA, MN, NJ, or PA. |

**Other Regulations:**

- |    |                             |  |
|----|-----------------------------|--|
| A. | General Product Information | N/A  |
| B. | Component Information       | None of the components are listed on the Canadian Controlled Product Ingredient Disclosure List. |

### Section 16 - OTHER INFORMATION

As the conditions of methods of use are beyond our control, American Excelsior Company does not assume any responsibility and expressly disclaims any liability for use of this material. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of this material, or the results to be obtained thereof. Compliance with all federal, state, provincial, and local laws and regulations remains the responsibility of the user.

**Key/Legend:**

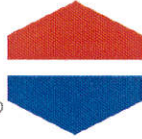
ACGIH	American Conference of Governmental Industrial Hygienists
CERCLA	Comprehensive Environment Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPA	Environmental Protection Agency
HMIS	Hazard Materials Information System
IARC	International Agency for Research Cancer
mg/m <sup>3</sup>	milligrams per cubic meter
N/A	Not applicable or Not available
NIOSH	National Institute of Occupational Safety and Health
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TWA	Time Weighted Average (8 hours)
WISHA	Washington Industrial Safety and Health Administration

**NFPA Ratings:** Health: 1, Fire: 1, Reactivity: 0, Other: 0

**HMIS Ratings:** Health: 1, Fire: 1, Reactivity: 0, Personal Protection: N/A

**SDS Contact:** American Excelsior Company      **Phone:** (817) 385-3500





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## INDEX™ BFM INSTALLATION GUIDELINES

Before hydraulically applying Bindex BFM (Bonded Fiber Matrix), the site shall be inspected by the Owner's Representative to ensure the area to be protected is geotechnically stable. In addition, areas to be protected should be designed to prevent run-on conditions. Bindex BFM shall not be used in channels or areas of concentrated flow. The contractor shall proceed when all satisfactory conditions are present.

Each bag [ $\approx$  50 lb (22.7 kg)] of Bindex BFM should be mixed with approximately 100 gallons (378.5 L) of water and applied at a rate of 3,000 – 4,200 lb/acre (3,362 – 4,707 kg/ha). See “Bindex BFM Topographic Index Guide” for application rates by slope gradient and soil conditions. See “Bindex Loading Chart” for details on mixing procedures. Mixing and application rates shall always be matched to project-specific specifications.

Apply Bindex BFM from two directions for best coverage results. Bindex BFM shall not be applied immediately before, during or after rainfall, such that the matrix will have opportunity to dry for up to 24 hours after installation. Bindex BFM should not be applied to saturated soil. If conditions are marginal (or it is difficult to predict the weather) apply only a light application [about 1,000 lb/acre (1,120 kg/ha)] and reapply the remainder when conditions improve (this technique allows crews to keep busy during periods of marginal weather without risking the whole application). Bindex BFM can be very effective when built up in layers without compromising the final quality or performance.

Curlex® Sediment Logs® for slope interruption should be used in conjunction with Bindex BFM when slope length exceeds 75 ft (22.9 m).

See “4 Tips for Installing Bindex BFM” for additional details on installing this product.







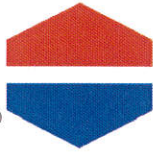




## Height (in inches) Measured from Top of Tank

Bags of Bindex	Mix Volume (gal)	FINN T60	FINN T90	FINN T120	FINN T170	FINN T280	FINN T330	Bowie 500	Bowie 800	Bowie 1100	Bowie 1500	Bowie 2500	Bowie 3000	Kincaid 425	Kincaid 700	Kincaid 900	Kincaid 1200
1	108	26.0	32.0					25.5	35.0					24.0	28.0	28.5	37.5
2	216	21.0	27.0					7.5	31.0					16.0	22.5	23.5	32.5
3	324	15.0	24.0					9.5	25.5	28.0				9.0	17.5	19.0	28.0
4	432	8.5	19.0	27.0	32.0			5.5	21.0	24.0	29.5			0	13.0	15.0	24.0
5	540	3.5	15.0	23.0	29.0			1.0	16.0	19.5	26.0				8.5	11.5	20.0
6	648		10.0	15.0	25.0				11.0	15.0	23.5				4.0	8.5	17.0
7	756		6.0	12.0	22.5	37.5			4.5	11.0	21.0	34.0				5.0	14.0
8	864		2.0	9.5	21.0	36.5			1.0	8.0	19.0	33.0				1.0	10.5
9	972			7.0	18.5	34.5				4.0	17.0	31.0					7.0
10	1,080			3.5	16.0	32.0	35.0			2.0	15.5	28.5	35.5				3.5
11	1,188				13.0	29.5	33.0				13.0	26.0	33.0				
12	1,296				10.0	28.5	31.6				10.0	24.5	31.5				
13	1,404				8.5	27.0	30.0				7.5	23.0	30.0				
14	1,512				6.0	25.0	28.5				4.5	21.0	28.0				
15	1,620				4.0	22.5	27.0				2.0	19.5	25.5				
16	1,728					20.0	25.5					16.5	24.0				
17	1,836					17.0	24.0					14.5	22.0				
18	1,944					15.0	22.5					12.5	21.0				
19	2,052					14.0	21.0					10.5	18.0				
20	2,160					12.5	18.5					9.0	16.5				
21	2,268					10.0	17.0					7.0	15.0				
22	2,376					7.0	15.5					5.0	13.0				
23	2,484					5.5	14.0					3.5	10.5				
24	2,259					4.0	12.0					2.0	9.5				
25	2,700					2.5	10.0					0.0	7.5				
26	2,808						8.5						6.0				
27	2,916						6.5						4.5				
28	3,024						4.0						3.0				
29	3,132						2.5						1.5				
30	3,240						1.0						0.0				





### Mixing Procedures:

1. Pre-mixing: Purge pump, pipe, boom, and hose with clear water .
2. Consult chart to determine number of Bindex BFM bags required to cover job site or to mix desired volume.
3. Position required bags on top of hydroseeder. Prepare for loading by opening bag ends.
4. Fill machine with sufficient water (2/3 of water needed for load).
5. Start mixing agitators and regulate throttle throughout loading process to achieve *MODERATE* agitation. Do not engage recirculation systems (FINN).
6. Add seed and fertilizer to tank (unless applying Bindex to pre-seeded site).
7. Load Bindex BFM through the Bowie bale breaker or load through loading hatch. With FINN forward and reverse paddles to break up any lumps. Each bag contains a water soluble packet of activator that requires no handling. Simply let the packet fall into the tank during loading.
8. Continue adding water to correct depth for number of bags and agitate at *MODERATE* throttle.
9. Vigorously agitate at full throttle ( $\approx 2 - 5$  minutes) until no lumps are visible. With FINN forward and reverse paddles.
10. Agitate slurry on *MODERATE* throttle for a minimum of ten minutes after loading to allow thickening. Perform the “Free Liquid” test to ensure suitability of slurry for application.

A quick quality control measurement to test the mixture is the Free Liquid Test. This test is completed in the field immediately prior to spraying/application. The Free Liquid Test checks for all of the following:

- Correct type and amount of binder was used during manufacturing.
- Correct Bindex BFM:water ratio was used (i.e., the proper number of Bindex BFM bags were counted and the correct amount of water was added during loading).
- Correct mixing procedure was followed so that no unmixed material is suspended in the tank.
- Correct stirring/agitation rate and duration.
- Correct longevity of components (product has not degraded during shipment or storage).

Free Liquid Test Method: Place an 8 in x 8 in (203.2 mm x 203.2 mm) square of plywood marked with concentric circles with radii of 1 in, 2 in, 3 in, and 4 in (25.4 mm, 50.8 mm, 76.2 mm, and 101.6 mm) on level ground (do not place on the machine to avoid vibration). Remove a cup [(8-10 fl.oz) (237-296 mL)] of Bindex BFM slurry from the tank. Center the plywood over the cup and turn over. Slowly lift up the cup to release the Bindex BFM slurry onto the plywood. Observe the slurry for one minute. Free liquid may be seen flowing away from the fibrous mass forming a ring around the Bindex BFM. The free liquid must travel less than 1 in (25.4 mm) in 1 minute for the mixture to pass the test.

11. Apply slurry in even layers, working back and forth, for uniform coverage of soil. Apply from two directions or from top and bottom (if possible) from best coverage results. Fit hose or cannon with proper nozzle to create a gentle and finely dispersed spray that “rains down” on soil.

Note: Bindex BFM is designed to be installed only with mechanically agitated hydroseeders.





## To Help Organize Your Approach When Applying Bindex BFM See the 4 Tips Below:

1. Remember that with Bindex BFM you are building an erosion control system on site (you are not only hydroseeding). The recommended application rate is 3,000 to 4,200 lb/acre (3,362 – 4,707 kg/ha), which is greater than some other mulch applications. Bindex BFM covers most soils with as little as 1,000 lb/acre (1,120 kg/ha), but you will need to apply the full recommended measure in order to achieve the required thickness. Anything thinner will not provide the protection necessary to ensure proper erosion control and plant germination.
2. Measure everything. Bindex BFM is dependent upon achieving the proper water-to-product ratio. 100 gallons (378.5 L) of water is required for every bag to yield 108 gallons (409 L) of Bindex BFM slurry. The job site area should be carefully measured as well. It is best to mark off the site area that will be covered by one full tank load (less any residual) to be sure that you have applied the requisite amount of the product. It is also vitally important that you conduct the Free Liquid Test on every tank load to ensure that proper mixing has occurred.
3. Watch the weather. Bindex BFM must dry completely to be effective. Do not apply to saturated soils. Do not apply if rain is expected within 24 hours.
4. Use only full bags. Each bag of Bindex BFM is self-contained and already includes all the ingredients necessary to build an efficient erosion control cover.

Within each bag you may notice one packet within the top section of the bag. This packet contains the activator that creates the bonding effect for Bindex BFM. This packet is composed of polyvinyl acetate (PVA) and will dissolve almost on contact with water.

Disclaimer: Bindex BFM is a system for erosion control and revegetation on slopes. American Excelsior Company (AEC) believes that the information contained herein to be reliable and accurate for use in erosion control and revegetation applications. However, since physical conditions vary from job site to job site and even within a given job site, AEC makes no performance guarantees and assumes no obligation or liability for the reliability or accuracy of information contained herein, for the results, safety, or suitability of using Bindex BFM, or for damages occurring in connection with the installation of any erosion control product whether or not made by AEC or its affiliates, except as separately and specifically made in writing by AEC. These guidelines are subject to change without notice.

