Manufacturer
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Product Name: Conwed Fibers® Hydro Mulch® 2000
Revision Date: 1/1/14
MSDS Number: CON034
CAS Number: Not applicable
Product Use: Erosion control and revegetation mulch for hydraulic seeding

Product Description: Green dyed wood fibers and a proprietary binder mixture.

HAZARDS IDENTIFICATION

Route of Entry: Inhalation, skin contact, eye contact

Inhalation: Wood may cause sneezing, irritation, and dryness of the nose and throat. Dust may aggravate pre-existing respiratory conditions.

Skin Contact: Wood dust can cause irritation. Skin absorption is not known to occur.

Eye Contact: Wood dust can irritate the eyes.

Ingestion: No reports of human ingestion.

NFPA: Health = 1, Fire = 1, Reactivity = 0

OSHA Classification: Wood dust is a hazardous substance as defined by the Hazard Communication Standard 29CFR 1910.1200
## COMPOSITION/INFORMATION ON INGREDIENTS

### Ingredients:

<table>
<thead>
<tr>
<th>Cas #</th>
<th>Perc.</th>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>N /A</td>
<td>Proprietary</td>
<td>Hydrocolloidal Based Polysaccharide Tackifier</td>
</tr>
<tr>
<td>9000300</td>
<td>Proprietary</td>
<td>Guar Gum</td>
</tr>
</tbody>
</table>

## FIRST AID MEASURES

**Inhalation:** Usually not a problem. Remove to fresh air if respiratory irritation develops, and get medical aid promptly if irritation persists.

**Skin Contact:** Usually not a problem. Wash off with running water if irritation is experienced.

**Eye Contact:** Open eyelids and flush with water.

**Ingestion:** Get medical attention.

## FIRE FIGHTING MEASURES

### Flammability:
- Combustible product

### Flash Point:
- Not applicable

### Flash Point Method:
- Not applicable

### Autoignition Temp:
- 200-260°C (400-500°F)

**Conditions to avoid:** In contact with flames or hot surfaces

Flammable- Extinguish with water; same as a wood fire

## ACCIDENTAL RELEASE MEASURES

Scoop up product. Wear goggles and respirator if dust is produced in unventilated areas. Wet product will be slippery.

## HANDLING AND STORAGE

### Handling Precautions:
- Clean up areas where dust settles. Minimize blowdown or other practices that generate high airborne dust concentrations.

### Storage Requirements:
- Store in a cool, dry place. Keep away from sources of ignition.
EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: None required for outdoor mixing and application. Use dust collection system for indoor handling operations.

Personal Protective Equip:
- Eye Protection: Wear goggles when emptying bags and during other operations where there is a risk of dust entering the eyes.
- Gloves: Leather, plastic or rubber gloves could be worn to minimize skin irritation.
- Respirators: When handling methods generate dust at concentrations that exceed occupational exposure limits, wear a NIOSH approved respirator. A fabric respirator or a facepiece respirator with dust cartridges will generally provide adequate protection.
- Footwear: The product is slippery when wet. Wear appropriate footwear.

PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Dyed green wood fibers - Pine & mixed hardwoods
- Physical State: Wood Fibers
- Spec Grav./Density: Lighter than water
- Vapor Pressure: N/A
- Odor: Mild wood odor

STABILITY AND REACTIVITY

- Stability: Stable product
- Conditions to Avoid: Contact with strong acids and oxidizers may generate heat. Product may ignite at temperatures in excess of 200°C (400°F).
- Materials to Avoid: Strong acids and oxidizers
- Hazardous Polymerization: Will not occur.

TOXICOLOGICAL INFORMATION

EFFECTS OF CHRONIC EXPOSURE:

Inhalation: Frequent and repeated exposure to wood dust is associated with an increased risk of developing nasal cancer.
Skin Contact: Although rare, wood dust may cause dermatitis in sensitized people.

Occupational Exposure Limits:

Wood dusts- All other species: ACGIH (2007): TLV-TWA 1 mg/m³ (Inhalable fraction); A4
Particulates Not Otherwise Regulated (PNOR): OSHA: PEL-TWA 15 mg/m³ (Total Dust); 5 mg/m³ (Respirable fraction)

Irritancy: Wood dust is a mild irritant
Sensitization: Some wood dusts may cause allergic skin reactions
Guar Gum (CAS# 9000-30-0) is listed as an inert ingredient permitted for use in nonfood use pesticide products by EPA. It is also classified under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as a minimal risk inert substance (List 4A) meaning that as a pesticide, Guar Gum is considered by the EPA to pose little or no risk to humans or the environment. The US Department of Agriculture (USDA) National Organic Program (NOP) also allows the use of Guar Gum in a variety of applications, but primarily as a pesticide in organic production operations. Finally, Guar Gum is listed on the Generally Recognized as Safe (GRAS) list by the Food and Drug Administration (FDA).

48-hr LC₅₀ = >100% for Daphnia magna when runoff generated using ASTM D7101 (2”/hr rainfall rate) was tested according to EPA-821-R-02-012.

Normally can be disposed of as a wood residue. Ensure disposal is in compliance with local, provincial (state), and federal regulations.

DOT Class: Not regulated #
### REGULATORY INFORMATION

#### COMPONENT / (CAS/PERC) / CODES

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS/PERC Code</th>
<th>Code</th>
</tr>
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<tbody>
<tr>
<td>Guar Gum</td>
<td>9000300 n/a%</td>
<td>TSCA</td>
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</table>

#### REGULATORY KEY DESCRIPTIONS

- **MASS** = MA Massachusetts Hazardous Substances List
- **NRC** = Nationally Recognized Carcinogens
- **OSHAWAC** = OSHA Workplace Air Contaminants
- **PA** = PA Right-To-Know List of Hazardous Substances
- **TXAIR** = TX Air Contaminants with Health Effects Screening Level
- **CERCLA** = Superfund clean up substance
- **CSWHS** = Clean Water Act Hazardous substances
- **EHS302** = Extremely Hazardous Substance
- **EPCRAWPC** = EPCRA Water Priority Chemicals
- **HAP** = Hazardous Air Pollutants
- **NJHS** = NJ Right-to-Know Hazardous Substances
- **OSHAPSM** = OSHA chemicals Requiring process safety management
- **SARA313** = SARA 313 Title III Toxic Chemicals

#### OTHER INFORMATION

- **TSCA** = Toxic Substances Control Act
Hydraulic Mulch Products
The Standard of Erosion Control since 1965
Industry-leading performance since 1965

When Conwed Fibers® introduced the industry’s first wood fiber hydraulic mulch, it set a new standard for hydraulically-applied erosion control products. Hydroseeding contractors were quick to recognize that the cost-effective performance was clearly superior. Ever since, their loyalty to the Conwed Fibers brand has only gotten stronger. So strong, in fact, that Conwed Fibers hydraulic mulches remain the #1 choice of hydroseeding contractors.

Erosion control products that bear the Conwed Fibers brand are produced in a state-of-the-art manufacturing facility located in Conover, North Carolina. Advanced processing techniques and stringent quality control standards assure consistent product performance in every bag.
Expanding on a proven record of superior performance

Conwed Fibers continues to evolve its portfolio of products to strengthen its industry-leading position as the hydraulic mulch of choice. Innovative components have been engineered into these products to enhance ease of application, on-the-ground performance, sustainability and lasting value. TriFlo™, for example, is integrated into Conwed Fibers® Hydro Mulch® 1000 to increase shooting distance and yield. Every hydro mulch product features 100% recycled and biodegradable components. It’s no surprise contractors prefer Conwed Fibers over competitive products.

Conwed Fibers is always busy working on additional ways to increase the on-site value of its erosion control products by making them even more efficient, effective and environmentally responsible.
Superior fibers make all the difference

Conwed Fibers® set the industry standard for outstanding erosion control and vegetative establishment with a Thermally Refined® wood process utilizing steamed heat in a high-pressure vessel to create long and highly absorbent fibers. These fibers, when combined into a matrix, are proven to provide unique performance.

**Better yield:** Thermally Refined wood fiber mulch delivers up to 30% more yield than competitive products. Seven bags of Conwed Fibers mulch yields as much fiber mass as 10 bags of competitive mulch.

**Better coverage:** Thermally Refined wood fiber mulch provides superior coverage with greater loft, resulting in more air and water holding potential to support more complete germination and faster vegetation establishment. The larger volume of fiber more effectively reduces soil surface evaporation and resists erosion.

**Faster germination and establishment:**
Thermally Refined wood fiber mulch has significantly more water-holding capacity to enhance more rapid vegetative establishment.

**Greater productivity:** Thermally Refined wood fiber mulch mixes more completely and shoots more smoothly so you’ll get more done in less time. Clogs that often occur when applying competitive mulches are significantly reduced.

**Better for the environment:** Conwed Fibers products are 100% biodegradable and made from recycled fibers that are weed and pathogen free, leave no nets or threads, and are non-toxic to fish and wildlife.

When you add everything up—the overall performance, the advantages and the value—

“If’s all about the fibers”

Putting Thermally Refined wood fibers to the test

Competitive wood fiber mulches typically use an atmospherically refined wood process, which creates shorter, coarse fibers with minimal loft. This significantly impacts yield, coverage and water-holding capacity.

Thermally Refined wood fiber has dramatically more surface area which generates greater yield, loft and coverage, compared to the coarse and shorter fiber produced from atmospherically refining the wood.
Yield and coverage

In the real world: The increased volume of Thermally Refined wood fibers provides better soil surface coverage and loft for outstanding erosion control, seed germination and plant establishment.

Visit www.ProfileEVS.com/yield to view side-by-side yield and coverage comparisons between Thermally Refined wood fibers and competitive fibers.

Water-holding capacity

In the real world: Easier to shoot, better germination and establishment—Thermally Refined wood fibers absorb water well to create a more fluid slurry that stays in suspension longer, resulting in fewer clogs, better shooting distance and more uniform coverage. The added water in the mulch, and the ability to reabsorb and hold more water, greatly enhances seed germination and vegetation establishment.

Visit www.ProfileEVS.com/capacity to see why the water-holding capacity of Thermally Refined wood fibers is so much greater than competitive fibers.
Leading performance and outstanding value, right down the line

Conwed Fibers® wood and wood/cellulose hydraulic blend mulches are ideally suited for a wide range of erosion control and turf establishment applications, including:

<table>
<thead>
<tr>
<th>Golf Courses</th>
<th>Airports</th>
<th>Commercial Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipelines</td>
<td>Highways</td>
<td>Reclamation</td>
</tr>
<tr>
<td>Landfills</td>
<td>Recreational Areas</td>
<td>Residential Properties</td>
</tr>
</tbody>
</table>

Conwed Fibers® Hydro Mulch® 1000 with TriFlo™
- Contains 100% Thermally Refined® wood fiber and all of its unique advantages.
- Thermally Refined wood fiber mulch delivers up to 50% more water-holding capacity than atmospherically refined wood mulch for superior, more cost-effective performance.
- TriFlo additives provide better yield, easier shooting and increased distance.

Conwed Fibers® Hydro Mulch® 2000
- 100% wood fiber just like Conwed Fibers Hydro Mulch 1000 with the addition of a premium tackifier.
- Tackifier is a pre-blended, high-viscosity, organic polysaccharide tackifier for superior erosion control performance.
- All-in-one package eliminates the extra step and potential errors associated with mixing tackifiers.

Conwed Fibers® EnviroBlend® with TriFlo™
- The #1 selling wood and cellulose blend in the industry.
- TriFlo provides easier application and better yield; less hose clogging and more ground coverage.

Conwed Fibers® EnviroBlend® with Tack
- Same product as EnviroBlend with the addition of a premium tackifier.
- Tackifier is a pre-blended, high-viscosity, organic polysaccharide tackifier for superior erosion control performance.
- All-in-one package eliminates the extra step and potential errors associated with mixing tackifiers.

Conwed Fibers® Cellulose
- High-quality, recycled 100% cellulose fiber mixes in water at an accelerated rate and stays in suspension for more uniform consistency, reducing the maché effect which increases establishment.
- An exclusive defibration manufacturing process increases the water-holding capacity by 22% for excellent seed germination.
- Provides erosion control that is superior to straw, so a great choice for general seeding.
- Darker, richer green color than competing brands gives you ideal visual metering and provides a more professional look from the very beginning.
- Shoots great, allowing hydraulic equipment to run efficiently while providing excellent ground coverage.

Conwed Fibers® Cellulose with Tack
- Same product as Cellulose with the addition of a premium tackifier.
- Tackifier is a pre-blended, high-viscosity, organic polysaccharide tackifier for enhanced erosion control performance.
- All-in-one package eliminates the extra step and potential errors associated with mixing tackifiers.
Soil test before selecting the right mulch for the job

Conwed Fibers offers the broadest range of hydraulic mulches. Each has properties and performance characteristics that are best suited for different sites. Each can be customized to meet specific project requirements. However, the quality of the soil these mulches cover is critical to the project’s success. To ensure the mulches you choose produce the best results, you need a soil analysis. To assist you with that, Conwed Fibers offers a free soil test. To get yours, visit www.ProfileEVS.com/free-soil-test.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>APPLICATION</th>
<th>SLOPE</th>
<th>CONTINUOUS MAX. SLOPE LENGTH* (without slope interruption devices)</th>
<th>CONDITIONS</th>
<th>RATE/LB PER ACRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conwed Fibers® Hydro Mulch® 2000</td>
<td>Erosion Control</td>
<td>≤ 3:1 ≤ 4:1</td>
<td>30 ft (9.1 m)</td>
<td>Moderate</td>
<td>2,500 [2,831 kg/ha] 2,000 [1,699-2,265 kg/ha]</td>
</tr>
<tr>
<td>Conwed Fibers® Hydro Mulch® 1000 with TriFlo™</td>
<td>General Seeding</td>
<td>≤ 3:1 ≤ 4:1</td>
<td>28 ft (8.5 m)</td>
<td>Moderate</td>
<td>2,500 [2,831 kg/ha] 2,000 [1,699-2,265 kg/ha]</td>
</tr>
<tr>
<td>Conwed Fibers® EnviroBlend® with Tack</td>
<td>General Seeding</td>
<td>≤ 3:1 ≤ 4:1</td>
<td>25 ft (7.6 m)</td>
<td>Mild</td>
<td>2,500 [2,831 kg/ha] 2,000 [2,265 kg/ha]</td>
</tr>
<tr>
<td>Conwed Fibers® EnviroBlend® with TriFlo™</td>
<td>General Seeding</td>
<td>≤ 3:1 ≤ 4:1</td>
<td>23 ft (7.0 m)</td>
<td>Mild</td>
<td>2,500 [2,831 kg/ha] 2,000 [2,265 kg/ha]</td>
</tr>
<tr>
<td>Conwed Fibers® Cellulose with Tack</td>
<td>General Seeding/Reclamation/Straw Tacking</td>
<td>≤ 4:1</td>
<td>20 ft (6.1 m)</td>
<td>Mild</td>
<td>2,000 [2,265 kg/ha]</td>
</tr>
<tr>
<td>Conwed Fibers® Cellulose</td>
<td>General Seeding/Reclamation/Straw Tacking</td>
<td>≤ 4:1</td>
<td>18 ft (5.5 m)</td>
<td>Mild</td>
<td>2,000 [2,265 kg/ha]</td>
</tr>
</tbody>
</table>

Note: Using less than 2,000 lb per acre may compromise performance and results. For applications on steeper slopes, the maximum slope length may need to be reduced based on actual site conditions.

Use ProPlus® additives for improved performance

With a soil test, you will know if additives are needed to modify the soil’s chemistry to create the best environment for rapid establishment and vegetative growth. ProPlus accessories offer the most comprehensive line of hydraulic mulch additives to improve the soil’s composition, and to assure effective on-site results.

Prescriptive Agronomic Formulations to correct deficiencies indicated through soil testing.
  » Seeds germinate more quickly and more completely.
  » Plants develop deeper roots for more sustainable results.

Fiber Mulch Amendments improve application efficiencies and performance of base mulches.
  » Hydraulic slurries shoot farther and spread more evenly.

Tackifiers, Moisture Management and Dust Control allow you to get the most out of your application on the ground.
  » Mulches bond to soil more securely.

For more detailed information, consult with your Conwed Fibers representative or visit www.conwedfibers.com.
Two trusted names, one industry-leading combination

The bag says Conwed Fibers®. What’s inside was developed and manufactured by Profile Products, the world’s largest manufacturer of hydraulic mulch. Profile® is widely recognized for developing innovative product solutions that deliver superior erosion control through faster and more dense vegetative establishment.

Green Design Engineering™ is a holistic approach that combines agronomic and engineering expertise with advanced technologies to provide cost-effective and earth-friendly solutions. Profile strives to deliver Green Design Engineering across our team of consulting professionals, innovative products and educational resources.

PS3 is a free, comprehensive 24/7 online resource you can use to design a project and select the right products that address both the physical and agronomic needs of your site. It will help you develop holistic, sustainable solutions for cost-effective erosion control, vegetation establishment and subsequent reductions in sediment and other pollutants from leaving disturbed sites. Because good plans start with the soil, PS3 offers free soil test to ensure this critical step is considered. To access the site, design your project and take advantage of a free soil analysis, visit www.profiles3.com.