



HYDROSTRAW® STRAWLOCK CERTIFICATE OF COMPLIANCE

CERTIFICATE OF COMPLIANCE

Patents Pending

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HydroStraw, LLC certifies that HydroStraw® StrawLock contains the following properties and characteristics



DESCRIPTION:

HydroStraw® StrawLock : Our objective is to produce long pliable straw fibers that have been through our Heat & Mechanically Treated Process HMT™ that allows them to interact with the paper, organic fibers and glues to lock the

blown application of fibers together. The paper component is added to take advantage of the paper mache process allowing the matrix to lock the straw in place.

HydroStraw® StrawLock: The goal is to cover and coat the conventionally blown straw together to reduce its ability to be removed by the wind. The blown straw is in contact with the soil. The HydroStraw StrawLock is the be applied in a high viscosity slurry to keep the slurry in contact with the blown straw.

SPECIFICATIONS

HydroStraw® StrawLock uses a proprietary blend of binders and natural fibers that lock down the blown straw treatment. The primary fiber shall be produced from annually renewable straw fiber; all fiber materials should be free from plastic materials or other non bio-degradable substances. Fiber shall be of such character that the fiber will disperse into uniform slurry when mixed with water. Fiber shall be colored green, and shall not stain concrete or other surfaces. Fiber and other mulch ingredients shall be free from growth or germination inhibiting ingredients. Mulch Fiber shall be applied as a slurry solution by means of hydroseeder. It is imperative that the mulch be applied at the specified rate, in addition, too wet of a mixture will cause the fibers to be buried into the blown straw and render the fiber and binders less effective. Mulch Fiber shall be applied as a slurry solution by means of Hydroseeding. Mulch Fiber shall be applied at the specified rate per the specifications in a uniform manner. Care shall be exercised to ensure that the mulch application is uniform and even throughout the blown straw area; mulch shall not be bunched or clumped up on the site. Care shall also be taken to ensure that the blown straw treatment is adequately covered to lock it down in place and reduce potential blowing. Mulch applications shall be started on the windward side of the project.

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Physical Characteristics

Toxicity	Non-Toxic
Applied Color	Green
Surface Tension	Material will evenly disperse and suspend when agitated in water
Absorbancy	When sprayed uniformly at the recommended rate over blown straw, the mulch fibers form a StrawLock cover which will allow percolation of water and increased water infiltration to the underlying blown straw matrix
Solubility	Mulch Fibers are non water soluble
PH	06.8 +/- 0.5
Average Fiber Length	1.0" +/- 1/4"

Packaging and Shipping Data

Bag Size	11.5" x 17" x 25"
Bag Cu.Ft.	3.2 cu.ft. - Compressed Bales
Pallet	40 bags (52W x 45D x 96H)
Full Truck	22 Pallets, 880 Bales
Packaging	Moisture resistant packaging

Composition

Heat & Mechanically Treated (HMT™) - Straw	66.0% +/- 1.0%
Natural Fibers for Matrix Entanglement	10.0% +/- 1.0%
Moisture Content	10.0% +/- 1.0%
Proprietary Crossed-Linked Tackifiers	4.0% +/- 1.0%
Paper	10.0% +/- 1.0%

Mixture Rates

Hose Work	60 lbs per 100 gallons
Tower Work	75 lbs per 100 gallons

Application Rate

750 - 1,500 lbs/ac

WARRANTY

HydroStraw, LLC warrants that its products are free from defects and will perform as stated in this literature. If our product does not meet products specifications, notice of failure must be received within 15 days of failure. HydroStraw, LLC will not warrant that the product will perform under unlimited circumstances that are caused by soil conditions, installation, and/or weather variables.



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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **HydroStraw® StrawLock Formulation**

CAS Number: Mixture

Product Use: Vegetation establishment and erosion control mulch for hydraulic seeding, a blown straw alternative, and an ADC alternative.

Product Description: Hydraulically applied mulch with a specially formulated composition of annually renewable straw fiber, (V.E.M.) Vegetation Establishment Mulch™, natural fibers for fiber matrix entanglement, and a guar based tackifier. Load More Spray More, Use Less Water.

Company Identification: **HydroStraw, LLC**

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2. COMPOSITION / INFORMATION ON INGREDIENTS

CONTAINING: HAZARDOUS AND/OR REGULATED COMPONENTS

Ingredients	Percentage	Hazardous
Heat & Mechanically Treated (HMT)™ - Straw	66.0%	Non-Hazardous
Natural Fibers	10.0%	Non-Hazardous
Moisture	10.0%	Non-Hazardous
Guar Based Tackifier	4.0%	Non-Hazardous
Paper	10.0%	Non-Hazardous

This product is not considered hazardous under the criteria of Federal OSHA Hazard Communication Standard 29CFR 1910.1220.

California Prop 65: This product does not contain an ingredient(s), above the safe harbor limits, which are known to the state of California to cause cancer, birth defects, or other reproductive harm.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION! THIS PRODUCT MAY BE COMBUSTIBLE IF EXPOSED TO TEMPERATURES OVER 180°F. DUST FROM THIS PRODUCT MAY IRRITATE SKIN, EYES AND UPPER RESPIRATORY SYSTEM.

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation, eye contact, and skin contact.

TARGET ORGANS: Respiratory System.

INHALATION: Occasional mild irritation of nose and throat may occur from inhalation of dusts at levels greater than 10 mg/m³.

INGESTION: Not a normal route of entry. Small amounts swallowed are not likely to cause effects; swallowing larger amounts may cause gastrointestinal symptoms.

SKIN CONTACT: Straw dust may cause mild mechanical irritation to skin.



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EYE CONTACT: Straw dust may cause mild mechanical irritation to eyes.

CHRONIC EXPOSURE: None known

AGGRAVATION OF PRE-EXISTING CONDITIONS: Individuals with pre-existing respiratory disorders may aggravate the condition by inhalation of dust.

4. FIRST AID MEASURES

INHALATION FIRST AID: Prolonged exposure to dust levels in excess of regulatory limits should always be avoided. If irritation or difficulty breathing occurs, remove victim to fresh air and provide oxygen if necessary. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention if difficulty persists.

SKIN CONTACT FIRST AID: Wash with soap and water after handling.

EYE CONTACT FIRST AID: If contact with eyes, flush with fresh water for several minutes. If irritation persists seek medical attention.

INGESTION FIRST AID: If swallowed, rinse mouth with water and give four glasses of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if needed.

NOTE TO PHYSICIANS: Treat symptoms

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: Combustible

AUTO IGNITION TEMPERATURE: No data

FLASH POINT: No data

FLAMMABLE LIMITS IN AIR, % by Volume: lel: NE; uel: NE.

EXTINGUISHING MEDIA: Water or other standard media. Same as a wood or straw fire.

FIRE & EXPLOSION HAZARDS: May be combustible above 180°F.

SPECIAL INFORMATION:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

SPILL CLEAN-UP PROCEDURES:

Vacuum, shovel or sweep up mulch and place in containers for reuse, recycling or disposal. Always dispose of waste materials in accordance with all local, state and federal regulations.

7. HANDLING AND STORAGE

RECOMMENDED STORAGE CONDITIONS: Store in a cool, dry well-ventilated location away from heat or ignition sources. Insure packaging is in good condition for outside storage.

HANDLING (PERSONNEL): Handle in accordance with good industrial hygiene and safety practices.



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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

AIRBORNE EXPOSURE LIMITS: See Section 2 above.

Dust:

-OSHA Permissible Exposure Limit (PEL): 10 mg/m³ (TWA)

VENTILATION SYSTEM: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.

PERSONAL RESPIRATORS (NIOSH APPROVED): Required if the exposure limit is exceeded or engineering controls are not feasible. Always use a NIOSH approved respirator. A fabric respirator or a face piece respirator with dust cartridges will generally provide adequate protection.

SKIN PROTECTION: Wear gloves of leather, plastic, or rubber when loading tanks.

EYE PROTECTION: Wear safety glasses in high dust areas or when filling tanks..

GOOD HYGIENE CONDITIONS: Wash with soap and water before meals and at the end of each work shift.

Good practices require amounts of any chemical be removed from the skin as soon as practical, especially before eating or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Liquid.

COLOR: Clear

ODOR: Negligible

COLOR: Green

SPECIFIC GRAVITY: NE (Water =1)

AUTO IGNITION TEMPERATURE: Not Established

pH: 6.80

10. STABILITY AND REACTIVITY

STABILITY: Stable under ordinary conditions of use and storage.

CONDITIONS TO AVOID: Heat, flame ignition sources.

HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBILITY WITH OTHER MATERIALS: None

HAZARDOUS DECOMPOSITION: None

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

No Data Available

Cancer Lists

---NTP Carcinogen---

Ingredient

Known

Anticipated

IARC Category

All ingredients

No

No

None

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE:

This material is expected to have a low environmental impact.

ENVIRONMENTAL TOXICITY:

This material is not expected to be toxic to aquatic life.



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13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Recover, reclaim or recycle when practical.

Dispose of material in accordance with federal, state and local requirements.

14. TRANSPORTATION INFORMATION

This Product is not regulated by the U.S. Department of Transportation.

15. REGULATORY INFORMATION

FEDERAL REGULATORY STATUS

Federal, State & International Regulations - Part 1

Ingredient	<u>-SARA 302-</u>		<u>List</u>	<u>-SARA 313-</u> <u>Chemical Catalog</u>
	<u>RQ</u>	<u>TPQ</u>		
All ingredients	NO	NO	NO	NO

Federal, State & International Regulations - Part 2

Ingredient	<u>CERCLA</u>	<u>-RCRA-</u> <u>261.33</u>	<u>-TSCA-</u> <u>8(d)</u>
All ingredients	NO	NO	NO

SARA 311/312: Acute: Yes Chronic: No Fire: Yes Pressure: No

Reactivity: No (Pure / Liquid)

PROP 65 - WARNING:

THIS PRODUCT DOES NOT CONTAIN A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

RCRA 40 CFR: None

16. OTHER INFORMATION

Prepared By: Paul Eigbrett (MSDS Authoring Services)

Part Number: 081310HG

ADDITIONAL INFORMATION:

The data in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process. This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-2004)

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



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END OF MSDS