

AMMONIUM LIGNIN SULFONATE



MATERIAL SAFETY DATA SHEET

SECTION I: MATERIAL IDENTIFICATION

Chemical Name: **Ammonium Lignin Sulfonate (Lignosulfonate)**

Distributor: *EnviroTech Services, Inc.* Manufacturer: *Rayonier Pulp*
Address: *910 54th Avenue, Suite 230* *Foot of Gum Street*
Greeley, CO 80634 *Fernandina Beach Fl. 32034*

Telephone: *(970) 346-3900* *(819) 627-4322*
Fax: *(970) 346-3959* ***In Case of Emergency Call:***
Date Prepared: *April 9, 1999* *(819) 627-3200*
Date Updated: *April 1, 2008*

SECTION II: HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

No Hazardous Ingredients

C.A.S. No.: *8061-53-8*

SECTION III: PHYSICAL/CHEMICAL CHARACTERISTICS

pH: *3.5-5.5 As Received*
Boiling Point: *212 °F*
Vapor Density: *Not Applicable*
Solubility in Water: *100%*
Specific Gravity: *1.10-1.170*
Melting Point: *Not Applicable*
Appearance and Odor: *Dark brown liquid with woody odor*

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

Flammability: *N/A Not Flammable or combustible*
Upper Explosion Limit: *N/A*
Lower Explosion Limit: *N/A*
Fire Fighting Procedures: *Product not flammable. Use appropriate fire fighting procedures for surrounding fires and combustible materials.*

SECTION V: REACTIVITY DATA

Stability:	<i>Stable under normal temperatures and pressures</i>
Incompatibilities:	<i>Strong oxidizing agents, concentrated acids, Nitric acid.</i>
Hazardous Decomposition Products:	<i>Thermal decomposition may release toxic oxides of carbon, sulfur and nitrogen. (CO₂, CO, NO_x).</i>
Hazardous Polymerization:	<i>Will not occur.</i>

SECTION VI: HEALTH HAZARD DATA

Routes of Entry:

Eye Contact:	<i>Avoid. Any foreign material in the eyes can cause irritation.</i>
Skin Contact:	<i>Prolonged contact may cause light skin irritation in sensitive individuals.</i>
Inhalation:	<i>N/A</i>
Ingestion:	<i>None</i>
Toxicity:	<i>LD50, Toxicological studies on lignosulfonates indicate that they are non toxic. In literature, LD50 for lignosulfonates has been reported to be 20,000 mg/kg body weight by ingestion. Materials with LD50 values of 5,000 mg/kg of body weight and greater are considered to be non toxic.</i>

Emergency and First Aid Procedures:

Eye Contact:	<i>Flush eyes with luke warm flowing water, holding eyelids open intermittently, for at least 20 minutes. Contact physician if irritation persists.</i>
Skin Contact:	<i>Wash with flowing water. Normal hygiene practices.</i>
Inhalation:	<i>N/A</i>
Ingestion:	<i>Not normally applicable unless copious quantities ingested. Drink large amounts of water. Do not induce vomiting. Do not give water to unconscious person. Contact a physician if irritation persists.</i>

SECTION VII: PRECAUTION FOR SAFE HANDLING AND USE

Spill and leak procedures:	<i>Small spills flush with water. Large spills dyke and reclaim product or store for disposal as solid waste.</i>
Waste Disposal Method:	<i>Dispose in accordance with federal, state, or local regulations.</i>
Personal Protective Equip:	<i>Impervious or rubber gloves recommended for prolonged exposure. Safety glasses with side shields required to prevent eye contact. Work clothes changed daily. Follow normal hygiene procedures.</i>
Ventilation:	<i>Not normally required.</i>
Respiratory Protection:	<i>Not normally required.</i>

The information contained in this Material Safety Data Sheet is, to the best of our knowledge, accurate and reliable. No warranty of any kind is either expressed or implied.

This information should be provided to all individuals handling this product. Federal, state, and local regulations should be followed when handling this product.

EARTHBIND 100

Earthbind™ Material Safety Data Sheet

Quick Identifier: Emulsified Dust Suppressant

Address: 2606 N. Newark St. Portland, Oregon 97217

Manufacturers Name: EnviRoad LLC

Other Information Calls: 800-536-2650

Identity - Section I

<i>Trade Name and Synonyms:</i> Earthbind 100	NFPA Hazardous	0 - Least
<i>CAS Number:</i> Mixture	Identification	1 - Slight
<i>Chemical Name:</i> NA	<i>Health:</i> 1	2 - Moderate
	<i>Fire:</i> 0	3 - High
	<i>Reactivity:</i> 0	4 - Extreme

Composition Information on Ingredients - Section II

<i>Ingredients</i>		<i>%</i>	<i>OSHA PEL</i>	<i>ACGIH TLV</i>
<i>Petroleum Resin</i>	64742-16-1	40-60	NE	NE
<i>Stabilizer</i>	Proprietary	5-30	NE	NE
<i>Emulsifier</i>	Proprietary	< 6.0	NE	NE
<i>Water</i>	7732-18-5	Balance	NE	NE

Additional Comments: Though further detail on contents may be confidential, all pertinent hazards are addressed in this MSDS.

Physical & Chemical Characteristics - Section III

<i>Boiling Point</i>	100 C
<i>Vapor Pressure (mm Hg)</i>	NA
<i>Percent Volatile by Volume</i>	NA
<i>Solubility in Water</i>	Complete
<i>Specific Gravity (H2O=1.00)</i>	0.9 to 1.02
<i>Vapor Density (air@1)</i>	NA
<i>Evaporation Rate (H2O = 1)</i>	NA
<i>Reactivity in Water</i>	None
<i>Viscosity @ 122F CST</i>	100-800
<i>Appearance and Odor</i>	Dark Brown Liquid; Hydrocarbon and lignosulfonate odor
<i>Additional Comments</i>	Material is a hydrocarbon/water emulsion and will not combust until water is driven off.

Fire And Explosion Hazard Data - Section IV

<i>Flash Point</i>	NA
<i>Flammable Limits in Air</i>	(hydrocarbon/ water emulsion)

% by Volume

Extinguisher Media

Dry Chemical, CO₂, Halon, Water Spray, or standard foam

Fire Fighting Procedures

Move containers from fire area if possible. Cool fire-exposed containers with water from side until well after fire is out. Stay away from storage tank end for massive fire in storage area. Use unmanned hose holder or monitor. Use flooding amounts of water as a fog, as solid streams may be ineffective. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage vessel due to fire. Extinguish only if flow can be stopped. Water or foam may cause frothing. Avoid breathing toxic vapors and keep upwind.

Additional Comments

Material is a hydrocarbon/water emulsion and will not ignite until water is driven off.

Reactivity Data - Section V

Stability/Conditions to Avoid

Material is stable under normal temperature and pressure. Do not expose to prolong heating above 100C.

Incompatibility/Materials to Avoid

None

Hazardous Polymerization/
Conditionsto Avoid

None

Hazardous Byproducts of Decomposition

Thermal decomposition may release hazardous gases.

Health Hazard Data - Section VI

Route of Entry

Legend: A: Health Effect; B: Personal Protection; C: Emergency First Aid Procedures

Inhalation

- A. Avoid prolonged inhalation of vapors or mist. Product has a low vapor pressure and is not expected to present an inhalation hazard at ambient conditions.
- B. Provide exhaust ventilation system to meet published exposure limits.
- C. Remove victim from exposure to fresh air immediately. If breathing has stopped, give artificial respiration. Keep victim warm and at rest. Treat symptomatically and supportively. Administration of oxygen should be performed by qualified personnel. Get medical attention immediately.

Skin

- A. Direct contact with hot fumes may cause slight skin irritation. Repeated or prolonged exposure to fumes may cause irritation, dermatitis, and acne-like lesions.
- B. Employee must wear appropriate protective impervious clothing, gloves, and equipment to prevent repeated or prolonged skin contact.
- C. If contact is not with hot materials, remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent, and large amounts of water until no evidence of material remains (15 to 20 minutes). Burns from contact with hot material should be treated like thermal burns.

Route of Entry

Legend: A: Health Effect; B: Personal Protection; C: Emergency First Aid Procedures

Ingestion

- A. May cause nausea, gastro-intestinal irritation, and vomiting.
- B. Do not induce vomiting.

- C. Treat symptomatically and supportively. Get medical attention immediately. If vomiting occurs, lower head to prevent aspiration.
- Eyes*
- A. Contact with eyes may cause redness and irritation. Repeated or prolonged exposure to fumes may cause conjunctivitis.
- B. Employee must wear splash-proof or dust-resistant safety goggles or face shield.
- C. Wash eyes immediately with large amounts of water. Lift upper and lower lids until no evidence of material remains (15 to 20 minutes). Cover with sterile bandages. Get medical attention immediately.
- Medical Conditions* No adverse reactions expected at concentrations normally encountered.
- Aggravated by Exposure*

Safe Usage Information - Section VII

<i>Handling, Storage & Other Precautions</i>	This product is not classified as hazardous under DOT reg. Keep away from heat, sparks, and oxidizing agents. Keep container closed when not in use. Observe all Federal, State and Local regulations when handling, storing or disposing of this material.
<i>Action to be Taken in Case of Spill or Release (Including Disposal)</i>	Shut off area ignition sources. Stop leak if it can be done without risk. Use water spray to reduce vapors. For small spills, use absorbent material and place into container. Dike ahead of large spill for later disposal. Prohibit smoking in affected area. Isolate area and restrict entry.

Control Measures - Section VIII

- Ventilation Requirements* Provide exhaust ventilation system to meet published exposure limits.
- Work Hygiene Practices*
- Respirator* Selection of respiratory protection must be based upon the airborne level of suspected contaminant. Levels found in the work place must not exceed the working limit of the respirator utilized.
- Dermal* Workers must wear appropriate protective clothing, gloves, and equipment to prevent repeated or prolonged contact with skin.
- Eyes* Proper eye/face protection must be utilized to protect against splashes and vapors.
- Carcinogenicity* Not listed as a carcinogen by IARC, TSCA, NTP, OSHA or ACGIH

Transportation - Section IX

- | | |
|---|------------------------|
| <i>D.O.T. Proper Shipping Name (49 CFR 172.101)</i> | Non-hazardous Emulsion |
| <i>D.O.T. Hazard Class (49 CFR 172.101)</i> | NA |
| <i>UN / NA Code (49 172.101)</i> | NA |
| <i>Packaging Group (49 172.101)</i> | NA |
| <i>Bill Of Lading Description (49 172.101)</i> | Non-hazardous Emulsion |
| <i>D.O.T. Labels Required (49 172.101)</i> | NA |
| <i>D.O.T. Placards Required (49 172.101)</i> | NA |

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.

ROADSAVER



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity: Roadsaver®

Recommended use of the chemical and restrictions on use: Road stabilization and dust control

Manufacturer: EnviroTech Services, Inc.
910 54th Ave, Suite 230
Greeley, CO 80634

Telephone: (970) 346-3900

Emergency Phone: CHEMTREC: (800) 424-9300

SDS Date of Preparation: 08/27/13

2. HAZARDS IDENTIFICATION

GHS Classification:

Physical	Health	Environment
Not Hazardous	Not Hazardous	Not Hazardous

GHS Label Elements:

None Required

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount
Water	7732-18-5	65-75%
Magnesium Chloride	7791-18-6	25-35%
Magnesium Sulfate	7487-88-9	<5.0%

The exact concentration is being withheld as a trade secret.

4. FIRST AID MEASURES

Eye: Flush victim's eyes with large quantities of water, while holding the eyelids apart. Get medical attention if irritation occurs and persists.

Skin: Wash skin thoroughly with soap and water. Get medical attention if irritation develops. Remove and launder clothing before reuse.

Ingestion: Do not induce vomiting. Rinse mouth with water and give one glass of water to drink. Never give anything by mouth to an unconscious or convulsing person. Get medical attention if symptoms develop.

Inhalation: Remove victim to fresh air. If breathing is difficult or irritation persists, get medical attention.

Most important Symptoms: May cause slight eye and skin irritation.

Indication of immediate medical attention/special treatment: Immediate medical attention is not required.

5. FIRE FIGHTING MEASURES

Suitable (and Unsuitable) Extinguishing Media: Use media appropriate for surrounding fire. Cool fire exposed containers and structures with water.

Specific hazards arising from the chemical: Thermal decomposition may yield hydrogen chloride, halogenated compounds, and chlorine gas.

Special Protective Equipment and Precautions for Fire-Fighting Instructions: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Aqueous solutions may cause surfaces to be extremely slippery and cause a slip hazard.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear appropriate protective clothing as described in Section 8. Wash thoroughly after handling.

Methods and Materials for Containment and Cleaning Up: Dike and collect liquid or absorb with an inert absorbent and place in appropriate containers for disposal. Flush spill area with water. Report releases as required by local, state and federal authorities.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid contact with the eyes, skin and clothing. Avoid breathing mists or aerosols. Wear protective clothing and equipment as described in Section 8. Wash thoroughly with soap and water after handling. Keep containers closed when not in use.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a cool, dry, well-ventilated area away from incompatible materials. Product may be corrosive to some metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Magnesium chloride	None Established
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Engineering Controls: Use with adequate general ventilation to minimize exposures.

Respiratory Protection: In operations where exposure levels are excessive, a NIOSH approved respirator with dust/mist cartridges or supplied air respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin Protection: Wear impervious gloves such as rubber or neoprene if needed to avoid prolonged skin contact.

Eye Protection: Safety glasses recommended.

Other: Long-sleeved clothing and long pants recommended to avoid prolonged skin contact. Suitable washing facilities should be available in the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance And Odor: Clear to slight yellow liquid with low or no odor.

Physical State: Liquid	Odor Threshold: Not established
Vapor Density: Not determined	Initial Boiling Point/Range: 107.2°C (225°F)
Solubility In Water: Soluble	Vapor Pressure: Not determined
Relative Density: 1.24-1.34	Evaporation Rate: Not determined
Melting/Freezing Point: Not determined	pH: 4-9
VOC Content: Not determined	Octanol/Water Coefficient: Not determined
Solubility: Complete	Decomposition Temperature: Not determined
Viscosity: <60 cP @ 70°F	Flammability (solid, gas): Not applicable
Flashpoint: None	Autoignition Temperature: Not determined
Flammable Limits: LEL: Not determined	UEL: Not determined

10. STABILITY AND REACTIVITY

Reactivity: Not normally reactive

Chemical Stability: Stable under normal storage and handling conditions.

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: None known.

Incompatible Materials: Strong oxidizing agents, concentrated acids, and some metals.

Hazardous Decomposition Products: When heated to decomposition emits hydrogen chloride, halogenated compounds, and chlorine gas.

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS:

Ingestion: Ingestion may cause slight irritation with nausea, vomiting, and diarrhea.

Inhalation: Inhalation of mists may cause slight irritation of the nose, throat, and upper respiratory tract.

Eye: May cause slight irritation with pain and tearing.

Skin: May cause slight irritation on prolonged or repeated contact.

Sensitization: This material is not known to cause sensitization.

Chronic: None known.

Carcinogenicity: None of the components is listed as a carcinogen or suspected carcinogen by IARC, NTP, or OSHA.

Germ Cell Mutagenicity: None currently known.

Reproductive Toxicity: None currently known.

Numerical Measures of Toxicity:

No toxicity data available

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Product: Fathead minnow NOEC: 1.00 g/L; Ceriodaphnia dubia NOEC: 1.00 g/L; Selenastrum growth NOEC: 2.00 g/L

Persistence and Degradability: Biodegradation is not applicable to inorganic substances.

Bioaccumulative Potential: No data available

Mobility in Soil: No data available

Other Adverse Effects: None known

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with local, state, and federal environmental regulations.

14. TRANSPORT INFORMATION

DOT Hazardous Materials Description:

Proper Shipping Name: Not regulated

UN Number: None

Hazard Class/Packing Group: None

Labels Required: None

15. REGULATORY INFORMATION

CERCLA: This product is not subject to CERCLA release reporting. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Not Hazardous

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements under SARA Title III, Section 313 (40 CFR 372): None

EPA TSCA Inventory: All of the ingredients in this product are listed on the EPA TSCA Inventory.

CANADA:

This product has been classified under the CPR and this SDS discloses information elements required by the CPR.

Canadian CEPA: All the components of this product are listed on the Canadian DSL.

Canadian WHMIS Classification: Not classified as dangerous

16. OTHER INFORMATION

NFPA Rating: Health = 0 Flammability = 0 Instability = 0
HMIS Rating: Health = 1 Flammability = 0 Physical Hazard = 0

SDS Revision History:
08/27/2013: New SDS

Disclaimer: *This Safety Data Sheet (SDS) is provided in response to customer requests to address the safe handling of the product. All statements, technical information and recommendations contained herein are the best of our knowledge, reliable and accurate. This SDS is not intended to make any representation as to how the product will perform when used for its intended purpose by a user. In that regards the product is sold "AS IS" and nothing in this SDS should be deemed to be a representation or warranty of any injury, loss, or damage, of any kind or nature, which are sustained by or arise from the use of the product. Nothing in this SDS is intended to be a representation or warranty by the manufacturer of the accuracy, safety, or usefulness for any purpose of any technical information, materials, techniques, or practices.*

The information contained in this Safety Data Sheet is, to the best of our knowledge, accurate and reliable. This information should be provided to all individuals handling this product. Federal, state, and local regulations should be followed when handling this product.