

# Lignosulfonate

## Dust Control and Road Stabilization

### PRODUCT DESCRIPTION

An alternative to road chlorides for dust control. **Lignosulfonates** are derived from lignin, a naturally occurring polymer found in wood that acts like glue holding the cellulose fibers of pulp together. During the pulping process, lignin is separated from the wood and undergoes an extensive process and eventually becomes an ammonium or sodium-based ligninsulfonate.

**Lignosulfonates** work by binding the road surface particles together. Water evaporates from the **lignosulfonate** as it dries, and the dust particles are trapped by the high-viscosity, naturally sticky material. In addition, over time some of the **lignosulfonates** become completely insoluble due to solar heating.

### USES OR APPLICATION

- State, County and Township unpaved roads
- Federal/State Parks
- Mine haul roads
- Construction site haul roads
- Forest/timber haul roads
- Quarries/Mines
- Military roads
- Agricultural Roads
- Parking lot surfaces
- Tree/Flower/Shrub Nurseries
- Orchards
- Private and rural roads
- Industrial and federal project roads
- Construction staging areas
- Airfields and helicopter pads
- Feedlots

Generally **lignosulfonates** are associated with dust control and surface stabilization for roads. They are used as binders, dispersants, emulsifiers and sequestrates in a host of products such as gypsum board, animal feed pellets and micronutrient systems.

### TYPICAL ANALYSIS

FOR A READY-TO-USE FORMULA

Chemical	Average Analysis
Water: .....	75%
Dry Solids: .....	25%
Lignin: .....	23.6%
pH: .....	4.5-6.0
Pounds per Gallon: .....	9.02 lbs
Color: .....	Light to Dark Brown

### FEATURES

### BENEFITS

- |                            |   |
|----------------------------|---|
| Fast acting product .....  | <ul style="list-style-type: none"> <li>• No need to close road</li> <li>• Results almost immediately apparent</li> <li>• Usable with almost all soil types</li> </ul>   |
| Non-hygroscopic .....      | <ul style="list-style-type: none"> <li>• Longer lasting results reduces reapplication costs</li> <li>• Reduces weather risks</li> <li>• Higher residual accumulation over time</li> </ul>                         |
| Binder .....               | <ul style="list-style-type: none"> <li>• Safer roads and driving conditions</li> <li>• Longer lasting road stabilization</li> <li>• Fewer potholes/washboarding</li> <li>• Improves surface durability</li> </ul> |
| Dust suppression .....     | <ul style="list-style-type: none"> <li>• Keeps fines on road</li> <li>• Cleaner air</li> <li>• Reduces dust to PM10 standard</li> </ul>   |
| Non-chloride product ..... | <ul style="list-style-type: none"> <li>• Better public relations</li> <li>• Environmentally safer</li> <li>• Safer for a variety of environmentally sensitive areas</li> </ul>                                    |

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# Dust Control

## ROAD PREPARATION

In preparation for applying ligninsulfonate as a dust suppressant, roads should first be re-crowned with a grader. Pre-wetting the road is recommended for best results. Lignin can also be applied without pre-wetting if water is not accessible, although results will vary depending on moisture content of the road base. Application rates for a topical application are 0.3 - 0.5 gallons per square yard.

## HEALTH, TOXICITY & ENVIRONMENTAL

Extensive studies have been conducted to evaluate the effects of **lignosulfonates** on the environment. Results show that they are not harmful to plants, animals or aquatic life when properly manufactured and applied. **Lignosulfonates** have been used as a treatment for dirt roads in Europe and the US since the 1920's.

*The International Journal of Environmental Studies* published a study in 1986 showing vegetation and growth of fir trees were not significantly affected at normal and above-normal application rates of **lignosulfonates**. Toxic levels of **lignosulfonates** in surface water have been established and confirm that concentrations must be relatively high before fish and other organisms are affected.

It is good practice to limit any dust control product application near water runoff into waterways.

## TESTIMONIALS

*EnviroTech has provided us with Tembec Lignin, which based on regular season use, has proven to perform better than other leading Lignins we have before used.*

John Wood  
Woody's Dust Control,  
Rudd, IA

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