

SAFE BIND®

July 2018



SAFE BIND® is a blend of ammonium ligninsulfonate and calcium chloride. Ligninsulfonate, a lignin product recovered from the sulfite pulping process has been used for gravel road maintenance in Europe and North America since the 1920's.

Lignin is a naturally occurring substance in woody plants. About one quarter of dry wood is lignin, making it the second most prominent component of the wood part of a tree, with cellulose being the principal component. In the pulping process cellulose is separated from lignin and recovered for use in a variety of different products. Ligninsulfonates have been approved for use in animal feed, various food contact materials and pesticide formulations by the U.S. Food and Drug Administration. Originally, the concentrated lignosulfonate liquor was diluted with water to about 25% solids content and then applied. Over time, road surfaces began to show an improved stabilization. This **cumulative** effect is often mentioned by current users.

The blending of ammonium ligninsulfonate and calcium chloride produces a **synergistic effect** whereby the blended product outperforms its individual components. Due to its natural and unique adhesive property when moist, the lignin based portion of the **SAFE BIND®** blend packs fine particles more closely together for a stronger road surface. This greatly reduces water uptake by the roadbed. The calcium chloride portion of the **SAFE BIND®** blend due to its hygroscopicity draws moisture from the surrounding atmosphere and keeps the road surface moist. A road surface so treated is extremely forgiving even after extended periods of extremely dry weather. One good rain will bring a dry road back to life.

This synergistic effect impacts the bottom line because **fewer** applications are needed to achieve the desired results, which means less blading and grading, fewer potholes and less "wash boarding". More importantly, this means more money in the budget for other important projects. Lignosulfonate products also meet the specifications of the U.S. Forest Service Administration, General Service Administration and local and regional government standards. Lignosulfonate use on roads has been endorsed by various agencies for decades. **SAFE BIND®** has been used successfully in New England for 20 years. **SAFE BIND®** is significantly less corrosive than calcium or magnesium chloride due to its lignin component, cost competitive with calcium or magnesium chloride, and safe to handle.

Safe Road Services has been shipping **SAFE BIND®** in **concentrated** form for many years. This means it can be diluted up to 20% with water thereby substantially reducing the cost per gallon. With the current price averaging around 1.28 /gallon, this brings the delivered price down to around 1.00/gallon; however we do have municipalities diluting **SAFE BIND®** by as much as 40% with water in conjunction with the use of recycled asphalt shingles (RAS). **SAFE BIND®** can also be used as is for a superior result.

Environmentally Friendly Winter & Summer Road Maintenance Products

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Visit our website for more info: www.saferoadservices.com

