# NandBind®

## Technical Data Sheet

NanoBind® is a proprietary humified soil extract with 9 essential soil microbes included in the formulation. The product is now "Powered by Nano®". Smaller than an atom, Nano® particle technology is a revolutionary approach to creating substances from particles engineered at the molecular level. The product works by providing an organic substructure with an extremely high ion exchange capacity where the Na+ and Cl – ions can bind and be charge neutralized (via an ionic bond). The carbon chain then becomes a food supply for the natural soil and product's adjunct microbes, which over time dissipates the salt. The Nano particles significantly increase the degradation process by facilitating the transfer and uptake of nutrient by the microbial population.

#### APPLICATION:

#### Soil with High Salinity:

Mix one gallon of NanoBind® with ten gallons of water for the RTU product. Application rates and the number of applications necessary will vary with the severity of the salt conditions. As a rule of thumb, salt levels in excess of 10,000 ppm will require more than one application. Please refer to the NanoBind® Application Chart for specific dosage rates. Once diluted, product must be used within 24 hours. If soil temperature is below 45°F, performance is significantly reduced.

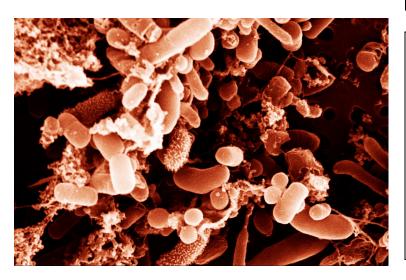
#### Note:

Additional variables to consider may include:

- 1. Soil Composition (eg: sand or shale)
- 2. Spill Depth
- Variations of chloride levels across the entire spill area. Consult your distributor for application rates and protocols.

#### Soil with Very Little or No Salinity:

Preventative rates should start at two gallons (mixed with 18 gallons of water) per acre to be applied quarterly.



#### TYPICAL PHYSICAL PROPERTIES:

Appearance and Color	Brown Liquid
Initial Freeze Point	32° F (0°C)
Odor	Musty to Earthy
Solubility in Water	100%
Flashpoint	None
Biodegradability	100%
Specific Gravity	1.07 ± 0.04

#### DIRECTIONS FOR USE:

For best results, product that has been activated should be applied within 24 hours.

### STORAGE AND HANDLING:

Ingredients not precisely identified are non-hazardous. Do not ingest. May cause sickness if ingested in large quantities. Prolonged contact with skin may cause slight irritation. Safety glasses and gloves, as a minimum, are recommended when handling. Keep container closed when not in use. Store product in a dry and cool area. Refer the to NanoBind® MSDS for other safety and handling information. Protect product from freezing. Store above 45°F.

#### PACKAGING:

NanoBind® is packaged in 5 gallon to 275 gallon containers. Bulk quantities available upon request.

Recommendations given in this data sheet are based on tests believed to be reliable. However, the use of the information is beyond the control of Heartland Energy Group, Ltd. and no guarantee, expressed or implied is made to the results obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility, including injury or damage from the misuse of the product as such, or in combination with other materials. This bulletin is not to be taken as a license to operate under or recommendation to infringe any patent.





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