

MicroBlend

A Blend of Vitamin B12 and Yeast Extract

MicroBlend™ is an easy to use vitamin B12 and yeast extract product containing over 55 mg/Kg of vitamin B12 and 37.5% yeast extract. MicroBlend™ stimulates microbial activity with micronutrients, vitamins and other cofactors that are not commonly found in simple substrates such as sodium lactate or emulsified vegetable oil. Adding MicroBlend™ stimulates rapid microbial growth of indigenous microbes at sites with micronutrient limitations. Sites utilizing bioaugmentation benefit from rapidly establishing a healthy population of the injected microbes.

Application

MicroBlend™ is mixed with an electron donor amendment and injected below the water table after dilution. Laboratory microcosm studies suggest concentrations of B12 of 0.025 mg/L provide the maximum stimulation of *Dehalococcoides* microbial growth. The dose response of yeast extract is less established but typical blends in Newman Zone® emulsion would use 1.0% to 1.5% yeast extract on a dry weight basis.

Benefits – Easily Used in the Field

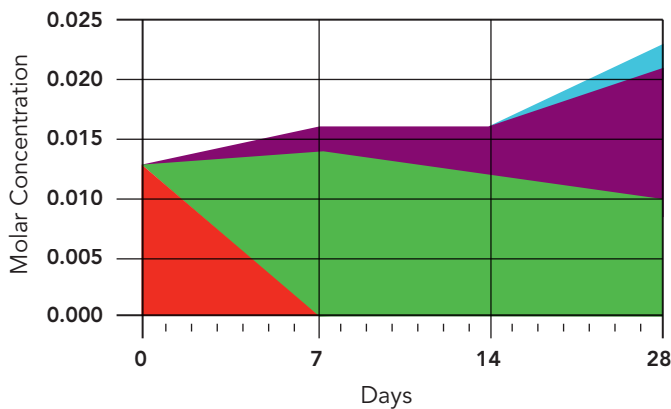
MicroBlend™ is an easy to blend liquid containing yeast extract and vitamin B12. A liquid nutrient formulation avoids the problems of dust and the difficulty of wetting a hydrophobic dry yeast extract powder.

Benefits – Pre-Measured Dosing

Each box of MicroBlend™ contains 1 gram of vitamin B12 and 15 pounds of dry yeast extract. Each box is divided into two 20 pound bags allowing the nutrients to be added in increments of 7.5 pounds of dry yeast extract and 0.5 gram increments of vitamin B12.

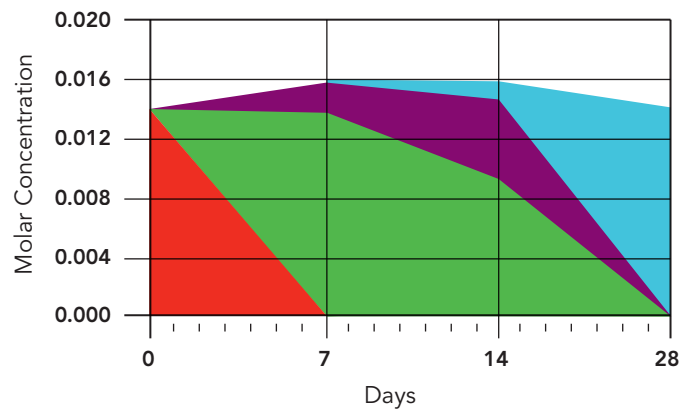
GOOD - SIMPLE DONOR + MICROBES

Sodium Lactate + KB-1



BEST - COMPLEX DONOR + MICROBES + MicroBlend

Newman Zone QR + MicroBlend + KB-1



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Product Content

Chemical Name	CAS Number	Composition
Yeast Extract (Food Grade)	8013-01-2	37.5%
Cyanocobalamin (Vitamin B12)	68-19-9	55 mg/Kg - (1 gram in 40 lbs)
Water	7732-18-5	63%

Product Characteristics

Parameter	Unit	Specification
Density	g/cm ³	1.11
Appearance		Medium Brown Slurry

Packaging

MicroBlend™ is packaged in 20 pound bags, two bags to a box, for forty pounds of net product. Each box contains 1 gram of vitamin B12 and 15 pounds of dry yeast extract.

Storage

MicroBlend™ is pasteurized and kept frozen in our warehouse until needed which ensures a virtually unlimited shelf-life. Once thawed the pasteurized liquid in sealed bags can be kept on site without refrigeration for up to two months without risk of spoilage.

Safety

MicroBlend™ is a low hazard food grade material. No protective equipment is necessary under normal use conditions.