



Wellness Minute

Health Information You Can Use On Your Path To Wellness

What's The BEST Vitamin D?

*Biotics' Raises
Blood Levels
Faster*



Nano-Sized Emulsions

“Researchers estimate at least 30% of people have problems digesting and absorbing oil.”

A clinician asked me the other day if I had any insights on why Bio-DK Mulsion or any other Biotics Research emulsified nutrients are better than competitive nano technology brands. My immediate response was that doctors have shared with me for years that when re-testing blood levels, they have never seen a vitamin D level that did not increase when using Biotics emulsified products.

We know that due to American diet, at least 30% of the people have biliary stasis, biliary insufficiency, or a fatty liver. Even if you are getting high-quality, fat-soluble nutrients, your body has to emulsify them so they can be absorbed by the body.

So, I thought it might be a good idea to review some concepts on why emulsification is not only more cost effective, but emulsification is more consistent with nature. In nature, we know that the oils in seeds, nuts, fruits, and mother's milk are in an emulsified state. Once in that emulsified state, the oils can then go into the lymph system where every cell in the body is bathed. Biotics' emulsified particles are small enough to go directly into the lymph system but not so small that they may create cellular membrane disruption.

So, let's talk about size for a moment. Biotics uses natural food grade gums as their emulsifying agents. By using food as the emulsifying agent, the average particle size is 0.5 microns.

To give you a perspective Biotics' particle size is approximately 1/10 the size of a red blood cell. 0.5 microns is also the same as 500 nanometers (nm). The visible light spectrum is from 400 to 700nm. This is significant because emulsified oil particles 500nm and above will reflect light and are not clear. The emulsified droplets are white in appearance in solution. However, particles below 400nm will not reflect visible light. Visible light will pass through those solutions and appear clear.

Commercial companies give us the option to use the oil itself in a pearl form, micellized, liposomal, emulsification and micro-emulsification processes. Micelles and liposomes are created by mixing substances,

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in this case oil, with a detergent-like substance which creates a nano-sized particle. This smaller than light sized particle is invisible to the eye and goes directly into the blood stream. Theoretically, this is a great way to raise blood levels. However, the bigger question is, "What are the side effects of this detergent-like substance?" Many companies use a substance called carboxymethylcellulose (CMC) or Polysorbate 80 commonly known as Tween. One study showed Tween consumption induced low grade inflammation and obesity or metabolic syndrome and promoted robust colitis in mice. Tween dramatically altered the microbiota composition in both facial and intestinal bacteria. Another study showed Tween lowered the antibacterial efficacy of several antimicrobials. Also, "Tweens can stimulate biofilm growth for Staphylococcus aureus when added to mature biofilms." Some studies have shown that Tween can cause leaky gut.

So yes, they may increase blood levels but at what cost? As I mentioned earlier, in nature we know that the oils in seeds, nuts, fruits, and mother's milk are in an emulsified state. Unfortunately, all emulsions are not created equal! To ensure that Biotics' Bio-AE Mulsion contained the smallest emulsion particles, they purchased all available emulsified vitamin A products on the professional market to check particle size. You can see from the samples, that there is a big difference in particle size and consistency. The Biotics emulsion is consistent throughout

the entire slide. This consistent small particle allows the emulsions to bypass the biliary system and go directly into the lymph system where every cell is bathed.

The emulsification technology Biotics employed has been safely and effectively utilized for over 40 years. The philosophy at Biotics Research has been to emulsify with food grade materials any fat-soluble vitamin, botanical, or food that has therapeutic value. So, at Biotics, Vitamins A, D, E, K, Coenzyme Q10, ADP, and curcumin are all in emulsified forms. Did you know Coenzyme Q10 must be emulsified by the liver to be absorbed? This explains why 30mg of emulsified CoQ10 raised blood levels equal to 90mg of a dry form of CoQ10.

Biotics Research's emulsified fat-soluble nutrients possess the smallest particle sizes of commercial emulsions tested. They have equal or greater uptake and bioavailability than micellized products. More importantly, Biotics' micro-emulsions do not contribute to toxicity issues. As a bonus, Biotics' emulsions are the most cost-effective forms of fat-soluble nutrients on the market. And since researchers estimate at least 30% of the people have problems digesting and absorbing oil, people feel the difference in their health and in their wallet. Talk to your wellness clinician and see if taking emulsified fat-soluble nutrients might make a difference in your health journey.