



BIOTICS
RESEARCH
CANADA

(800) 840-1676

Bio-D Mulsion® 400 Bio-D-Mulsion® 1000



Safe:

Conservative regimen supplies necessary vitamin D (as emulsified D3) without the increased risk of hypercalcemia commonly associated with single, large dose therapies.

Effective:

Two drops daily (2,000 IU) increased 25(OH)D concentrations in vitamin D deficient children 202% in six weeks, effectively tripling 25(OH)D levels.*

Easy to Administer for Greater Compliance:

Dispense one drop directly onto the tongue each day.

**Gordon CM, et al. Treatment of hypocalcemia D in infants and toddlers. J Clin Endocrin Metab. First published ahead of print 4/15/08 as doi: 10.1210/jc.2007-2790*

Bio-D-Mulsion 400 & Bio-D-Mulsion 1000

The majority of people in the United States do not synthesize sufficient vitamin D in order to meet physiological requirements.

With the discovery of vitamin D receptors in tissues other than the gut and bone - particularly the brain, breast, prostate and lymphocytes - recent research suggests the utilization of higher amounts of supplemental vitamin D3 for a wider range of applications in order to maintain and improve patients' health.

Bio-D-Mulsion 400 & Bio-D-Mulsion 1000 from Biotics Research Corporation both supply vitamin D3 as a micro-emulsion for enhanced absorption and utilization, which is particularly important for those with malabsorption conditions. Clinical use of Biotics' micro-emulsified vitamin D provides significant improvements in serum levels of 25-OH-vitamin D following supplementation.

Bio-D-Mulsion 400 ( NPN#: 80020888) supplies 400 IU of vitamin D3 per drop, while **Bio-D-Mulsion 1000** ( NPN#: 80007438) supplies 1,000 IU of vitamin D3 per drop.

Safe - Conservative regimen of **Bio-D-Mulsion 1000** supplies necessary vitamin D (as emulsified D3) without the increased risk of hypercalcemia commonly associated with single, large dose therapies – especially important in an outpatient setting.

Effective - One (1) drop daily of **Bio-D-Mulsion 1000** (1,000 IU) increased 25(OH)D concentrations in vitamin D deficient children 202% in six weeks, effectively tripling 25(OH)D levels.

Easy to Administer for Greater Compliance - Simply dispense one (1) drop from the bottle directly onto the tongue each day.



* Gordon CM, et al. Treatment of Hypovitaminosis D in Infants and Toddlers J. Clin. Endocrin. Metab. First published ahead of print April 15, 2008 as doi:10.1210/jc.2007-2790

For additional information on this and other quality products from Biotics Research please contact us:

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These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

Bio-D-Mulsion 400 & Bio-D-Mulsion 1000

Micro-Emulsified for Greater Uptake and Utilization

While we are all familiar with the importance of vitamin D in calcium absorption and bone metabolism, many may not be aware of the recent research on vitamin D and the widening range of applications available for cholecalciferol, which can be classified as both a vitamin and a pro-hormone.¹ Additionally, while it has commonly been assumed the upper limit of safe intake is approximately 1,000 IU per day, we now know that the physiologic requirement of vitamin D may be as high as 4,000 IU per day, which is less than half of the 10,000 IU that can be produced endogenously with just a few minutes of sun exposure.²

Vitamin D Deficiency and Musculoskeletal Health

Vitamin D deficiency is associated with dull, achy musculoskeletal pain that is incompletely responsive to both pharmacologic and manual therapies. The pain may be widespread or confined to a particular area, most commonly the lower back and lumbar spine. The process by which this occurs has been clearly defined: 1) vitamin D deficiency causes a reduction in calcium absorption, 2) production of parathyroid (PTH) hormone is increased to maintain blood calcium levels, 3) PTH results in increased urinary excretion of phosphorus, which leads to hypophosphatemia, 4) insufficient calcium phosphate results in deposition of unmineralized collagen matrix on the endosteal (inside) and periosteal (outside) surface of bones, 5) when the collagen matrix hydrates and swells, it causes pressure on the sensory-innervated periosteum resulting in pain.³ Indeed, several clinical investigations have recently shown vitamin D deficiency is particularly common among people with musculoskeletal pain.^{4,5}

Non-Musculoskeletal Manifestations of Hypovitaminosis D

Both the peripheral and central nervous systems have multiple sites of action for vitamin D, and it appears likely that vitamin D modulates serotonin and melatonin synthesis and metabolism. Alterations in vitamin D levels appear to explain, at least in part, the adverse psychological effects of sunlight deprivation that often occur due to geographic location and climate.⁶ Preliminary evidence suggests vita-

min D deficiency may also be particularly common among patients with inflammatory and autoimmune disorders, and that vitamin D may modulate inflammatory responses.^{7,8,9}

Bio-D-Mulsion 400 and the Importance of Micro-Emulsification

Biotics Research Corporation's vitamin D is micro-emulsified to enhance absorption and utilization, which are particularly important for those with malabsorption conditions. Independent clinical experience suggests the micro-emulsion form of vitamin D provides significant improvements in serum levels of 25-OH-vitamin D following supplementation.¹⁰ Each drop of **Bio-D-Mulsion 400** supplies 400 IU of vitamin D₃, while each drop of **Bio-D-Mulsion 1000** supplies 1,000 IU of vitamin D₃. With an increased knowledge of the importance of maintaining adequate vitamin D levels, many clinicians recommend supplementation and annual screening for 25-OH-vitamin D levels, especially for patients at risk for deficiency as well as those who may benefit from supplementation.¹¹

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10. Mercola J. Bio-D-Mulsion (Emulsified Vitamin D): "The Vital Supplement that I Strongly Recommend to Nearly All of My Patients" <http://www.mercola.com/forms/vitaminD.htm> on March 25, 2004
11. Vasquez A, Manso G, Cannell J. The Clinical Importance of Vitamin D (Cholecalciferol): A Paradigm Shift with Implications for All Healthcare Providers. *Alternative Therapies in Health and Medicine and Integrative Medicine: A Clinician's Journal* In press 2004



BIOTICS[®]
RESEARCH
C A N A D A

"The Best of Science and Nature"

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Biotics Research's Superior Emulsified Products



Bio-Ae-Mulsion® supplies 5,000 IU/drop of vitamin A, (palmitate) in an emulsified form. Vitamin A has been found to be beneficial in immune depletion, as well as in cases associated with high levels of free radicals.

🇨🇦 **NPN #: 800019578**

Bio-D-Mulsion® supplies 400 IU/drop of vitamin D3 (cholecalciferol). Independent clinical experience suggests this emulsified form of vitamin D provides significant improvements in serum levels of 25-OH-vitamin D following supplementation.

🇨🇦 **NPN #: 80020888**

Bio-D-Mulsion 1000 provides 1,000 IU/drop of emulsified vitamin D3. Recent scientific evidence has indicated the physiologic requirement of vitamin D may be as high as 4,000 IU, which is less than half of the 10,000 IU that can be produced endogenously with just a few minutes of sun exposure. Both the peripheral and central nervous systems have sites of vitamin D action. It appears likely vitamin D modulates serotonin and melatonin synthesis and metabolism.

🇨🇦 **NPN #: 80007438**

E-Mulsion 200® supplies 200 mg of emulsified vitamin E per tablet (d-alpha-tocopheryl acetate and mixed tocopherols), along with SOD and catalase. Vitamin E has proven results as an effective antioxidant and it potentiates the action of glutathione peroxidase via its action as a free radical scavenger, resulting in the prevention of lipid hydroperoxide formation. It has also shown to be effective in protecting the integrity of the cell membrane by means of preventing membrane lipid degradation.

🇨🇦 **NPN #: 80023303**

CoQ-Zyme 30™ supplies an emulsified preparation of CoQ10, (ubiquinone) which plays an essential role in energy production particularly with the heart and skeletal muscle. Daily ingestion of emulsified **CoQ-Zyme 30™** showed an increase in plasma CoQ10, by 210%, which was equivalent to between 90-110 mg of dry, non-emulsified CoQ10. Additionally, serum CoQ10 levels increased in 80% of the test individuals.

🇨🇦 **NPN #: 80007114**

Bio-E-Mulsion Forte® supplies 30 IU/serving (5 drops) of emulsified vitamin E. A potent antioxidant, vitamin E also protects the fats in low density lipoproteins (LDL's) from oxidation. Oxidized LDL's have been implicated in the development of cardiovascular degeneration.

🇨🇦 **NPN #: 80021751**

To place your order for Biotics Research's emulsions or for additional information please contact us:



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www.bioticscan.com

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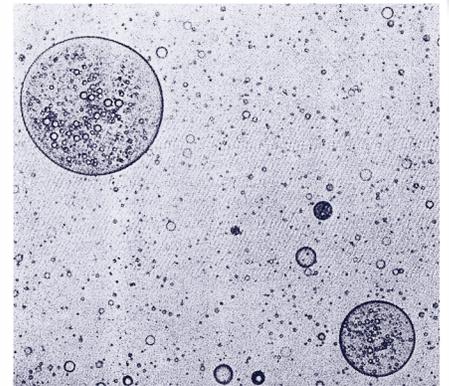
All Emulsions Are NOT Created Equal

Experiments published in peer-reviewed nutrition journals have confirmed Biotics Research's emulsified fat-soluble vitamins:

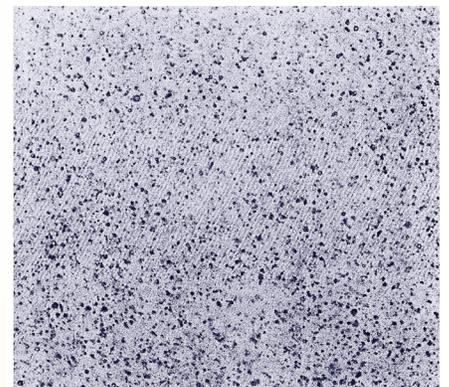
- Possess the smallest particle sizes of commercial emulsions tested
- Have equal or greater uptake and bioavailability than micellized products
- Show significantly less toxicity than micellized preparations
- Are the most cost-effective form of fat-soluble vitamin supplementation

These results signify the beneficial effects of emulsified fat-soluble preparations, a result of over forty years of scientific literature.

- **CoQ-Zyme 30™**
- **E-Mulsion 200®**
- **Bio-D-Mulsion®**
- **Bio-Ae-Mulsion®**
- **Bio-D-Mulsion 1000**
- **Bio-E-Mulsion Forte®**

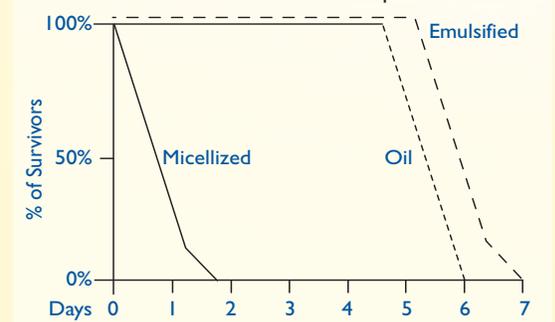


Competitors emulsified vitamin A product
Magnification 160x



Biotics Research's **Bio-Ae-Mulsion®**
Magnification 160x

Survival time of mice after 100,000 IU p.o. of vitamin A*



*Journal of Nutrition (1986) 116(6), R27