



qore™ detox

QORE™ Detox Product Profile

Supports

Healthy

*Chelation**

Creating Better Health through Regular All-Natural Systemic Detoxification

Detoxify, detox, and detoxification have become overused marketing buzz words in the health and wellness industry, especially during the last decade. At its most basic level, detoxification is about removing and eliminating toxins from your body. Detoxifying can help protect the body from disease and renew its ability to maintain optimum health. While there are a variety of detox diets, programs, foods, products, fads, systems, and methods, nearly all of these traditional ways of detoxification focus solely on the intestinal tract, and do not address the deeper detoxification needs of the blood, cells, and tissues. Heavy metals are the most difficult toxins to remove from the body—and they are the most detrimental ones to your health. Now there is an all-natural solution that addresses the detoxification of the intestinal tract and, more notably, it successfully accomplishes the most difficult detoxification task of all, which is systemic removal of heavy metals from the blood, cells, and tissues.

Qivana's QORE Detox is an exclusive blend of all-natural products with a scientifically validated ability to rid the body of heavy metals and toxins. Unlike other products, QORE Detox is the only oral, scientifically validated product with the ability to be assimilated into the bloodstream, selectively bind to heavy metals, and systemically remove them from the blood, cells, and tissues. This master formulation also contains a specialized seaweed extract and organic kelp, which simultaneously cleanse the intestinal tract and prevent the reabsorption and redistribution of these toxins.

What are heavy metals?

Heavy metals are everywhere; from mercury in fish and dental fillings; cadmium in cigarette smoke, car exhaust and brake dust; and lead in pesticides, paints, food, water, and even in children's toys. Metals permeate our air, drinking water, and food supply. Heavy metal toxicity is now being recognized as a major underlying cause of a variety of illnesses, including impaired immune function, arteriosclerosis, hypertension, multiple sclerosis, autism, the overgrowth of yeasts and fungi in the intestinal tract, and a host of other chronic diseases and conditions.¹⁸



qore™ detox

Heavy metals are metals with a specific gravity at least 5 times that of water. Your body can't easily rid itself of these heavy metals, so they accumulate in soft tissues, the nervous system and even in bones. These metals are extremely harmful and toxic to humans. Unfortunately, heavy metals are unavoidable in today's industrialized world, and are even passed up the food chain and found in foods consumed on a regular basis such as seafood, produce, and processed foods.

Fortunately, we are becoming more aware of our toxic environment and taking steps to change and lessen the toxic load on the planet and on our bodies. Yet how many of us pay any attention to the toxic load we are already carrying from our past? And what about the hidden heavy metals that we're exposed to every day? Have you ever thought about what heavy metals might be stored in your body and how they may be adversely affecting your health?¹⁷

Qivana QORE Detox is the first all-natural, proven, oral chelation treatment that addresses these issues and concerns. The ingredients have been proven to have significant efficacy in numerous scientific studies and in human clinical trials.

Lead

Environmental sources of lead include smoke from burning fossil fuels, batteries, ammunition, x-ray shields, pipes, municipal drinking water, printing ink, gasoline, fertilizer, cosmetics, and hair dyes. Up until 1990, paint in the United States contained lead, so buildings that were painted before 1990 still emit lead. Symptoms of lead exposure include abdominal pain, headaches, numbness, fatigue, dizziness, hypertension, kidney dysfunction, loss of appetite, infertility, and insomnia. Chronic low level exposure can lead to birth defects, mental retardation, autism, psychosis, allergies, dyslexia, hyperactivity, weight loss, shaky hands, muscular weakness, and paralysis. Children are especially sensitive to lead and absorb up to 50% of lead contained in food.¹⁷

Mercury

Dangerous levels of mercury exposure occur most frequently from certain foods and consumer products. The most common sources of mercury include mercury amalgam dental fillings, cosmetics, certain vaccines, and fish. Mercury is also found in fossil fuels, agricultural products such as fungicides, and in many industries, such as battery, thermometer, and barometer manufacturing. The effects of long-term exposure to mercury can develop gradually. Symptoms of mercury toxicity may include shaking of the hands, eyelids, lips, tongue, or jaw; headaches, insomnia, personality change, memory loss, irritability, indecisiveness, physical exhaustion, sensory impairment (vision, hearing, speech), emotional disturbances, and loss of intelligence.¹⁹ Symptoms of mercury toxicity in young children are very similar to those of autism. Mercury affects your immune system, alters genetic and enzyme systems in your body, and damages your nervous system by impairing your motor coordination and senses of touch, taste, and sight.¹⁷



Qore™ detox

Cadmium

Cadmium is found in PVC plastics, nickel-cadmium batteries, paint pigments, agricultural insecticides, fungicides and fertilizers; as well as cigarettes, dental alloys, motor oil, and exhaust fumes. Approximately 15-20% of the cadmium we absorb is through our lungs by breathing, and an additional 2-7% is ingested and absorbed in the digestive tract. Cadmium adversely affects the liver, kidneys, lungs, brain, and bones, and passes through the placenta.

Aluminum

Although aluminum is not technically classified as a heavy metal, aluminum is regularly found in food additives, drinking water, antacids, and buffered aspirin. Aluminum is also found in antiperspirants, nasal sprays, and astringents and thereby absorbed through the skin. It can also enter the body through breathing car exhaust fumes, using aluminum foil and cookware, soda cans, ceramics, and fireworks. Although it hasn't been designated as the cause for Alzheimer's disease, aluminum is present in large amounts in the brains of people with the disease. Aluminum affects the nervous system, kidneys, digestive system, and can cause degenerative muscular conditions and cancer.¹⁷

Arsenic

Arsenic is found in the natural environment in the Earth's crust and in small quantities in rock, soil, water and air. About one third of the arsenic in the atmosphere comes from natural sources, such as volcanoes, and the rest comes from man-made sources. Mining, smelting of non-ferrous metals and burning of fossil fuels are the major industrial processes that contribute to arsenic contamination of air, water and soil. Historically, use of arsenic-containing pesticides has left large tracts of agricultural land contaminated. The use of arsenic in the preservation of timber has also led to contamination of the environment. Even low levels of exposure for long periods of time can eventually cause significant damage to the central nervous system and eventually lead to neuropathy. Arsenic exposure has also been linked to birth defects and liver damage.¹⁷

The Limitations of Traditional Heavy Metal Removal Therapies

There is no way to completely eliminate heavy metals from our environment. But we can eliminate them from our bodies and protect against future exposure by using a highly effective chelating treatment. By definition, chelation is a method of removing certain heavy metals from the bloodstream, used especially in treating lead or mercury poisoning.¹⁶ Traditional chelation therapy is, "the use of chelating agents to detoxify poisonous metal agents such as mercury, arsenic, and lead by converting them to a chemically inert form that can be excreted without further interaction with the body."¹⁵ Chelating heavy metals from the body is not a new practice. It was first used in World War I and has evolved since that time.¹⁷



Qore™ detox

There are several conventional, synthetic chelation treatments which have been used over the last century, however, these types of chelation have both minor and potentially life threatening side effects, and must be used under the supervision of a physician. Even then, synthetic chelation treatments can leach out essential nutrients your body needs, including iron, zinc, copper, and magnesium, leading to a host adverse health effects. And potentially worse, while these treatments can loosen toxins from your tissues, often they are only re-shuffled around, but ultimately re-deposited elsewhere back into the body. This is especially dangerous, if the toxin is redistributed into vital organs and tissues, causing acute symptoms and distress. This creates a vicious cycle where these heavy metals are moved around, but not fully eliminated from the body.¹⁸

This creates the need for QORE Detox—a natural, gentle, yet highly effective chelator of metals; a chelator that will loosen and bind toxins from your tissues, and then successfully block their reabsorption back into the body so they can be fully excreted from the body.

QORE™ Detox

QORE Detox contains Puratox™, an exclusive, scientifically validated blend of natural ingredients that can rid your blood, cells, and tissues of heavy metals, free radicals, and toxins. Puratox is made with a unique, molecularly-modified citrus pectin (MCP). It can be assimilated into the blood stream, bind to toxins, and provide a deep cleansing of heavy metals. The Puratox blend also has QAI Certified Organic Kelp and Modified Alginate Complex. These cleanse the digestive tract and help prevent the reabsorption of toxins. These ingredients have been proven in scientific research and human clinical studies and offer a host of unique benefits as part of a health regimen.

QORE™ Detox is designed to:

- *Promote removal of toxins without depleting essential minerals with no unpleasant side effects**
- *Function both systemically and intestinally**
- *Bind toxins tightly to prevent reabsorption and relocation**
- *Prevent absorption of fats and cholesterol**
- *Support the metabolism for healthy, natural detoxification**
- *Maintain strong hair, nails, and skin**

Key Ingredients: Modified Citrus Pectin (MCP), QAI Certified Organic Kelp, Modified Alginate Complex

Modified Citrus Pectin (MCP)

QORE Detox contains a highly specialized form of Modified Citrus Pectin (MCP), proven to remove these heavy metals from our system. MCP is rapidly being recognized as one of the most important single nutraceuticals available today for both the prevention and treatment of serious health conditions. Because pectin's molecules are too large to be digested and absorbed into the bloodstream, its actions are limited to its activity in the digestive tract. Scientists have modified its larger molecules into smaller, less complex ones, creating modified citrus pectin. The smaller molecules are able to travel across the intestinal lining and through the bloodstream where they can interact with other cells in the blood or tissues.



qore™ detox

Puratox™ is the Superior Form of MCP

The best, and most expensive, process for creating MCP involves taking pectin through the enzymatic process that chops pectin's long molecular chain into smaller, uniform pieces. The less expensive methods don't break the pectin down into uniform pieces and typically cannot produce molecules less than 30,000 Daltons. Presently, Puratox™ is the only product found to contain molecules between 10,000 and 20,000 Daltons, all of uniform size. Anything smaller than 10,000 Daltons seems to break down too quickly and may be too small for the immune system to recognize; whereas 30,000 may be too large to be absorbed.

QORE™ Detox contains an advanced, next generation proprietary blend of MCP, modified alginates, and organic kelp formulated for optimal toxin removal.* The addition of the QAI certified organic kelp brings a vital force and an ocean of nutrients to this unique and incomparable formula. The use of alginates and pectinates for metal chelation is protected by US patents #6,462,029 and #7,026,302. The MCP component works systemically throughout the circulatory system and the alginates work predominantly in the gastrointestinal tract to prevent re-absorption of toxins.* They also bind to fats, cholesterol, and toxins in the diet before they are absorbed by the body and support their elimination. The organic kelp is rich in natural iodine, benefiting thyroid function, metabolism, immunity, and energy.*

Clinical Studies

MCP's ability to support the removal of toxic metals from the body via the urinary tract was validated by a pilot study. Oral administration of MCP to healthy humans resulted in significant increases in the urinary excretion of lead, arsenic, cadmium, and mercury.^{4*} The results of this clinical trial were published in collaboration with the USDA-ARS in *Phytotherapy Research*⁵ a peer reviewed journal. This study shows that MCP safely and effectively chelates lead, mercury, arsenic and other toxic metals out of the human body, without disrupting or removing essential minerals in the body.

A clinical trial to investigate the ability of MCP to decrease mercury burden as measured by DMPS (2,3-dimercapto-1-propanesulfonic acid) challenge, showed a significant reduction in mercury levels after 5-10 months of oral administration of MCP.^{6,7} * Heavy metal removal with MCP and modified alginates has been shown in case studies to play a possible role in clinical outcomes of chronic diseases.⁸ Plus, another recent study shows that MCP significantly decreased blood lead levels in children, ages 5 to 12, hospitalized for severe lead poisoning.⁹

Alginates have been researched extensively in preventing absorption and removing selective toxic elements, as well as decreasing absorption of fats, sugars, and cholesterol from dietary intake.¹⁰ By nature's design, they are unique natural absorbents of radioactive elements, heavy metals, and free radicals. For example, they are recommended and have been used in decontamination protocols for heavy metal/radioactive exposures, including the Chernobyl nuclear contamination disaster.



Qore™ detox

Organic Kelp with its high iodine, full sea-nutrients, and soothing mucilage content has been shown to remove toxic chemicals and biological toxins.¹¹ It suppresses autoimmunity, strengthens the T-cell adaptive immune system,¹² and protects against abnormal growth of bacteria in the stomach, *Helicobacter pylori*, in particular.¹³ One species of kelp, *Laminaria*, has shown how iodine functions as an antioxidant; it neutralizes hydrogen peroxide, thereby preventing it from becoming a hydroxyl radical.¹⁴

Polyuronide Perfected Biochemistry

Polyuronides, such as pectins and alginates, are naturally occurring soluble dietary fibers, also known as complex polysaccharides. Citrus pectin is composed predominately of repeating galacturonic acid units. Alginate, from seaweed, is made of long linear chains of D-mannuronic (M) and L-guluronic (G) acid subunits. Their specific structure and electrical charge make these compounds naturally superior toxic metal chelators.* Qivana's unique, patented process further enhances their natural chelating capabilities. The result is QORE™ Detox, an unparalleled detoxification product.

Metal Chelation Properties

The toxic metal binding properties of polyuronides is dependent upon the degree of their esterification (think of this as branches on a tree), and the type of molecules that comprise the pectin or alginate chains. The highest binding affinities are found in pectins with a low degree of esterification (fewer branches) and alginates that are rich in guluronic acid blocks.^{1*}

Enzymatically Enhanced Excellence

QORE™ Detox contains citrus pectins and alginates that have been molecularly modified to create superior absorption and chelation properties. The polysaccharide fibers of citrus pectin are one of nature's strongest detoxifiers, however in their native state they are too large to be absorbed into the circulatory system. Without our proprietary enzymatic modification they would simply remain in the gastrointestinal tract without the benefit of scavenging the bloodstream for hostile heavy metal invaders. However, through our proprietary process, the MCP is produced under strict pH controls using a non-GMO food grade pectinase enzyme, where it cleaves the naturally long fibers into shorter, lower molecular weight fibers. This unique process transforms the molecules, making them highly absorbable- sized at only 5-12 kDA. The alginates are enzymatically processed as well, resulting in very low viscosity (low gelling), low molecular weight fiber with a high ratio of guluronic acid subunits. Their enhanced performance remains inside the GI tract almost exclusively.



Qore™ detox

Metal Complex Formation

Polyuronides line up in stack formations in solution. These structures are biochemically referred to as an “egg box.”² Each pocket of the “egg carton” contains a positively charged ion to balance the negatively charged chains. Toxic metals, especially lead, mercury, arsenic, cadmium, and radioactive metals, like strontium, have a higher affinity for these unique fibers than the essential ions like calcium, magnesium, and zinc.^{1,3} The toxins become tightly trapped in this charged “egg box” structure and are effectively eliminated from the body.* USDA-ARS scientist have specifically attributed the 10% rhamnogalacturonan II content in our MCP as the key component possessing the selective binding affinity to these toxic metals.^{4*}

Manufacturing

QORE™ Detox is produced from select citrus peels and seaweed starting material using a scientifically validated proprietary process that carefully controls both the molecular weight (MW) and degree of esterification (DE). Additionally, our Quality Control ensures we create a highly specific molecular weight MCP which fosters easy absorption into the bloodstream. The MW and DE for each batch are verified by state-of-the-art analytical methods in a certified laboratory.

Quality Control

QORE™ Detox is produced under conditions that meet or exceed current good manufacturing practices (cGMP) as defined by the FDA. Every batch is thoroughly tested with independent 3rd party laboratories to ensure microbiological or heavy metal contamination is within strict specification.

Suggested Use

Take one to three servings per day, preferably on an empty stomach for best absorption with water.

Contraindications

The scientific research on MCP and alginates as well as observations report no adverse affects or toxicity with long-term consumption.

Although there are no known drug interactions with MCP or alginates, it is recommended that this product be taken two hours before or after intake of drugs or other supplements because dietary fibers have the potential to bind to drugs and may affect absorption.

Due to the high iodine content in kelp, please consult your health care professional before using this supplement if a thyroid condition exists.

*These statements have not been evaluated by the food and drug administration.
This product is not intended to diagnose, treat, cure, or prevent any disease.



References

1. Braudo, E.E., et al. "Thermodynamic approach to the selection of polyuronide sequestrants for preventive and medicinal nutrition." *Nahrung*, 1996;40(4);205-8.
2. Walkinshaw, M.D. and Arnott, S. "Conformations and interactions of pectins. II. Models for junction zones in pectinic acid and calcium pectate gels." *J Mol Biol*, 1981;153(4);1075-85.
3. Jodra, Y. and Mijangos, F. "Ion exchange selectivities of calcium alginate gels for heavy metals." *Water Sci Technol*, 2001;43(2); 237-44.
4. Eliaz, I. and Rode, D. "The effect of MCP on the urinary excretion of toxic elements." *Fifth Annual Conference of Environmental Health Scientists: Nutritional Toxicology and Metabolomics*. 2003. Univeristy of California, Davis.
5. Eliaz, I., Hotchkiss, A.T., Fishman, M.L., Rode, D. "The Effect of MCP on Urinary Excretion of Toxic Elements." *Phytotherapy Research* 2006;20(10);859-864.
6. Eliaz, I. "MCP decreases the total body burden of mercury: A pilot human clinical trial." *228th ACS National Meeting in Philadelphia, PA in August*, 2004.
7. Eliaz, I., Gaurdino, J., Hughes, K. "The Health Benefits of MCP in Potential Health Benefits of Citrus." *ACS Symposium Series 936 Patil, BS, et al. editors. Oxford University Press*. 2006. Chapter 15, p. 199-210.
8. Eliaz, I., Weil, E., Wilk, B. "Integrative medicine and the role of MCP/alginate in heavy metal chelation and detoxification - five case reports." *Forsch Komplementarmed*. 2007;14(6); 358-364.
9. Zhao, Z.Y., Liang, L., Fan, X., Hotchkiss, A.T., Wilk, B.J., Eliaz, E. "The role of MCP as an effective chelator of lead in children hospitalized with toxic lead levels." *Altern Ther Health Med*. 2008;14(4); 34-38.
10. Tanaka, Y. et al. "Application of algal polysaccharides as in vivo binders of metal pollutant." *Proc Seventh Int Seaweed Symp*, 602-607, Wiley & Sons, 1972.
11. Abraham, G.E. "The historical background of the Iodine Project." *The Original Internist* 2005;12(2):57-66. Available at: www.optimox.com/pics/Iodine/IOD-08/IOD_08.htm. Accessed July 28, 2006.
12. Schuppert, F., Taniguchi, S.I., Schröder, S., et al. "In vivo and in vitro evidence for iodide regulation of major histocompatibility complex class I and class II expression in Graves disease." *J Clin Endocrinol Metab* 1996;81:3622-3628.
13. Marani, L., Venturi, S., Masala, R. "Role of iodine in delayed immune response." *Isr J Med Sci* 1985;21:864.
14. Küpper, F.C., Schweigert, N., Ar Gall, E., et al. "Iodine uptake involves extracellular, haloperoxidase-mediated oxidation of iodide." *Planta*. 1998;207:163-171.
15. "Chelation therapy." *Wikipedia.org*: http://en.wikipedia.org/wiki/Chelation_therapy. Accessed July 23, 2009.
16. Chelation. *Dictionary.com*. *Dictionary.com Unabridged (v 1.1)*. Random House, Inc. <http://dictionary.reference.com/browse/chelation>. Accessed July 28, 2009.
17. Eliaz, Isaac. "Heavy Metal Chelation Report." *Better Health Publishing*®. 2008; 3-8. http://www.dreliaz.org/research/health_reports/chelation_report/. Accessed July 27, 2009.
18. Eliaz, Isaac. "The Importance of Heavy Metal Detoxification." *Better Health Publishing*®. 2009.
19. "Mercury Fact Sheet." *The Center for Construction Research and Training (CPWR)*. <http://www.elcosh.org/en/organization/1/o000001/cpwr-the-center-for-construction-research-and-training.html>. Accessed July 23, 2009.