

# Gut-Toxin Binder

## CLINICAL APPLICATIONS

- Promotes detoxification and elimination in the GI Tract
- Reduces immune burden and maintains normal inflammatory balance
- Supports microbial balance
- Broad-spectrum binding capacity

This product is a comprehensive binding formula containing natural ingredients to support enhanced clearance of heavy metals, mycological agents and organic compounds like glyphosate from the gastrointestinal tract. Unlike proprietary blends, this product is formulated with standardized amounts of zeolite, activated charcoal, and humic and fulvic acids. These ingredients gather and remove a wide array of toxins and debris for a thorough detoxification protocol, limiting the effects of die-off reactions and relieving immune burden.

### Overview

Binders have been used for centuries as a remedy for toxin exposure. For many practitioners today, binders play an important role in many detoxification protocols and have a vital role in protecting the gut lining. While dietary fiber is a cornerstone in daily detoxification, selective binders like This product are more targeted and are used to bind and remove specific toxins from the GI tract for a thorough detoxification protocol. This product supports elimination to reduce hepatic reabsorption and help relieve toxic load. Also, for individuals with highly reactive immune systems, this product works to limit the effects of die-off reactions and sweep toxins away from the gut lining before they can cause a severe reaction or immune response.

The mineral content in this product comes from the purest sources across several geographic areas, from rich mineral deposits in eastern Europe to the vast mountains of central

Asia. All ingredients in this product have been thoroughly tested under strict quality protocols to ensure purity and potency.

### Purified Zeolite (G-PUR®)

Zeolite is a natural porous rock containing minerals known to adsorb mycological agents and heavy metals (such as lead and mercury) in the digestive tract. It ionically binds to heavy metals and entraps toxins, holding them securely for safe elimination.

A purified form of zeolite known as clinoptilolite (G-PUR®) is not absorbed in the GI tract and is highly resistant to degradation from acidic environments, making it especially useful for the removal of various toxic compounds throughout the GI tract. In both human and animal studies, clinoptilolite has been shown to successfully bind to mycological agents, ethanol,<sup>5</sup> dietary cholesterol<sup>6,7</sup> and heavy metals<sup>6</sup> (e.g., cadmium and lead), which subsequently inhibits the bioavailability of these substances and finally eliminates them via stool.<sup>1</sup> Additionally, approximately 300 mg of zeolite-clinoptilolite for 12 weeks has been shown to strengthen the integrity of the gut lining and maintain normal inflammatory balance.<sup>7</sup>

G-PUR® clinoptilolite is sourced from a mineral-rich quarry in Slovakia, where it is rigorously tested for inorganic impurities, evaluated for quality using highly specified standardization protocols, and purified for safety and efficacy. The microscopic structure of G-PUR® is shown to have cup-shaped clinoptilolite crystals, which acts as a magnet for heavy metals. In addition, G-PUR® has the highest purity of clinoptilolite, with homogeneity of fine matrix crystals without fibrous or needle-shaped structures.

### Activated Charcoal

Activated charcoal is a broad-spectrum binder that will bind most substances, including undesirable toxins but also beneficial vitamins and minerals. Activated charcoal has a long history of use as a binder in removing a variety of toxins from the body.<sup>9</sup> During the manufacturing process, the charcoal is “activated” by creating holes within its structure. Activated charcoal contains a negatively charged, porous texture that helps attract toxins, preventing their absorption into the gut lining. Also, activated charcoal is composed of a carbon lattice structure that makes it ideal for trapping and removing toxins. Because activated charcoal is not absorbed by the body, it can safely carry the toxins bound to its surface out of the body.

One of the best forms of activated charcoal comes from sustainably sourced activated carbon from coconut shells. Coconut shell charcoal is not only highly purified, but also highly dense and naturally dust-free, making it a safe and viable option for toxin removal.<sup>8</sup>

### Purified Shilajit (PrimaVie®)

Shilajit is an ancient Ayurvedic powder extracted from rocks high in the Himalayas, studied extensively through contemporary science for its safety and efficacy. It contains more than 40 different minerals, including fulvic acid and humic acid, which are shown to bind to a variety of toxins, improve endothelial function, and support a healthy microbiome.

Humic and fulvic acids are organic acids that have been studied in agriculture for their adsorbent properties, which allows them to bind and chelate various noxious agents such as environmental heavy metals<sup>11,12</sup> pesticides and organic pollutants,<sup>13</sup> and mycological agents.<sup>14</sup> For example, a derivative of humic acid, oxihumate, was shown to bind to unwanted organisms and have a beneficial effect on body weight.<sup>15</sup> Beneficial effects on gut ecology have also been reported in animals supplemented with humic acids, including increased intestinal villi height and crypt depth, stimulation of improved feed digestion, promotion of the formation of a protective layer on the mucus epithelia, and modulation of the gut microbiota.<sup>16, 17, 18</sup>

PrimaVie® shilajit is highly purified, sourced from the mountains in central Asia. It is rich in diverse bioactive compounds including humic and fulvic acids, free and conjugated dibenzo-alpha-pyrones (DBPs, also known as urolithins) and more than 40 minerals. These constituents give PrimaVie® shilajit diverse bioactivity (e.g., toxin binding, interaction with the gut microbiota, improved endothelial function, antioxidant effects, etc.)<sup>10</sup>

### Directions

2 capsules between meals or as recommended by your health care professional.

### Does Not Contain

Gluten, corn, yeast, artificial colors and flavors.

### Cautions

If you are pregnant or nursing, consult your physician before taking this product.

Supplement Facts <sup>v1</sup>		
Serving Size 2 Capsules		
Servings Per Container 30		
	Amount Per Serving	% Daily Value
Iron	2 mg	11%
Zeolite Clay (G-PUR®) (Standardized to contain 70% Purified Clinoptilolite)	400 mg	*
Activated Charcoal	100 mg	*
Shilajit (PrimaVie®)	100 mg	*
Fulvic Acid	50 mg	*
Humic Acid	5 mg	*

\* Daily Value not established.

† 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. G-PUR. G-PUR/Purified Clinoptilolite Whitepaper. In. Synyrna, GA2017:45.
2. Afriyie-Gyawu E, Ankrah NA, Huebner HJ, et al. NovaSil clay intervention in Ghanaians at high risk for aflatoxicosis. I. Study design and clinical outcomes. *Food additives & contaminants Part A, Chemistry, analysis, control, exposure & risk assessment*. 2008;25(1):76-87.
3. Wang P, Afriyie-Gyawu E, Tang Y, et al. NovaSil clay intervention in Ghanaians at high risk for aflatoxicosis: II. Reduction in biomarkers of aflatoxin exposure in blood and urine. *Food additives & contaminants Part A, Chemistry, analysis, control, exposure & risk assessment*. 2008;25(5):622-634.
4. Phillips TD, Afriyie-Gyawu E, Williams J, et al. Reducing human exposure to aflatoxin through the use of clay: a review. *Food additives & contaminants Part A, Chemistry, analysis, control, exposure & risk assessment*. 2008;25(2):134-145.
5. Federico A, Dallio M, Gravina AG, et al. A pilot study on the ability of clinoptilolite to absorb ethanol in vivo in healthy drinkers: effect of gender. *Journal of physiology and pharmacology : an official journal of the Polish Physiological Society*. 2015;66(3):441-447.
6. Beltcheva M, Metcheva R, Popov N, et al. Modified natural clinoptilolite detoxifies small mammal's organism loaded with lead I. Lead disposition and kinetic model for lead bioaccumulation. *Biological trace element research*. 2012;147(1-3):180-188.
7. Lamprecht M, Bogner S, Steinbauer K, et al. Effects of zeolite supplementation on parameters of intestinal barrier integrity, inflammation, redoxbiology and performance in aerobically trained subjects. *J Int Soc Sports Nutr*. 2015;12(1):40.
8. Gratuito MK, Panyathanmaporn T, Chumnanklang RA, Sirinuntawittaya N, Dutta A. Production of activated carbon from coconut shell: optimization using response surface methodology. *Bioresource technology*. 2008;99(11):4887-4895.
9. Zellner T, Prasa D, Färber E, Hoffmann-Walbeck P, Genser D, Eyer F. The Use of Activated Charcoal to Treat Intoxications. *Dtsch Arztebl Int*. 2019;116(18):311-317.
10. Niranjana K, Ramakanth GSH, Nishat F, Usharani P. Evaluation of the Effect of Purified Aqueous Extract of Shilajit in Modifying Cardiovascular Risk with Special Reference to Endothelial Dysfunction in Patients with Type 2 Diabetes Mellitus. *International Journal of Ayurveda and Pharma Research*. 2016;4(4).
11. Klučáková M, Pavlíková M. Lignitic Humic Acids as Environmentally-Friendly Adsorbent for Heavy Metals. *Journal of Chemistry*. 2017;2017:7169019.
12. Zhang Z, Shi W, Ma H, et al. Binding Mechanism Between Fulvic Acid and Heavy Metals: Integrated Interpretation of Binding Experiments, Fraction Characterizations, and Models. *Water, Air, Soil Pollut*. 2020;231(4).
13. Chianese S, Fenti A, Iovino P, Musmarra D, Salvestrini S. Sorption of Organic Pollutants by Humic Acids: A Review. *Molecules (Basel, Switzerland)*. 2020;25.
14. Arafat R, Khan S, Naveed S. Evaluation of Humic Acid as an Aflatoxin Binder in Broiler Chickens. *Annals of Animal Science*. 2016;17.
15. van Rensburg CJ, Van Rensburg CEJ, Van Ryssen JBJ, Casey NH, Rottinghaus GE. In Vitro and In Vivo Assessment of Humic Acid as an Aflatoxin Binder in Broiler Chickens. *Poult Sci*. 2006;85(9):1576-1583.
16. Arif M, Alagawany M, Abd El-Hack ME, Saeed M, Arain MA, Elnesr SS. Humic acid as a feed additive in poultry diets: a review. *Iranian journal of veterinary research*. 2019;20(3):167-172.
17. Taklimi S, Ghahri H, Isakan M. Influence of different levels of humic acid and esterified glucomannan on growth performance and intestinal morphology of broiler chickens. *Agricultural Sciences*. 2012;03:663-668
18. Mudroňová D, Karaffová V, Pešulová T, et al. The effect of humic substances on gut microbiota and immune response of broilers. *Food Agric Immunol*. 2020;31(1):137-149.