



## IMD<sup>®</sup> Intestinal Metals Detox



### Supplement Facts

Serv. Size: 200mg (about 2 scoops) Amount Daily  
Serv. Per Container: 45 Per Serving Value

Silica extract<sup>†</sup> 200mg \*\*

\*\*Daily Value (DV) not established

†Proprietary thiol-functionalized silica

**IMD (Intestinal Metals Detox) Intestinal Cleanse** is a thiol-functionalized silica blend that optimizes the natural elimination of metals through the intestine while quenching free radicals, providing multifaceted support for metals detox.<sup>1</sup> The unique chemistry of IMD enables it to effectively bind mercury in the gastrointestinal tract, inhibiting the enterohepatic recirculation and safely ushering this toxic metal out of the body via the stool, sparing the delicate kidneys.

### MERCURY: AN EVER-INCREASING HEALTH HAZARD

Mercury is perhaps the most well-recognized toxic heavy metal in our environment and also the most complex one! Industrial plants, coal burning, incinerators, and chlor-alkali facilities have historically released copious amounts of mercury into our atmosphere, resulting in widespread mercury contamination of our oceans, soil, and air.

Mercury is also a primary component of dental amalgams, which reside in the teeth of more than 100 million Americans. The act of breathing and eating is enough to release mercury vapor from amalgams, allowing it to enter the lungs and GI tract. Interestingly, exposure to non-native EMFs may also release mercury from dental amalgams.<sup>2</sup>

For decades, mercury was used as a preservative (thimerosal) in pediatric vaccines and comprised a significant source of exposure for children; today, it has been removed from most pediatric vaccines but remains in more than half of flu shots.<sup>3</sup>

There are four primary forms of mercury, each with unique environmental sources, bioavailability, and toxicity within the body. Elemental mercury (Hg<sub>0</sub>) exists primarily in the atmosphere as a liquid or gas released through mining and burning processes, runoff from landfills, and erosion from natural depots. Elemental mercury is also released copiously from dental amalgams. Inorganic mercury (Hg<sub>2+</sub>) is released from the surface of corroding dental amalgams; its toxic effects are more significant than elemental mercury; however, it also has more limited mobility in the body.

Methylmercury (MeHg) is a form of organic mercury that is lipophilic in nature, meaning it readily crosses lipid-based cell membranes. Over 95 percent of the mercury found in fish is methylmercury, making seafood the most significant source of exposure. Methylmercury is also formed in the gut when gut bacteria react with the metal. Last but not least, ethylmercury is the form of mercury that has been used in vaccines as a preservative.

### THE TOXIC EFFECTS OF MERCURY ON HUMAN PHYSIOLOGY

The adverse health impacts of mercury are extensive, extending across a wide range of cells, tissues, and organs. At a cellular level, mercury triggers the generation of free radicals, reactive molecules that “steal” electrons from enzymes, proteins, lipids, and genetic material. The free radicals also overwhelm the body’s intrinsic antioxidant capacities, instigating oxidative stress. Oxidative stress elicited by mercury harms the nervous system, cardiovascular system, immune system, and gut, leading to a vast array of adverse health effects. Methylmercury also binds to amino acid structures called cysteinyl residues, allowing it to rapidly enter the central nervous system. This property of methylmercury makes it highly mobile, allowing it to easily cross from the intestine into the systemic circulation, and from the circulation into the brain.

While acute exposure to high levels of mercury is a well-recognized public health threat, chronic low-level exposures remain unaddressed by the medical community at large, despite an overwhelming body of research indicating harmful health effects.

#### APPLICATIONS & BENEFITS:

- Superior binding action<sup>6,8</sup>
- Antioxidant Action<sup>8</sup>
- Spares the kidneys<sup>6,8</sup>
- Does not enter bloodstream<sup>6,10</sup>
- Supports mercury detoxification<sup>30</sup>
- Neurological Health<sup>26-28</sup>
- Endocrine Health & Fertility<sup>19-24</sup>
- Immune Function<sup>11,14,15</sup>

The adverse health impacts of mercury exposure include:

- A shift in immune function towards an autoimmune phenotype<sup>5</sup>
- Oxidative stress in the brain, potentially contributing to neurodegenerative diseases<sup>6</sup>
- Impairments in reproductive function contributing to infertility and an increased risk of miscarriage<sup>7</sup>
- Thyroid dysfunction, including hypothyroidism<sup>8</sup>
- Gut dysfunction, including imbalances in the gut microbiome<sup>9</sup>

Mercury is highly toxic to the human body; however, mercury detoxification must be pursued in a delicate, intelligent way due to its volatility. IMD is a gentle yet highly effective tool for safely facilitating detoxification of mercury and optimizing whole-body health.

## **THE VICIOUS CIRCLE OF INTESTINAL INFLAMMATION AND MERCURY TOXICITY**

Mercury is known to trigger intestinal inflammation. Intestinal inflammation, in turn, inhibits the elimination of toxins by downregulating the body's natural detox pathways. The vicious circle of mercury toxicity and gut inflammation can make successful mercury detoxification elusive. However, the thiol groups in IMD both bind mercury and offer antioxidant properties that quench intestinal inflammation, creating a functional foundation for successful mercury detox.

## **CONVENTIONAL MERCURY CHELATION THREATENS THE KIDNEYS**

Conventional mercury chelation techniques involve the administration of synthetic chelating agents, such as DMSA and DMPS, that usher mercury out of the body via the kidneys. However, mercury can have significant harmful effects on the kidneys, which are quite delicate in structure and function. For this reason, the gastrointestinal tract is the preferred route of elimination for mercury. IMD intervenes in the enterohepatic circulation of mercury, efficiently mopping up this highly toxic metal and safely ushering it out of the body via the stool.

IMD does not enter the bloodstream and thus does not cause redistribution or surge of mobilized metals in the body that could potentially harm the liver or kidneys. Through these mechanisms, IMD allows organ and tissue-bound mercury to safely drain into the blood at a natural rate.

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