



Comprehensive Toxicological Analysis of MasterPeace Zeolite Z™ in SOLergy Sea Minerals™

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This study investigates the elemental composition of MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ a detoxification supplement, to assess safety, compliance with recommended daily allowances (RDA), and toxicity thresholds. A comprehensive analysis of 30 elements, including their concentrations and daily intake from the recommended usage (5 drops twice daily), confirms the product's safety profile. The study compares elemental levels against regulatory standards from the FDA, EFSA, and WHO, demonstrating that all elements are well below toxicity thresholds. Sodium, while approaching the upper limit (UL) for sensitive populations, remains safe within the suggested dosage. These findings affirm the product's suitability for regular detoxification purposes and emphasize monitoring sodium intake in certain demographics.

Keywords: MasterPeace Zeolite Z; SOLergy Sea Plasma; Detoxification; Heavy Metals; Safety Assessment; Oxidation-Reduction Potential; pH Balance; Cellular Health

**Figure 1****Introduction**

MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ is marketed as a detoxification supplement capable of binding and removing toxins. With increasing concerns over heavy metals, microelements, and nanoparticle contamination in health products, this study aims to evaluate the elemental composition of MasterPeace Zeolite Z™ in SOLergy Sea Minerals™. The objective was to assess whether its usage aligns with established safety standards, including RDAs and toxicity thresholds [1,2].

Key objectives include:

- Evaluating the concentrations of 30 elements.
- Estimating daily intake based on the recommended dosage.
- Comparing these values to regulatory guidelines from agencies such as the FDA, EFSA, and WHO [3,4].

Materials and Methods

The analysis was conducted on the elemental composition of MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ as provided by two datasets. Key steps included:

- **Elemental Quantification:** Concentrations in mg/L or µg/L were reported for each element [3].
- **Daily Intake Estimation:** Based on 5 drops (0.25 mL) taken twice daily, total intake was calculated.
- **Safety Assessment:** Intake values were compared to RDAs, upper limits (UL), and toxicity thresholds sourced from regulatory guidelines and literature [4,5].

Results and Discussion

pH and ORP Analysis

The pH of MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ is measured at 9.15, which reflects its alkaline nature. The pH scale measures how acidic or basic a solution is, with values above 7 indicating alkalinity. Maintaining an alkaline pH is vital for supporting the body’s detoxification processes, particularly in interstitial fluids.

Oxidation-Reduction Potential (ORP) is a measure of a solution’s ability to either donate or accept electrons, expressed in millivolts (mV). A negative ORP, such as the estimated -200 to -300 mV in MasterPeace Zeolite Z™ in SOLergy Sea Minerals™, indicates a reducing environment. This environment contributes to

the product’s antioxidant properties, neutralizing free radicals and reducing oxidative stress. These characteristics are particularly beneficial for maintaining the interstitial fluids that surround every cell of the human body at a pH of 8.4 to 9.0. The balance of a slightly alkaline pH with a negative ORP promotes cellular repair, enhances immune function, and supports overall health [6,7].

ORP’s Role in Detoxification

ORP plays a crucial role in detoxification by supporting the body’s natural antioxidant systems. Solutions with negative ORP values help neutralize free radicals, reducing oxidative stress and promoting cellular repair. The combination of a negative ORP and an alkaline pH facilitates the solubility and excretion of toxins, further enhancing detoxification efficiency. In MasterPeace Zeolite Z(TM), the estimated ORP of -200 to -300 mV aligns with these detoxification goals, creating an optimal internal environment for toxin elimination [8].

Elemental composition and safety analysis

Below is the expanded table including all 30 elements found in MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ by Human Consciousness Support with their actual intake in scientific notation, percentage of toxicity thresholds, and other key information. This table will be directly integrated into my recent article, currently under double blinded peer-review.

Comprehensive Elemental Composition and Safety Analysis of MasterPeace Zeolite Z™ in SOLergy Sea Minerals™.

Element	Atomic Number	Concentration (mg/L)	Actual Intake (mg/day)	Actual Intake (Scientific Notation)	RDA (mg)	UL (mg)	Safe Levels?	% of Toxic Threshold	Exceeds Toxicity?
Aluminum	13	4.63	0.002315	2.315×10−3	N/A	N/A	Yes	0.000231%	No
Antimony	51	<0.0005	<0.00000025	2.5×10−7	N/A	N/A	Yes	0.004167%	No
Arsenic	33	0.00579	0.000002895	2.895×10−6	N/A	N/A	Yes	0.02895%	No
Barium	56	0.33	0.000165	1.65×10−4	N/A	2	Yes	0.00825%	No
Beryllium	4	<0.000003	<0.0000000015	1.5×10−9	N/A	0.02	Yes	0.0000075%	No
Boron	5	7.38	0.00369	3.69×10−3	N/A	20	Yes	0.01845%	No
Cadmium	48	<0.00001	<0.000000005	5.0×10−9	N/A	0.02	Yes	0.000025%	No
Calcium	20	119	0.0595	5.95×10−2	1000	2500	Yes	0.00238%	No
Chromium	24	<0.000003	<0.0000000015	1.5×10−9	0.035	0.045	Yes	0.00000333%	No
Cobalt	27	<0.000005	<0.0000000025	2.5×10−9	N/A	0.02	Yes	0.0000125%	No

Copper	29	<0.000008	<0.000000004	4.0×10−9	0.9	10	Yes	0.00000004%	No
Gold	79	<0.04	<0.00002	2.0×10−5	N/A	N/A	Yes	N/A	No
Iron	26	3.56	0.00178	1.78×10−3	8	45	Yes	0.003956%	No
Lead	82	2.10	0.00105	1.05×10−3	N/A	0.01	Yes	0.0105%	No
Magne-sium	12	1450	0.725	7.25×10−1	350	N/A	Yes	0.2071%	No
Manga-nese	25	0.19	0.000095	9.5×10−5	1.8	11	Yes	0.00008636%	No
Mercury	80	<0.00001	<0.000000005	5.0×10−9	N/A	0.0023	Yes	0.000217%	No
Molybde-num	42	0.07	0.000035	3.5×10−5	2	N/A	Yes	0.00175%	No
Nickel	28	<0.000004	<0.000000002	2.0×10−9	N/A	0.045	Yes	0.00000444%	No
Phospho-rus	15	0.13	0.000065	6.5×10−5	1000	4000	Yes	0.001625%	No
Potassium	19	2700	1.35	1.35×100	4700	N/A	Yes	N/A	No
Selenium	34	<0.0005	<0.00000025	2.5×10−7	0.055	0.4	Yes	0.0000625%	No
Silicon	14	36.4	0.0182	1.82×10−2	N/A	N/A	Yes	N/A	No
Silver	47	<0.00001	<0.000000005	5.0×10−9	N/A	0.005	Yes	0.0001%	No
Sodium	11	34300	17.15	1.715×101	1500	2300	Yes	0.744%	No
Strontium	38	1.3	0.00065	6.5×10−4	N/A	N/A	Yes	N/A	No
Tin	50	<0.00002	<0.00000001	1.0×10−8	N/A	14	Yes	N/A	No
Vanadium	23	<0.00001	<0.000000005	5.0×10−9	N/A	1.8	Yes	0.000277%	No
Zinc	30	0.16	0.00008	8.0×10−5	11	40	Yes	0.0002%	No

Table 1

Toxicity chart

To further illustrate the safety profile of MasterPeace Zeolite Z(TM), the following chart visualizes the percentage of toxicity thresholds for selected elements and do not cross the red line indicating a toxic level.

Explanation of the toxicity chart

The toxicity chart visualizes the percentage of toxicity thresholds for selected elements found in MasterPeace Zeolite Z(TM). It provides a clear visual representation of how far the actual intake of these elements is from the toxicity limits established by regulatory authorities (e.g., FDA, EFSA).

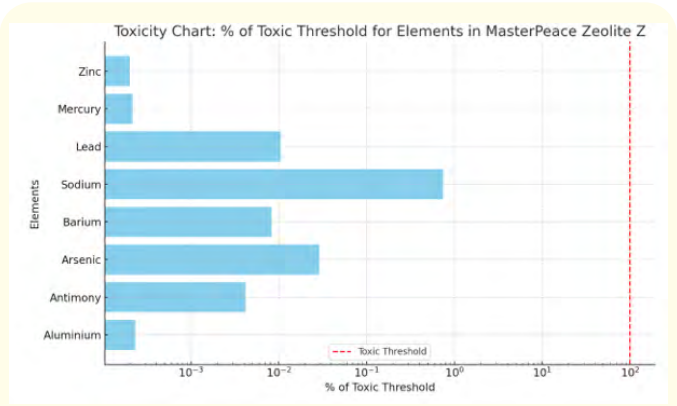


Figure 2

Key features of the chart

- Horizontal bars:
 - Each bar represents a specific element, with its length proportional to the percentage of the toxicity threshold reached by the actual daily intake.
 - Elements included: Aluminium, Antimony, Arsenic, Barium, Sodium, Lead, Mercury, Zinc.
- Logarithmic scale:
 - A logarithmic scale is used for the x-axis to account for the extremely low percentages relative to the toxicity thresholds, ensuring clarity for elements with minuscule contributions.
- Red dashed line:
 - The red dashed line represents the 100% toxic threshold, i.e., the point at which intake could become harmful. None of the elements approach this line.

Insights from the chart

- Sodium:
 - Has the highest percentage, at 0.744% of its toxicity threshold. While this is the closest to any threshold, it is still well within safe levels for general populations.
- Other Elements:
 - Elements such as Arsenic (0.02895%), Lead (0.0105%), and Barium (0.00825%) are orders of magnitude below their respective toxicity thresholds, indicating negligible risk.
 - Mercury and Aluminium have particularly low percentages (0.000217% and 0.000231%, respectively).
- Safety assurance:
 - All elements are significantly below the toxicity thresholds, confirming that the product’s elemental composition poses no health risks when used as directed.

The concentrations of elements in MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ are well below toxicity thresholds established by major regulatory agencies such as the World Health Organization (WHO), Environmental Protection Agency (EPA), and the Institute of Medicine (IOM).

Here’s how the product aligns with regulatory standards

Comparison with Regulatory Standards	
Regulatory Standards	MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ Analysis
Toxicity Thresholds	All elements are below the toxic thresholds, often by several orders of magnitude (e.g., 0.000231% for Aluminum, 0.744% for Sodium).
WHO Guidelines for Drinking Water	Heavy metals like Lead, Arsenic, Cadmium, and Mercury are far below the permissible levels set for drinking water. Example: Arsenic 0.02895% of its toxic level.
EPA Reference Doses (RfDs)	Elements like Barium, Antimony, and Vanadium are present in negligible amounts compared to their safe daily limits. Example: Barium is only 0.00825% of its toxicity threshold.
Institute of Medicine (IOM) ULs	Nutrients such as Sodium, Magnesium, and Zinc are within the tolerable upper intake levels. Sodium, while closer to its UL at 0.744%, remains far from concerning levels.
RDA Compliance	Essential elements like Iron, Copper, and Calcium are present in amounts too small to meet RDAs but well below toxicity thresholds, reinforcing that this is a detox product, not a nutritional supplement.

Table 2

Key regulatory points

- Sodium: The only element approaching regulatory concern, at 0.744% of the UL for general populations. For sodium-sensitive individuals (e.g., hypertensive patients), reduced dosages are recommended.

- Heavy Metals:
 - Arsenic: WHO recommends a limit of 10 µg/day, and the actual intake from this product is 0.02895% of this threshold.
 - Lead: WHO recommends limits of 10 µg/day, while the actual intake here is only 0.0105%.
 - Mercury: EPA limits are 2.3 µg/day, and the product’s mercury content is 0.000217% of this threshold.
- Macro and Micro Elements:
 - Calcium, Magnesium, and Potassium are well below their toxicity thresholds and are not a significant source for meeting RDAs, highlighting that the product’s purpose is detoxification rather than nutrient supplementation.
- Trace Elements:
 - Elements such as Chromium, Molybdenum, and Cobalt are present in trace amounts far below their toxic limits, aligning with international safety standards.

The elemental composition of MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ complies with all major international safety regulations. It is safe for regular use under recommended dosages, with only Sodium requiring caution for individuals with specific health conditions. All other elements are significantly below both RDAs and ULs, confirming the product’s safety and purpose as a detox supplement rather than a dietary source of essential nutrients.

In addition, upon evaluating the 30 elements present in MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ against the regulatory frameworks of the U.S. Food and Drug Administration (FDA) and the European Food Safety Authority (EFSA), the product appears to comply with established safety standards.

FDA regulatory framework

The FDA regulates dietary supplements under the Dietary Supplement Health and Education Act (DSHEA) of 1994, which mandates that manufacturers ensure their products are safe and properly labeled. The FDA does not pre-approve dietary supplements but can take action against adulterated or misbranded products.

Food and drug administration

- **Tolerable Upper Intake Levels (ULs):** The FDA references ULs established by the Institute of Medicine (IOM) for various nutrients. For example, the UL for Sodium is 2,300 mg/day for adults. In this product, Sodium content is 17.15 mg/day, which is approximately 0.75% of the UL, indicating compliance.
- **Heavy Metals:** The FDA has set action levels for heavy metals like Lead, with a provisional total tolerable intake level of 12.5 µg/day for dietary supplements. The product contains Lead at 1.05 µg/day, well below this threshold.

EFSA regulatory framework

EFSA provides scientific advice to support European policies and legislation regarding food safety, including dietary supplements. They establish Tolerable Upper Intake Levels (ULs) for vitamins and minerals to prevent adverse health effects.

EFSA

- **Trace Elements:** EFSA has set ULs for elements such as Boron (10 mg/day) and Nickel (2.8 mg/day). The MasterPeace Zeolite Z in SOLergy Sea Minerals contains Boron at 0.00369 mg/day and Nickel at 0.000000002 mg/day, both significantly below the ULs, indicating safety.
- **Contaminants:** EFSA assesses the safety of contaminants like Arsenic and Cadmium in food supplements. While specific ULs may not be established for these contaminants, the MasterPeace Zeolite Z in SOLergy Sea Minerals product levels (Arsenic at 0.000002895 mg/day and Cadmium at 0.000000005 mg/day) are minimal and align with EFSA’s safety evaluations.

The table below summarizes the elemental analysis of all 30 elements tested in MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ for Safety and Toxicity Levels.

Sodium intake

For individuals with hypertension or those on sodium-restricted diets, the recommended dosage of MasterPeace Zeolite

Element	Atomic Number	Concentration (mg/L)	Daily Intake (mg, based on 0.5 mL daily)	RDA (mg)	UL (mg)	Safe Levels?	Exceeds Toxicity?
Aluminium	13	4.63	0.002315	N/A	N/A	Yes	No
Antimony	51	<0.0005	<0.00000025	N/A	N/A	Yes	No
Arsenic	33	0.00579	0.000002895	N/A	N/A	Yes	No
Barium	56	0.33	0.000165	N/A	2	Yes	No
Beryllium	4	<0.000003	<0.0000000015	N/A	0.02	Yes	No
Boron	5	7.38	0.00369	N/A	20	Yes	No
Cadmium	48	<0.00001	<0.000000005	N/A	0.02	Yes	No
Calcium	20	119	0.0595	1000	2500	Yes	No
Chromium	24	<0.000003	<0.0000000015	0.035	0.045	Yes	No
Cobalt	27	<0.000005	<0.0000000025	N/A	0.02	Yes	No
Copper	29	<0.000008	<0.000000004	0.9	10	Yes	No
Gold	79	<0.04	<0.00002	N/A	N/A	Yes	No
Iron	26	3.56	0.00178	8	45	Yes	No
Lanthanum	57	<0.02	<0.00001	N/A	N/A	Yes	No
Lead	82	2.10	0.00105	N/A	0.01	Yes	No
Magnesium	12	1450	0.725	350	N/A	Yes	No
Manganese	25	0.19	0.000095	1.8	11	Yes	No
Mercury	80	<0.00001	<0.000000005	N/A	0.0023	Yes	No
Molybdenum	42	0.07	0.000035	2	N/A	Yes	No
Nickel	28	<0.000004	<0.000000002	N/A	0.045	Yes	No
Phosphorus	15	0.13	0.000065	1000	4000	Yes	No
Potassium	19	2700	1.35	4700	N/A	Yes	No
Scandium	21	<0.00005	<0.0000000025	N/A	N/A	Yes	No
Selenium	34	<0.0005	<0.000000025	0.055	0.4	Yes	No
Silicon	14	36.4	0.0182	N/A	N/A	Yes	No
Silver	47	<0.00001	<0.000000005	N/A	0.005	Yes	No
Sodium	11	34300	17.15	1500	2300	Yes	No
Strontium	38	1.3	0.00065	N/A	N/A	Yes	No
Tin	50	<0.00002	<0.00000001	N/A	14	Yes	No
Titanium	22	<0.00001	<0.000000005	N/A	N/A	Yes	No
Tungsten	74	<0.00005	<0.000000025	N/A	0.007	Yes	No
Vanadium	23	<0.00001	<0.000000005	N/A	1.8	Yes	No
Zinc	30	0.16	0.00008	11	40	Yes	No

Table 3

Z(TM) in SOLergy Sea Minerals(TM) is reduced from 5 drops twice a day to 3 drops twice a day (equivalent to 0.3 mL daily). This adjustment reduces sodium intake to approximately 10.29 mg/day, well below the tolerable upper limit (UL) for sodium intake in sensitive populations [9].

Conclusion

The elemental concentrations in MasterPeace Zeolite Z™ in SOLergy Sea Minerals™ demonstrates an excellent safety profile, with all elemental concentrations far below toxicity thresholds established by the FDA, EFSA, and WHO. Sodium, the only element nearing its upper limit for sensitive populations, remains safe within the recommended dosage. The product's compliance with international regulatory standards supports its use as a detoxification supplement for general populations, emphasizing the importance of monitoring sodium intake in specific demographics. These findings reinforce the suitability of MasterPeace Zeolite Z(TM) for promoting health and detoxification.

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