What is Natural Cellular Defense?
Waiora’s Natural Cellular Defense (NCD) is the original liquid zeolite and the “category creator” for zeolite products used for health and wellness. Nearly 4 million bottles have been sold worldwide generating thousands of testimonials from satisfied customers. There is no product on the market that helps remove toxins from the body as effectively or as safely as NCD.

What are the benefits of Natural Cellular Defense?
Waiora’s Natural Cellular Defense has been clinically formulated to help support a healthy immune system, remove heavy metal toxins and balance your body’s pH levels.* Waiora’s Natural Cellular Defense is comprised of an activated, liquid form of a naturally-occurring zeolite.

What are zeolites?
Natural zeolites form in nature as a result of a chemical reaction between volcanic lava and saline water. Zeolites have large open spaces or cages in their structures that form channels. These channels allow the easy movement of ions and molecules into and out of the structure. This ability puts zeolites in the class of materials known as "molecular sieves."

There are about 40 naturally occurring zeolites and over 100 synthetic zeolites. There are three different classes of zeolites with varying molecular chemical structures:
- Chain-like structures whose minerals form acicular, or needle-like, prismatic crystals - as found in asbestos.
- Framework structures where the crystals are more equal in dimensions - as found in chabazite.
- Sheet-like structures where the crystals are flattened - as found in clinoptilolite.

Another unique and important fact about zeolites is that they are one of the few negatively charged minerals found in nature. The natural properties of zeolites act as molecular sieves, or filtering agents, that attract and trap into them positively charged atoms, ions, and compounds, and can remove them from a system.

Which zeolite do you use for the Natural Cellular Defense?
We use naturally-occurring clinoptilolite in Natural Cellular Defense. This particular zeolite has been used for over 800 years in traditional medicine to improve general health. It has been widely used in its raw form in places like India, China and Russia. In the United States, zeolites have been used in water filtration, air purification, animal feed and even in fertilizers to keep the crops healthy. Now we’re using it in an enhanced form using a proprietary activation technology as a dietary supplement.

How does Natural Cellular Defense work?
The activated zeolite in Natural Cellular Defense (clinoptilolite) has a cage-like structure with pores and channels running through the crystal. The cage carries a net negative charge, making it one of the few negatively charged minerals found in nature. Because of its cage like structure and negative charge, the clinoptilolite (the zeolite in NCD) has the ability to draw to itself and trap within itself positively charged heavy metals and other toxic substances.
What makes Waiora’s Natural Cellular Defense products different from other products on the market?
There is no product on the market that helps remove toxins from the body as effectively or as safely as Natural Cellular Defense. The reason for the success is the proprietary micronization and activation process used during the manufacturing of the product. These unique and exclusive processes ensure Natural Cellular Defense is a superior, one-of-a-kind product.

What is the significance of the micronization process?
The micronization process begins by milling pure clinoptilolite into ultra-fine particles. This milling process reduces the zeolite’s particle size. This is important because the smaller the size of the particle, the more readily it can become a colloidal liquid and absorbed into the bloodstream. Our micronization process continually grounds the zeolite smaller and smaller until it reaches the consistency of a fine powder.

Many zeolite products skip this step and simply place raw (unmicronized) zeolite into canisters or capsules. Most commercially available zeolites measure between 2 and 40 microns. Zeolites greater than eight (8) microns are primarily beneficial as digestive cleansers as they are far too large to allow for absorption from the digestive tract into the bloodstream. In order to utilize the zeolite as a systemic detoxifier, the crystals need to be reduced in size to less than eight (8) microns.

So what’s the point of the activation process?
It is during the process that the micronized zeolite is cleaned and sterilized. This is important because zeolites, being formed over millions of years can absorb harmful elements including metals and toxins. Waiora proprietary activation process cleans out the cage and ensures a superior and unique product. During the activation process, the micronized zeolite is added to purified water and heated.

A proprietary blend of natural acids are then added and heated at various temperatures during a 48-hour activation process. This activation process cleanses the zeolite—emptying the zeolite cage—ensuring no unwanted substances are present in the final zeolite solution. The water aids in this exchange of compounds and stabilizes the zeolite charge. It is during this process that the product becomes a colloidal suspension, allowing the micronized zeolite particles to be suspended into an ultra-purified water solution.

The solution then goes through a sterilization process of extreme heating and cooling. This process ensures that any bacteria and microbes that may be present are completely eliminated. The solution is then heated to extreme temperatures—180 degrees and higher—which separates the microbes from the material. This layer of unwanted material is removed from the solution.

During this process, the natural acids are continually entering and displacing any microbes and other unwanted substances that may exist in the zeolite—further strengthening the charges of the zeolite solution. This dual-activation process of cleansing and sterilization cycles through over and over again until no unwanted materials exist. The conclusion of this step yields a pristine zeolite in ultra purifies water.

Is the zeolite cage compromised during micronization?
The zeolite cage cannot be “broken” no matter how small it becomes—it is indestructible. Consider a 5 carat diamond that is cut into 5 one carat stones. The structure of each carat is exactly like that of the original five carat stone only smaller. And if that one carat stone was pulverized into dust, each tiny piece of diamond would still maintain the same properties and structure of the original jewel.

What quality assurance measures are in place during the manufacturing of Natural Cellular Defense?
Each batch of NCD undergoes strict quality assurance processes. This qualitative analysis ensures product (NCD) consistency—bottle-to-bottle, batch-to-batch, year after year. These quality assurance measures include: pH testing, microbial analysis, trace heavy metal analysis, bulk mineral analysis and much more.

Frequently Asked Questions (FAQS)
Why does Natural Cellular Defense sometimes look, taste or smell differently?
The activated zeolite in Natural Cellular Defense (clinoptilolite) is an all-natural mined product. As such, there will be some variability as to its excess mineral content. Although these are very slight variations, they can cause great differences in the taste, smell and color of the product. The important thing is that each bottle meets label claim, which ongoing and recent manufacturer and third-party tests confirm.

Why is some of the product tinted brown or green?
Because the activated zeolite is a naturally mined mineral, its pigment qualities can be affected by outside elements—time of year, air and water most specifically (i.e., in the spring time, there may be more rain or snow run off as opposed to the fall). The color variations of zeolite can and do range from an off-white/beige color to a light green. Although these are very slight variations, they can cause great differences in the organoleptic properties of the product (color, taste and smell).

A recently tested sample of the product contained less than one (<1) microgram of iron. This was certainly enough iron to change the color of the product, but not enough to have any physiological effect.

Why are other mineral products consistent, while the activated zeolite in Natural Cellular Defense may vary from one bottle to the next?
Most multi-mineral products use formulations of single, purified minerals. These are known quantities that may be entirely consistent. Natural Cellular Defense uses a natural, mined product that contains natural variations of its mineral content. While the amount of the zeolite is standardized and remains constant in the product (that is it meets label claim), the excess minerals may change.

So, what is actually in this mineral? Is it something that we can find on the periodic table?
It’s a mineral with a cage-like structure. It’s created by aluminum and silica that are trapped in small tetrahedra (pyramid-like structures) created by oxygen atoms. These form 8-sided and 10-sided rings that stack on top of each other to form channels. The aluminum is positively charged and the oxygen around it is negatively charged, giving the entire molecule a net negative charge. This is a very stable compound. For all practical purposes, this is an invincible molecule.

Can the aluminum be absorbed into the body from the zeolite?
No. The aluminum in the product is at the center of a tetrahedron (it’s surrounded by tightly-held oxygen atoms). It is not free to exchange into the system. So imagine you have a pyramid that’s made of oxygen with aluminum in the center of that pyramid. It’s what they call 'non-exchangeable aluminum'. We have done studies where we have found that Natural Cellular Defense increased the excretion of additional aluminum, which means that the zeolite is pulling aluminum out of the body in addition to the aluminum contained in the product itself.

Is there any possibility of the aluminum being released because of this?
Absolutely not. The aluminum is in the middle of the tetrahedron of oxygen. So imagine you have a pyramid that’s made of oxygen with aluminum in the center of that pyramid. It’s what they call non-exchangeable aluminum. Studies have been done where 100 percent of the aluminum was recaptured as it came out in fecal matter and urine from the patients. Additionally, it has been found that a patient would excrete additional aluminum, which means that the zeolite is pulling aluminum out of the body in addition to the aluminum contained in the product itself.

Who needs to take Natural Cellular Defense?
Everyone is exposed to heavy metal toxins on a daily basis in the air they breathe, the food they eat and the water they drink. In order to remove these toxins and maintain a clean and healthy body, everyone should take Natural Cellular Defense on a daily basis. We recommend the product for persons 18 years of age or older. People under the age of 18, pregnant women and children should consult their physicians prior to use.
If there are different amounts of minerals in the product, can it be dangerous?
No. The variations in the excess mineral content are negligible and cannot be considered as a source of the mineral.

Will heat affect the zeolite in Natural Cellular Defense?
The zeolite is an extremely stable molecule that can withstand very high temperatures (over 900 degrees Fahrenheit). Hot days will not change the product or limit its efficacy.

Will cold alter the product in any way?
The zeolite is completely stable at cold temperatures. If the product becomes frozen, simply defrost it and shake it lightly before using to ensure a uniform suspension of the zeolite.

Can the zeolite in Natural Cellular Defense lower potassium in the body?
No. The zeolite has a very specific reactivity series. Smaller atoms with higher positive charges have greater affinity for the zeolite. Heavy metals tend to be small and highly charged while the necessary minerals tend to be larger with lower charges. For example, arsenic has a charge of +3 and a diameter of 1.8 Angstroms. Potassium only has a charge of +1 and a comparatively large diameter of 2.8 Angstroms. Arsenic has high affinity for the zeolite while potassium has almost no affinity for the zeolite.

How is Natural Cellular Defense manufactured?
The manufacturing facility itself is certified to be cGMP-compliant (current-Good Manufacturing Practices) by the FDA. GMP is an FDA (Food & Drug Administration) term for the Quality Control and Quality Assurance (QA/QC) procedures that are standard in the facility. This also includes training of the personnel, storage of materials and micro-analysis of the product. The manufacturing process takes approximately five to seven days. Some of the finished product is sent for analysis using Thin-Layer Chromatography (TLC) and High-Performance Liquid Chromatography (HPLC). The product is also sent through a detailed micro-analysis, where it is evaluated for any sort of contamination (bacterial, molds, spores, etc.). Finally, some bottles from every batch are retained so that these can be tested on a future date if it becomes necessary. We also periodically inspect the manufacturing facility and all of their batch records.

Why did Waiora switch manufacturers for Natural Cellular Defense?
Our latest cGMP manufacturer has greater storage and production capacity, access to more R&D (for future studies and trials), as well as a willingness to partner closely with us as we develop future products containing this one-of-a-kind activated zeolite.

Does that mean the product changed?
No. The product and manufacturing processes are the same product and manufacturing processes that have been created and overseen by its chief formulator, Rik Deitsch. Mr. Deitsch worked DIRECTLY with the manufacturer to maintain the stringent protocols, standard operating procedures and high-quality standards you have come to expect.

I understand there are now two Natural Cellular Defense products, what's the difference.
Waiora now offers NCD and NCD2. These products are very similar. They utilize the same natural active ingredients and manufacturing processes. One key difference between the two is the packaging. The 15 mL plastic bottle (NCD) is robust enough to travel with you to wherever life might take you. While the 15 mL premium glass bottle (NCD2) is ideal for daily home use. The recommended use and servings per container are the same, only a small variance on the amount of zeolite per serving (glass—24 mg; plastic 2.4 mg). Each has a garnered praise and has earned a significant and fiercely loyal following.
**With Natural Cellular Defense now packaged in glass, is there any concern for breaking?**

The FDA-approved, pharmaceutical grade of glass in the new packaging is very robust. It would take quite a bit to break. However, in the event that the bottle was broken during shipping the product to our Member/customer, Waiora would most certainly replace the bottle at no cost.

* 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.