

What is AZOMITE®?

AZOMITE® is a highly mineralized complex silica ore (Hydrated Sodium Calcium Aluminosilicate or HSCAS), mined in Utah from an ancient deposit left by a volcanic eruption that filled a small nearby seabed an estimated 30 million years ago.

AZOMITE® is used as a naturally rich soil re-mineralizer for plants, as well as a feed ingredient for animals. In a [typical chemical assay](#), AZOMITE® contains more than 70 trace minerals which include many [rare earth elements](#)(lanthanides). Many of these elements have been depleted from soils worldwide.

Where does AZOMITE® come from?

AZOMITE® is mined from an ancient volcanic ash deposit in central Utah, USA. Scientists believe that the unique chemical make-up of AZOMITE® was created when an ancient volcano erupted and the ash settled into a seabed. The combination of seawater, fed by hundreds of rivers rich in minerals, and the rare and abundant minerals present in volcanic ash created the AZOMITE® mineral composition unique to its deposit. Today, this geologic characteristic is an outcropping known as a "hogback". The minerals are gathered and packaged by AZOMITE® Mineral Products, Inc. for distribution all over the world.

What does the name AZOMITE® mean?

AZOMITE® (pronounced ā-zō-mite) is an acronym created and registered as a trademark by its founder, Rollin Anderson, for the "A to Z Of Minerals Including Trace Elements".

What effect does AZOMITE® have on plants?

According to research and customer reports, plants grown with AZOMITE® produce more and larger fruits and vegetables per plant resulting in a better tasting food products with improved resistance to disease. AZOMITE® has shown positive results in a wide variety of plants in the field and in the laboratory. There is evidence that AZOMITE® improves nutritional benefits.

Will AZOMITE® work on any soil?

If a soil has a very high or very low pH, many of the trace elements may become unavailable to the plant. AZOMITE® has created positive results in a variety of soils all over the world. The pH of AZOMITE® is 8.0; however adding AZOMITE® does not seem to raise the pH. A pH of less than 7 is considered acidic. If the pH becomes too acidic, the availability of the soil's aluminum and manganese can become toxic to plants. If the pH is too high (alkaline), the phosphorus and many trace elements are bound by the complex mineral interactions and are not available to the plant. Calcium is critical in maintaining a moderate pH (6.0 to 7.5) and is present in AZOMITE® at about 3.67%.

How is AZOMITE® applied to the soil?

Micronized AZOMITE® is processed into a fine powder that is around minus 200 mesh and is the most available to plants. As it is a very dusty product, it must be applied by hand or mixed with compost. A coarser product, AZOMITE® Field Grade, is also available for soil use. It is moderately dusty and more affordable than the Granulated AZOMITE®. Lastly, Granulated AZOMITE® is available for easy soil application in a broadcast spreader. As long as AZOMITE® is in the root zone, the plant will benefit. Most farmers apply AZOMITE® directly to the soil at planting. Water will ensure that the roots are able to reach the trace elements.

What types of plants is AZOMITE® effective on?

AZOMITE® tests have reported positive results in many plant species including: wine grapes, table grapes, sugarcane, potatoes, rice, watermelon, tomatoes, melons, cantaloupes, onion, garlic, papaya, lemons, oranges, cocoa, coffee, mango, oaks, pines,

peaches, chilies, berries, eggplant, tobacco, ornamentals, wheat, corn and many others. AZOMITE® is uniquely capable of nourishing most plant life as it provides the trace elements that the native soil is often lacking.

Aren't all the minerals necessary for plant growth already in the soil?

In most cases, no. The world's cropland has been under cultivation for many decades and each crop cycle removes trace minerals from the soil or the elements are lost through erosion and pesticide use. Since most fertilizer programs only replace Nitrogen (N), Phosphorus (P) and Potassium (K), crops become deficient when the soil has been depleted of the trace elements. Plants can complete their life cycle without the full range of minerals but will not produce at their full potential with optimum resistance to disease.

How is AZOMITE® different from fertilizer?

Most conventional fertilizers contain mainly Nitrogen (N), Phosphorus (P) and Potassium (K), which are called macronutrients. Plants require macronutrients in large amounts. NPK are only three of the essential nutrients required by plants. When choosing a fertility program, growers often neglect trace minerals and focus primarily on NPK. For plants to complete their life cycle and produce at full potential, a wide range of trace minerals is necessary; AZOMITE® contains a wide range, from A to Z. AZOMITE® is a natural inorganic substance and does not harm the environment. AZOMITE® is 100% natural and OMRI-listed for use in organic production.

What is the Law of the Minimum?

The "father of fertilizer", Justus von Liebig, developed the "Law of the Minimum" which is important in understanding what AZOMITE® does. The Law states that plant growth is determined by the scarcest "limiting" nutrient; if even one of the many required nutrients is deficient, the plant will not grow and produce at its optimum. Conventional fertilizer programs focus on the macronutrients like Nitrogen (N), Phosphorus (P) and Potassium (K). However, if one of the many essential trace elements is deficient in the soil, the plant will not perform at its optimum, affecting yield and immune function.

If a farmer uses AZOMITE®, can other fertilizers be reduced?

AZOMITE® supplies trace elements and some Potassium (K). and does not provide Nitrogen (N) or Phosphorus (P), therefore farmers should not reduce any part of their fertility program that provides N or P. Farmers can reduce other silicate-based fertilizers or micro-nutrient providers with AZOMITE® use but it is difficult to say how much without a soil analysis. AZOMITE® use has shown increased yields and improved disease resistance *even in addition* to a complete fertility program. Most farmers report a more rapid rate of growth and increased yields within one harvest.

Can too much AZOMITE® be toxic?

No. AZOMITE® is 100% naturally-derived and completely free from additives, synthetics or fillers. It is not chemically altered, and its natural, nontoxic composition will not harm plants or the environment. In one tomato experiment, AZOMITE Minerals tested AZOMITE® at 25% of the soil mix to assure the Company that there was absolutely no toxicity. The test plants averaged more than double the height of the controls that did not receive AZOMITE®. Although taller, the plants were somewhat spindly in appearance; so while not harmful, we do not recommend such a high dose for soil within normal testing ranges. In addition, many accredited research studies have been completed with various livestock species with no negative results. It is interesting to note that multiple billions (from chickens to hogs to shrimp) have been raised adding feed grade AZOMITE® at up to 2% of their feed rations.

Is AZOMITE® organic?

AZOMITE® Micronized Trace Minerals, AZOMITE® Granulated Trace Mineral and AZOMITE® Micronized Feed Ingredient are listed by the Organic Materials Review Institute (OMRI) for use in organic production. Many fertilizers receive chemical alterations or go through an intensive manufacturing process. AZOMITE® is simply mined, crushed and sold and is 100% natural in the most basic sense. Chemically, the term "organic" means that the minerals are bound to a carbon atom. As the minerals in AZOMITE® are oxides, not bound to carbon, they are technically considered "inorganic".

Is AZOMITE® a bentonite?

No, Bentonite is an absorbent aluminum phyllosilicate. AZOMITE® is a Hydrated Sodium Calcium Aluminosilicate (HSCAS), and does not swell.

Is AZOMITE® a rock dust?

Yes, but it is very different from the few glacial rock dust products on the market. AZOMITE® is a mineralized, compacted volcanic ash in origin and is volcanic rather than glacial.

Does AZOMITE® contain heavy metals?

Yes, but in lesser amounts than exist in a typical soil sample. Chemically, AZOMITE® is a hydrated sodium calcium aluminosilicate (HSCAS), which carries a U.S. Food and Drug Administration (FDA) "Generally Recognized as Safe" (GRAS) classification. In addition AZOMITE® is listed for certified organic agriculture use by the Organic Materials Review Institute (OMRI). AZOMITE® is a natural product from the Earth, which has not been chemically altered and cannot harm the environment.

Is the lead in AZOMITE® harmful?

No. The FDA and American Association of Feed Control Officials establish strict guidelines for the amount of various natural contaminants that show up in all types of feed ingredients. At 6.2ppm, AZOMITE® falls well below the guidelines for allowed lead in natural feedstuffs.

What is the Cation Exchange Capacity of AZOMITE®?

Cation Exchange Capacity (CEC) refers to the capacity of exchange between a cation (a positively charged ion) in solution, in the soil, and another cation on the surface of any negatively charged material such as AZOMITE®. CEC is a measure of soil fertility, nutrient retention capacity and the capacity to protect groundwater from cation contamination. AZOMITE®'s typical CEC range is 25 - 30 meq/100 g.

Is AZOMITE® available for human consumption

We do not market AZOMITE® for human consumption.

Is AZOMITE® Radioactive?

No, AZOMITE® is no more radioactive than common dirt. While there is a very slight reading with use of sophisticated instruments, it is primarily associated with the amount of the valuable potassium contained in AZOMITE®. The reading is comparative to the reading for a radish, carrot or Brazil nut and even lower than the typical amount from a glass of milk. For more detailed professional data, please refer to the most recent [gross alpha/beta test report](#) prepared by the Life Sciences Division of ALS Environmental Laboratory Group ».