

Zeolite at a glance

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Zeolite at a glance:

Zeolite is an amazing, naturally occurring mineral rock formed after volcanic ash fell into brackish water basins. Over millions of years it became compressed into hard rock made up of tiny molecular sieves, forming a very porous honeycomb type structure with a huge surface area to volume ratio.

Zeolite is hydrophilic, its structure allowing it to absorb and store up to 16-35% of its mass in water that can still be accessed by plants and soil organisms. Our Australian product absorbs 34%, i.e., 1L of product stores up to 340mls of water! But at the same time, it also entraps air - so necessary for healthy active root growth and beneficial organisms.

Zeolite is negatively charged, and has a very high cation exchange capacity (CEC), with our product having a CEC of 147 meg/100g. Therefore, it can adsorb and bind positively charged ions, but those elements needed by plants can still be released or can be accessed by plant roots and soil organisms. However, unwanted heavy metal cations are usually permanently bound.

There are 48 known types of zeolite, varying according to country and area. Our product is 100% Australian zeolite, and is up to 87% clinoptilolite, and is regarded as some of the best quality in the world due to:

- Its hardness - mhos 5-6 (it's 30 times as old as overseas deposits), yet is lighter than sand. This also means that it won't break down, and any applications have permanent benefits. It also resists compaction in soils.
- Its cleanness - because of the purity of the environment where it was formed eons ago, Australian zeolite has not been subject to contamination by both air and water pollutants.
- They do not contain dissolved salts, nor are found with unwanted clay types.
- Our product is organically certified, and there are no health issues as with some overseas forms of zeolites.

The many uses for zeolite:

- Soil ameliorates (amendments) to improve water and nutrient holding properties, and to reduce nutrient leaching.
- A base for slow-release fertilizers, especially water-soluble preparations.
- A carrier for soil wetting agents and biological soil activators.
- An additive to potting mixes, composts and worm farms.
- Water filtration in swimming pools, fishponds, aquaculture, etc.
- A soil-less growing medium in hydroponics and aquaponics.
- As a stock feed additive.
- Odour and moisture absorption, e.g., in animal bedding to trap malodorous volatiles.
- In air filtration to remove gases.
- Treating pollution, chemical spills, etc.
- Waste water and sewerage treatment.
- In synthetic turf to absorb pollutants, sometimes also used as playground sand.
- In some human health products.
- Radioactive waste treatments and sorbent barriers.
- As a cement additive in some countries.