

Doc.No.037 SAKADAMA Data Sheet

APPLICATION

SAkadama is a kiln fired clay that is used as growing media for Bonsai Trees. The product is fired at 600°C in a rotary kiln which creates a hard, wear resistant particle which retains the natural attapulgites clays absorbent properties. SAKadama is typically mixed with Pumice, Perlite, pine bark etc. to create an ideal growing mix for each Bonsai’s specific climate. SAKadama promotes Root growth and branch development. This is accomplished by the product being low density, improving drainage and increasing nutrient and moisture retention.

MINERAL DESCRIPTION

SAkadama is manufacture from Attapulgite clay. This versatile mineral is also known as Fuller’s earth. Attapulgite is a needle-like clay mineral composed of magnesium-aluminium phyllosilicate (Mg, Al)2Si4O10(OH)•4(H2O).

The natural occurring Attapulgite clay-based product is mined, crushed, dried, calcined and accurately screened before packing. The heat treatment (calcining) removes the water of crystallization, that then in turn creates large surface areas that are electrically charged. This enables the product to absorb a variety of nutrients and retain more water. The calcination also ensures the granules are hard and inert with a high resistance to attrition. The high-quality deposit of attapulgite is mined and processed near Mabeskraal in the North-West province of South Africa.

PACKAGING AND TRANSPORT

SAkadama is packaged in 10kg LLDPE bags and is transported locally in South Africa by truck and can be shipped internationally in 6m Containers.

PRODUCT OPTIONS

Non-standard SAKadama sizes are available on request. Please refer to physical properties table.

TYPICAL PHYSICAL PROPERTIES

| Property | SAkadama Large | SAkadama Medium | SAkadama Mixed |
|-------------------------|------------------------------|------------------------------|--------------------------------|
| Particle Size | 5/16 in. – 5 # 8-4 mm | 5 - 14 # 4 – 1 mm | 5/16 in. - 14 # 8 mm – 1 mm |
| Bulk density | 530-660 kg/m ³ | 530-660 kg/m ³ | 530-660 kg/m ³ |
| LOI | 5% | 5% | 5% |
| pH | 7 - 8 | 7 - 8 | 7 - 8 |
| Volatile Classification | LVM | LVM | LVM |
| Free Moisture | 0 – 2% | 0 – 2% | 0 – 2% |
| Colour | Tan | Tan | Tan |

Doc.No.037 SAKADAMA Data Sheet

TYPICAL CHEMICAL PROPERTIES

| Compound identity | Wt% |
|--------------------------------|--------|
| SiO ₂ | 61.20% |
| Al ₂ O ₃ | 8.16% |
| Fe ₂ O ₃ | 6.91% |
| K ₂ O | 0.27% |
| CaO | 7.90% |
| Na ₂ O | 0.06% |
| MgO | 15.50% |
| TOTAL | 100% |

| Property | Value |
|--------------------------------|--|
| Surface area | 92 m ² /g |
| Specific gravity (20 °C) | 2.3 – 2.5 g/cm ³ |
| Porosity | 0.405 |
| Void space | 68 % |
| Water absorption | Approximately 0.85 Kg/Kg |
| Volume of 10kg bag | +/- 14 Liters |
| Water Holding capacity | 65 % |
| Cation Exchange Capacity (CEC) | 10 – 12 C _{mol} /kg _{soil} |