

Pulp Biochar: Product Data Sheet

1. Description

Carboliva is an energy services company that has operated its plant at the Acesur-Coosur facilities in Puente del Obispo (Jaén) since 2018. Utilizing a continuous pyrolytic oven, it converts olive grove biomass supplied by Coosur into water vapor for the olive pomace oil extraction process. Additionally, it generates approximately 5,000 tons of olive pulp biochar and olive stone biochar annually.

Carboliva's biochar is derived from olive pulp. It is a wholly organic and environmentally friendly product.

2. Applications of Biochar

- Agriculture: Enhancement of Soil and Crops,
- **Urban Soil Tree Regeneration,**
- **Example 2** Carbon Sequestration,
- Energy Generation,
- Air and Water Filtration,
- Animal Feed Supplement,
- Anthracite and Coke Alternative in the Metallurgical
- Industry,
- CO2 Mitigation in Cement and Construction Materials
- Briquettes for grilling and catering
- Mitigate Methane Emissions in Composting Facilities
- Remediating Contaminated Soils
- Biochar: For centuries, biochar has been utilized to enhance the carbon content of degraded soils (terra preta).

Its porosity enables it to retain more water than its own weight, along with nutrients and microorganisms that assist the plant in extreme conditions.

It is also optimal for enhancing composting processes and the quality of compost while minimizing methane emissions.

It is remarkably stable, enduring for over 1,000 years in the soil.

It is advisable to enhance it with compost, manure, or worm castings.



The utilization of Biochar offers the following advantages:

- Water Retention. The porous structure of biochar enables it to retain water in quantities exceeding its own weight, thereby diminishing the necessity for irrigation.
- It also aids in minimizing runoff and leaching.
- Enhances Soil Fertility: Retains Nutrients by functioning as a sponge that absorbs and gradually releases them.
- Enhances Microbial Activity: Offers environments for beneficial microorganisms that foster soil health.
- Absorbs Pesticides and Heavy Metals: It may also enhance the absorption of herbicides.
- Minimizes nutrient leaching in soils and composting processes.



3. Specifications

3.1. Physicochemical Characteristics

	BIOCHAR FROM OLIVE PULP
CHEMICAL NOMENCLATURE	BIOCHAR
MOISTURE LEVEL	20 - 30 %
DENSITY	500 - 600 kg/m3
ASH CONTENT	20 - 25 $\%$ Half of this is assimilable potassium
VOLATILE COMPONENT CONTENT	15 - 20% APPROX.
FIXED CARBON CONTENT	55 - 65 %
GRANULOMETRY	50% GRANULAR / 50% SMALL SCREEN 4 mm
HEAT VALUE	5,500 - 6,000 Kcal/Kilo WITH A 5% MARGIN (25 Mega Joules)
COMPOSITION	Charred olive pomace and skin in a continuous rotary oven
SENSORY PROPERTIES	APPEARANCE: BLACK IN COLOR, ODORLESS, AND TASTELESS
PACKAGING FORMAT	Large Bag of 1,000 - 1,100 Kilograms
STORAGE AND EXPIRATION	STORE IN A DRY LOCATION. NO EXPIRATION DATE. AVOID DRAFTS.

4. Security

Biochar is a safe product; however, at extremely low moisture levels, it may release fine particles during handling that could lead to respiratory irritation. To mitigate this risk, it is advisable to slightly moisten the biochar prior to handling and to avoid inhalation or to wear an appropriate mask. Biochar can develop small "hot spots" when subjected to drafts, heat, or an ignition source. When combusted, biochar can emit carbon monoxide and should never be burned indoors. It is recommended to refrain from removing it from the bulk bag until it is time to mix or apply.

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