



Method of Producing Highly Porous Adsorbents

UND Technology 18-02

Patent Number US 10,751,697

Date of Issuance: August 25, 2020

Summary

The University of North Dakota has patented a process for producing activated carbon that includes carbonizing an organic material to produce a charcoal, heating the charcoal in a chamber in the presence of oxygen at a temperature in the range of 400 to 500° Celsius for a duration of time sufficient to produce activated carbon, and removing the charcoal from the heat once the activated carbon is formed. The organic material can come from a wide variety of sources including coconut shells.

Advantages

- Cost effective method of producing highly porous adsorbents using thermal oxygen activation
- A significant and unexpected improvement over commercial physical activation processes, which require inputs of carbon dioxide or steam, specialized reactors, high activation temperatures, and multiple hours of processing

Inventors

Dr. Feng Xiao; Assistant Professor; Civil Engineering

