

Adsorbent Purification of Biodiesel Feedstock using Synthetic Magnesium Silicate

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Fats and oils used as feedstock for biodiesel can contain a wide variety of impurities that must be removed in order to properly react to produce biodiesel. A number of these impurities have been known to cause problems during the transesterification reaction, including sterol glucosides, soaps, phosphorus and other metals.

In this study, synthetic magnesium silicate was used to treat a crude Soybean oil to remove these impurities and produce finished oil with high quality. This process helps to ensure that the resulting biodiesel produced meets certain specifications and can also yield higher overall plant efficiencies.

Treatment of the crude Soybean oil with synthetic magnesium silicate resulted in:

- 83-92% Soap reduction
- 40-61% Water reduction
- 85-94% Phosphorus reduction
- 56-84% Sterol Glucoside reduction
- 50% Ca reduction
- 50-80% Mg reduction
- 80% Na reduction
- 65-80% K reduction