

IS THERE SCIENCE-BACKED EVIDENCE TO PROVE THAT SOY WAX IS LESS HARMFUL THAN POPULAR WAX TYPES?

CANDLES

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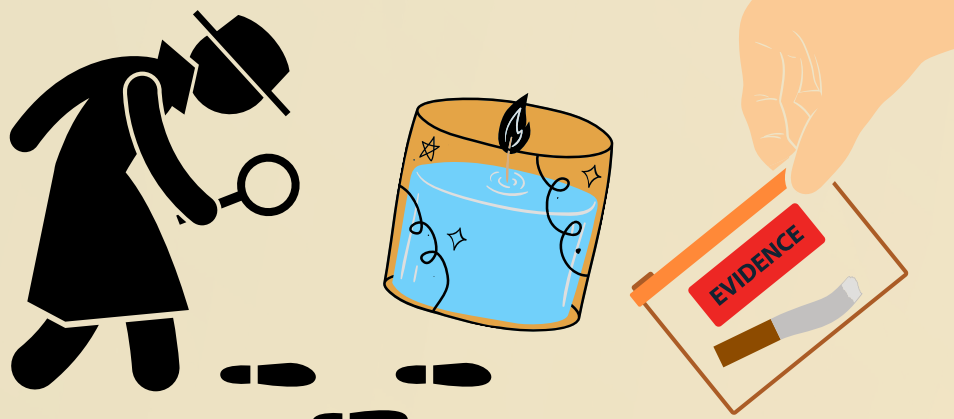
Contributions Journal of the American Oil Chemists' Society

AROMA

The Journal of the American Oil Chemists' Society published a scientific study by Karamatollah Rezaei and his colleagues, comparing the burning characteristics of soy candles with those of paraffin and beeswax candles. It was scientifically determined that the Combustion Characteristics of Candles Made from Hydrogenated Soybean, referred to as soy wax by candle makers, is a renewable and biodegradable alternative to paraffin wax in candle manufacturing.

SAFETY

FACTS



Soy wax was investigated for its tendency to produce soot, a mass of impure carbon particles resulting from the incomplete combustion of hydrocarbons, as well as potentially carcinogenic gases (acrolein, formaldehyde, and acetaldehyde) that are emitted into the air from products or processes during combustion. To determine the soot formation, the candles were burned under a funnel and the air with soot was then collected on a membrane filter. The amount of soot was estimated by measuring the darkness of the filter. The gas components were captured in a trichlorophenyl hydrazine solution.

A considerable amount of soot was produced from the combustion of paraffin candles, but little or none was observed from soy wax candles. Compared to paraffin candles, soy wax candles burned at a significantly slower rate and required less air. All paraffin candles visually produced soot while burning, whereas practically no visual soot formation was observed with beeswax and soy candles. The membrane filters which collected the soot from paraffin candles showed an average L-value of 32 (rather dark) as opposed to a L-value of about 95 (very light) for both beeswax and soybean candles.

Small amounts of formaldehyde were detected and quantified in the fumes of burning paraffin candles. Since soy wax candles exhibited burning properties similar to those of beeswax candles, soy wax exhibits a less harmful burn than paraffin wax types.