

## **Cavitation as a Tool for Efficient Neutralization of Rapeseed Oil**

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Ultrasound-assisted refining offers several advantages over conventional methods in edible oil processing, including improved yield, reduced processing time, and lower consumption of chemicals and energy. In this study the possibility of using ultrasonic cavitation to improve the efficiency of alkaline neutralization of rapeseed oil was verified. Neutralization was carried out conventionally and using ultrasound, in the presence and absence of an inert atmosphere. In all cases, the desired acidity reduction below 0.1 wt.% was achieved, with the ultrasonic method allowing a reduction in reaction time of up to ten times. However, in terms of oxidative stability, the samples treated without an inert atmosphere showed worse parameters (higher peroxide value, shorter induction period, higher core aldehyde content), whereas conducting the process in nitrogen significantly reduced these differences. The results show that cavitation has the potential to intensify refining, but its side effects need to be technologically controlled.