

ABSTRACT

THE EFFECT OF ADDING 10% TURMERIC POWDER ADSORBENT IN USED COOKING OIL ON THE ACID NUMBER WITH VARIATIONS IN ADSORPTION TIME

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Cooking oil is one of the daily needs of humans. The use of cooking oil often leaves used cooking oil called used cooking oil. The use of used cooking oil will have a negative impact on health because there is a high content of carcinogenic compounds, such as free fatty acids in used cooking oil. According to SNI 7709: 2019, the acid number requirement in cooking oil is a maximum of 0.3%, therefore it is necessary to reduce oil damage. In this study, one method that can be used is the adsorption method. The adsorbent used is turmeric powder. The purpose of this study was to determine the effect of 10% turmeric powder in cooking oil on acid number with variation of adsorption time. One of the influential factors in the adsorption process is the length of adsorption time. The time variations used are 35, 45, 50, 55 and 60 minutes. With a mass of 10 grams, a temperature of 70°C, the acid number values obtained were 1.7533 mg KOH/g, 1.5789 mg KOH/g, 1.4045 mg KOH/g, 1.2293 mg KOH/g and 1.1122 mg KOH/g, respectively. SPSS showed a value $<0,05$, which means that there is an influence between variations in the length of adsorption time for turmeric powder on the decrease in acid number.

Keyword : Used Cooking Oil, Tumeric Powder, Adsorption, Free Fatty Acid.