



## **Improving the Quality of Patchouli Oil Using Biomass Adsorbent**

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**Abstract:** Patchouli oil were contacted with an adsorbent dregs of coffee powder and fly ash have better quality than the initial quality of patchouli oil (before adsorbed). Among the two adsorbents, the dregs of the coffee powder is better than the fly ash to absorb iron, and absorbing the smaller components in patchouli oil. The content of iron before absorption was 75.936 ppm, and the iron is absorbed by the dregs of the coffee powder active as much as 34.306 ppm or as much as 44.77%, while the fly ash can absorb iron (Fe), which is 20.854 ppm or 26.33%. Adsorbent most effective in increasing the percentage of patchouli alcohol, or absorb other components, so amend the composition of patchouli oil is the fly ash, which led to the composition of patchouli alcohol changed and raise the percentage of patchouli alcohol became 48.71% from, 37.76%, rise up to 10.95%, while dregs of coffee powder led to change the composition of patchouli alcohol and raise the percentage of patchouli alcohol to 45.98% from, 37.76%, rise up to 4.56%. These observations indicate that the stirring of patchouli oil with an adsorbent for 15 minutes, the amount of adsorbent 1 gram/50 mL patchouli oil, showed that the specific gravity and refractive index that meets national standards of Indonesia (SNI). The longer the stirring time, increasing the amount of adsorbent, causing increases the specific gravity and refractive index of patchouli oil. Patchouli oil that has been absorbed by the dregs of coffee powder and fly ash can be completely soluble in alcohol 90%, with a ratio of 1 ml of patchouli oil with 10 ml of 90% ethanol. Transmittance of beginning of patchouli oil obtained by distillation using drums is 2.3682%, after absorption increased to 50%, the amount of adsorbent much as 4 g/50 mL patchouli oil, and a contact time of 45 minutes.

**Keywords:** patchouli oil, patchouli alcohol, adsorption, The Indonesian National Standard (SNI).