

**COMPARISON OF HEAVY METALS CONTENT IN ALOE
VERA GELS AND ALOE VERA PLANT USING ATOMIC
ABSORPTION SPECTROMETRY (AAS) ANALYSIS**

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ABSTRACT

COMPARISON OF HEAVY METALS CONTENT IN ALOE VERA GELS AND ALOE VERA PLANT USING ATOMIC ABSORPTION SPECTROMETRY (AAS) ANALYSIS

Aloe vera gel is one of the ingredients that is mainly used in cosmetics products available in the market and can be extracted directly from the Aloe vera plant. The Aloe vera gels provide many benefits toward consumer. However, the presence of heavy metals in the cosmetics product and plants cannot be avoided. In this research, the concentration of heavy metals in Aloe vera gels and Aloe vera plant was determined by using Atomic Absorption Spectrometry (AAS) analysis. Acid digestion method was used for both synthetic and natural Aloe vera gels to fully digest the samples. The calibration curves for Cu, Pb and Ni were obtained and found to be the best as the correlation coefficient is near to 1.0. From the analysis results, it was found that the concentration of Cu, Pb and Ni were found to be higher in the Aloe vera plant with the concentration of 0.0484, 1.6080 and 0.2420 ppm, respectively compared to Aloe vera gels from the market. It can be concluded that, the concentration of heavy metals for both Aloe vera gels from the market and plant is below the permissible limit and it is safe to be used.