

**Project Title** : Preparation of Stabilized Gel from Aloe vera Linn.

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### Abstract

It was found that the appropriate preservatives used to increase the stability of Aloe vera gel are the mixture of 0.2 percent of methyl paraben and 0.02 percent of propyl paraben or 0.2 percent of BRONIDOX L.<sup>(R)</sup> It also showed that 0.05 percent EDTA used as a chelating agent and 0.1 percent sodium metabisulfite as antioxidant can prevent the decomposition of phenolic compounds in the gel better than other substances used in this study. But they cannot inhibit the reaction completely. Further study had been made by preparing the gel in dried powder form and it was found that freeze dried technique produced more percentage yield than spray dried technique. The carrier used to assess the drying was 1.5 percent acacia. The powder obtained had the same characteristics, such as solubility, viscosity, pH, as those imported. To prepare gel, the preservatives, chelating agent, and antioxidant can either be added before drying or mix the three substances in the diluting solution. In either case, it showed that the microorganism contamination still met the standard requirement of the Ministry of Industry.

The gel prepared had almost the same characteristic as those imported when determined by Infrared Spectrophotometer. But its characteristic varied when determined by thin layer chromatography. When powdered gel and the diluting solution were kept for 60 and 90 days at room temperature and in the refrigerator, it revealed no characteristics change. When the powdered gel was used to prepare cream and shampoo, the stability of both products met the standard limit.