

PENGARUH KONSENTRASI PENGAWET DMDM *HYDANTOIN* TERHADAP KARAKTERISTIK, STABILITAS FISIKA & pH *WATER BASED POMADE* YANG MENGANDUNG EKSTRAK *Aloe vera*

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh dari perubahan konsentrasi DMDM *hydantoin* yang digunakan sebagai pengawet pada formula *water based pomade* terhadap parameter sifat fisika & pH yang mengandung bahan aktif ekstrak *Aloe vera* 0,5% dan juga untuk mengetahui stabilitas fisika dan pH sediaan formula I, II, dan III yang disimpan dalam *climatic chamber* selama 30 hari pada suhu 40°C dan RH 75%. Penelitian ini dilakukan dengan membandingkan 3 formula dengan konsentrasi DMDM *hydantoin* yang berbeda, yaitu formula I sebesar 0,1%, formula II sebesar 0,2%, dan formula III sebesar 0,5%. Parameter yang diuji meliputi sifat fisika, yaitu organoleptis, viskositas, sifat alir, daya sebar, dan daya tercurikan air, serta nilai pH dari masing-masing sediaan. Pengamatan dilakukan pada 3 titik, yaitu hari ke-0, ke-15, dan ke-30. Hasil penelitian menunjukkan bahwa perubahan konsentrasi DMDM *hydantoin* hanya mempengaruhi parameter pH, dan pada formula I, II, dan III tidak stabil setelah disimpan pada suhu 40°C dan RH 75% selama 30 hari, yang ditunjukkan pada formula I dan II terdapat perubahan organoleptis, serta pada ketiga formula terdapat perubahan viskositas, daya sebar, daya tercurikan air, dan pH.

Kata Kunci : stabilitas fisika dan pH, *water based pomade*, DMDM *hydantoin*, ekstrak *Aloe vera*

INFLUENCES OF PRESERVATIVES DMDM *HYDANTOIN* CONCENTRATION ON CHARACTERISTIC, STABILITY OF PHYSICAL PROPERTIES AND pH VALUES WATER BASED POMADE WHICH CONTAIN *Aloe vera* EXTRACT

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ABSTRACT

The purpose of this study is to determine the influences of concentrations of DMDM hydantoin as preservatives of water based pomades on pomade's characteristics with 0.5% *Aloe vera* extracts as its active ingredients, also to determine whether the water based pomades are physically and pH stable over the storage in climatic chamber with 40°C temperature and 75% RH, and to determine the differences within water based pomade formulas. The study was conducted with comparing three formulas with different concentrations of DMDM hydantoin, the first formula (Formula 1) had 0.1% concentration, the second formula (Formula 2) had 0.2% concentration and the third formula (Formula 3) had 0.5% concentration. The parameters were physical properties (organoleptic, viscosity, flowability, spreadability, washability) and pH values of each formulas. The pomades were then observed on three occasions, before being stored in climatic chamber (t0), 15 days after being stored (t15) and 30 days after being stored (t30). The results indicated that the concentrations difference of DMDM hydantoin just influence the pH value of water based pomade. The study also resulted that formula I, II, and III water based pomades were not physically and pH stable after being stored for 30 days with 40°C temperature and 75% RH, which indicated by formula I and II had a change in the organoleptic, also all 3 formulas had a change in the viscosity, spreadability, washability, and pH values.

Keywords : physical and pH stability, water based pomade, DMDM hydantoin, *Aloe vera* extract