

# PERBANDINGAN SIFAT FISIK DAN KIMIAWI TABLET ALOPURINOL GENERIK DAN BERMEREK DI KECAMATAN KASIHAN KABUPATEN BANTUL YOGYAKARTA

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## INTISARI

**Latar Belakang:** Tablet alopurinol, baik generik maupun bermerek adalah salah satu bentuk sediaan yang cukup banyak beredar di Indonesia dan merupakan salah satu obat yang paling umum digunakan untuk mengobati gout/asam urat. Pengawasan mutu tablet terhadap sifat fisik dan penetapan kadar perlu dilakukan untuk menjamin mutu tablet alopurinol generik tidak berbeda dengan bermerek yang beredar di masyarakat. Kontrol kualitas tablet alopurinol meliputi uji keseragaman bobot, keseragaman ukuran, kerapuhan, kekerasan, waktu hancur dan penetapan kadar.

**Tujuan Penelitian:** Membandingkan sifat fisik kimia dari kelima sediaan tablet alopurinol generik dan beremerek menurut standar yang ditetapkan.

**Metode Penelitian:** Tablet alopurinol generik dan bermerek diuji keseragaman bobot, keseragaman ukuran, kerapuhan, kekerasan, waktu hancur dan kadar menurut prosedur kerja yang ditetapkan. Kandungan alopurinol dalam tablet ditentukan menggunakan metode spektrofotometri UV-Vis.

**Hasil Penelitian:** Keseragaman bobot kelima sampel berkisar antara 202,2 mg - 378,8 mg dan memenuhi syarat menurut USP (2020). Ukuran tablet memenuhi keseragaman menurut FI III dengan nilai CV <5% diameter tablet berkisar 0,807 cm - 1,1 cm dan tebal tablet berkisar antara 0,28 cm - 0,383 cm. Nilai kerapuhan kelima sampel <1%, sedangkan kekerasan tablet berkisar antara 4,157 kg - 8,156 kg. Waktu hancur tablet alopurinol tidak bersalut kelima sampel <15 menit. Kadar alopurinol dalam tablet menggunakan metode spektrofotometri UV-Vis memenuhi rentang antara 93,0% - 107,0%.

**Kesimpulan:** Hasil penelitian menunjukkan bahwa kelima tablet alopurinol (100 mg) generik dan bermerek memenuhi persyaratan sifat fisika kimia yang telah ditetapkan meskipun antara sampel bervariasi sifat fisika kimianya saat dianalisis statistik. Kecuali pada parameter uji kerapuhan.

**Kata Kunci:** Alopurinol, Bermerek, Generik, Tablet.

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# COMPARISON OF PHYSICAL AND CHEMICAL PROPERTIES OF GENERIC AND BRANDED ALOPURINOL TABLETS IN KASIHAN SUB- DISTRICT BANTUL DISTRICT YOGYAKARTA

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## ABSTRACT

**Background:** Alopurinol tablet dosage form, both generic and branded is one of the dosage forms that is quite widely circulated in Indonesia and is one of the most commonly used drugs as a medicine for gout/uric acid. Quality control of tablets on physical properties and determination of levels needs to be done to prove the quality of generic alopurinol tablets is not different from branded ones circulating in the community. Tablet quality control includes tests of weight uniformity, size uniformity, friability, hardness, disintegration time and determination of levels.

**Research Objective:** To compare the physical and chemical properties of five generic and branded alopurinol tablet preparations according to established standards.

**Research Methods:** Generic and branded alopurinol tablets were tested for weight uniformity, size uniformity, friability, hardness, disintegration time and content according to established working procedures. The alopurinol content in the tablets was determined using UV-Vis spectrophotometric method.

**Research Results:** The weight uniformity of the five samples ranged from 202.2 mg - 378.8 mg and met the requirements according to USP (2020). The tablet size met the uniformity according to FI III with a CV value of <5%, the tablet diameter ranged from 0.807 cm - 1.1 cm and the tablet thickness ranged from 0.28 cm - 0.383 cm. The friability value of the five samples was <1%, while the tablet hardness ranged from 4.157 kg - 8.156 kg. The disintegration time of the uncoated allopurinol tablets of the five samples was <15 minutes. The allopurinol content in the tablets using the UV-Vis spectrophotometry method met the range between 93.0% - 107.0%.

**Conclusion:** The results showed that all five generic and branded allopurinol (100 mg) tablets met the established physicochemical properties, although their physicochemical properties varied among samples during statistical analysis, except for the friability test parameter.

**Keywords:** Alopurinol, Branded, Generic, Tablet.

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