Praktik Kerja di Industri PT Kalbe Farma Tbk Periode April-Mei 2022 "Studi Diversifikasi Reagen Standard Pembakuan pada Karl Fischer" = Internship at Industry PT Kalbe Farma Tbk Periode in April - May 2022 "Diversification of Standardized Reagents Study on Karl Fischer"

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Abstrak

Pengukuran kadar air dalam bahan pangan dapat ditentukan dengan beberapa metode yaitu dengan metode pengeringan (thermogravimetri), metode destilasi (thermovolumetri), metode fisis dan metode kimiawi menggunakan Karl Fischer. Metode Karl Fischer memerlukan pembakuan larutan atau standarisasi larutan yang bertujuan untuk mengetahui konsentrasi larutan secara pasti yang akan digunakan untuk analisis volumetri. Sodium Tartrate Dihydrate Water Standard Ex. Merck dapat menjadi pilihan sebagai pembaku atau standar dalam titrasi Karl Fischer. Oleh karena itu, dilakukan studi diversifikasi reagen standard yang bertujuan untuk membandingkan pembakuan Karl Fischer menggunakan reagen HYDRANAL™ - Water Standard 10.0 Ex. Fluca Analytical (eksisting) dengan Sodium Tartrate Dihydrate Water Standard Ex. Merck terhadap hasil pembakuan Karl Fischer. Prosedur yang dilakukan adalah membandingkan Metode 1 menggunakan Reagen HYDRANAL™ - Water Standard 10.0 dengan Metode 1 menggunakan Reagen Sodium Tartrate Dihydrate Water Standard. Hasil yang didapatkan yaitu Metode 2 (SODIUM TARTRATE DIHYDRATE WATER STANDARD) lebih mendekati syarat untuk hasil pembakuan serta memiliki nilai RSD hasil pembakuan dan analisis % kadar air sesuai yang dipersyaratkan untuk Hydranal Titrant Composite 5. Sedangkan untuk Hydranal Titrant 5 didapatkan bahwa pembakuan menggunakan Metode 1 (Reagen HYDRANAL™ - Water Standard 10.0) dan Metode 2 (SODIUM TARTRATE DIHYDRATE WATER STANDARD) adalah setara namun untuk perhitungan % kadar air didapatkan Metode 2 (SODIUM TARTRATE DIHYDRATE WATER STANDARD) lebih memenuhi syarat dibandingkan dengan Metode 1 (Reagen HYDRANAL™ - Water Standard 10.0)

.....Measuring the water content in food can be determined by several methods, namely the drying method (thermogravimetry), the distillation method (thermovolumetry), the physical method, and the chemical method using Karl Fischer. The Karl Fischer method requires standardization of the solution or standardization of the solution which aims to determine the exact concentration of the solution to be used for volumetric analysis. Sodium Tartrate Dihydrate Water Standard Ex. Merck can be an option as a standard or standard in Karl Fischer titrations. Therefore, a standard reagent diversification study was carried out which aimed to compare the standardization of Karl Fischer using the HYDRANAL™ - Water Standard 10.0 Ex reagent. Fluca Analytical (existing) with Sodium Tartrate Dihydrate Water Standard Ex. Merck to standardization results of Karl Fischer. The procedure performed was to compare Method 1 using HYDRANAL™ - Water Standard 10.0 Reagent with Method 1 using Sodium Tartrate Dihydrate Water Standard Reagent. The results obtained are Method 2 (SODIUM TARTRATE DIHYDRATE WATER STANDARD) which is closer to the requirements for standardization results and has an RSD value resulting from standardization and analysis of % water content as required for Hydranal Titrant Composite 5. Meanwhile, for Hydranal Titrant 5 it was found that standardization used Method 1 (HYDRANAL™ Reagent - Water Standard 10.0) and Method 2 (SODIUM TARTRATE DIHYDRATE WATER

STANDARD) are equivalent but for the calculation of % water content, Method 2 (SODIUM TARTRATE DIHYDRATE WATER STANDARD) is more qualified than Method 1 (Reagent HYDRANAL™ - Water Standard 10.0).