

ABSTRAK

Penentuan kadar natrium benzoat menurut *Association of Official Analytical Chemist* (AOAC) 960.38 dan 980.17 dilakukan secara spektrofotometri UV. Pada kedua prosedur, konsentrasi natrium benzoat ditentukan berdasarkan pengukuran asam benzoat yang dikali dengan faktor konversi (1,18). Tahap pembuatan deret standar asam benzoat pada AOAC 980.17 dan isolasi asam benzoat dalam sampel pada AOAC 960.38 rumit dan membutuhkan banyak pereaksi sehingga dilakukan modifikasi metode pada penelitian ini. Pengembangan dilakukan melalui pembuatan deret standar untuk kurva kalibrasi sesuai AOAC 960.38 dengan mengganti pelarut dietil eter menjadi kloroform, sedangkan isolasi dilakukan sesuai AOAC 980.17 dengan mengganti pelarut petroleum eter menjadi kloroform. Dilakukan uji validasi menggunakan standar asam benzoat dan sampel jamur kancing kemasan plastik yang mengandung natrium benzoat. Hasil uji validasi menunjukkan linieritas ($r = 0,9997$) dengan persamaan regresi $y = 0,0077 + 0,0030$ pada konsentrasi 30 – 100 ppm; batas deteksi sebesar 2,5791 ppm; batas kuantifikasi sebesar 7,8156 ppm; presisi dengan nilai %RSD sebesar 4,00%; rata – rata uji pungut ulang terhadap larutan natrium benzoat 10 ppm, 40 ppm dan 60 ppm sebesar 99,97%; 99,02%; 98,68%. Diperoleh kadar rata – rata natrium benzoat dalam sampel jamur kancing kemasan plastik dari metode ini yaitu sebesar 0,4502 g/kg.

Kata kunci : Jamur Kancing Kemasan Plastik; Natrium Benzoat; Spektrofotometri UV; Validasi Metode.

ABSTRACT

Spectrophotometric UV method for determining sodium benzoate was referred to *Association of Official Analytical Chemist* (AOAC) 960.38 and 980.17 procedure. Both of procedures, sodium benzoate concentration was determined by measurement benzoic acid which was multiplied with conversion factor (1,18). Execution steps of sodium benzoate standard solutions (AOAC 980.17) and isolation steps of benzoic acid in sample (AOAC 960.36) were complicated and using much of reagents so modified method was done in this research. Method had been developed with making sodium benzoate standard solutions for calibration curve according to AOAC 960.38 where diethyl ether was replaced by chloroform and isolate benzoic acid according to AOAC 980.17 where petroleum ether was replaced by chloroform. Benzoic acid and champignon mushroom plastic packed were used for validation test in this research. Linearity was established within concentration range of 30 – 100 ppm with coefficient correlation (r) was 0,9997 and equation regression was $y = 0,0077x + 0,0030$; limit of detection was 2,5791 ppm; limit of quantitation was 7,8156 ppm; precision with %RSD was 4,00%; accuracy with sodium benzoate recovery was established to be 99,97%; 99,02%; 98,68% for 10 ppm, 40 ppm and 60 ppm. Average measurement of sodium benzoate in champignon mushroom plastic packed from this method was 0,4502 g/kg.

Key Word : Champignon Mushroom Plastic Packed; Sodium Benzoate;
Spectrophotometric UV ; Validation Method.

