Application Note





Analysis of Benzoic Acid, Sorbic Acid and Dehydroacetic Acid

Introduction

Among the food additives, there are several food preservatives. While many of them are toxic, they have a function to inhibit proliferation of various microorganisms which cause food to rot. Accordingly, the usage of such preservatives is limited and the target foods are regulated by the Food Sanitation Law.

This report describes the analysis of three kinds of food preservatives, Benzoic Acid, Sorbic Acid and Dehydroacetic Acid, according to the testing method for food additives described in the Standard methods of Analysis for Hygienic Chemistry.



Jasco PU-2080 Plus pump

Keywords: HPLC, Food additive, preservative, Benzoic acid, Sorbic acid, Dehydroaceticacid,UVdetection, C18 column



Application Note

Experimental

Equipment

Eluent Pump:	PU-2080
Degasser:	DG-2080-53
Column Oven:	CO-2060
Autosampler:	AS-2057
Detector:	UV-2075

Conditions

CrestPak C18S (4.6 mml.D. x 150 mmL, 5 µm)
5 mmol/LCitrate buffer (pH 4.1) /Acetonitrile Methanol (70/20/10)
1.0 mL/min
40 °C
230 nm
10 µL
Benzoic acid, Sorbic acid, Dehydroacetic acid

Fig. 1 shows the structure of each preservative.



Sorbic acid



Dehydroacetic acid



Benzoic acid

Results



The chromatogram of standard mixture displayed in Fig.2 shows a good separation of the three components within 9 minutes.



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