

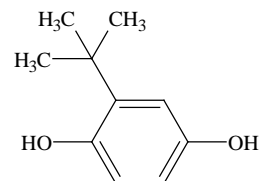
Analysis of Tert Butylhydroquinone (TBHQ) in Foods by HPLC

This application describes the analysis of tert butylhydroquinone (TBHQ). Although TBHQ is not recognized as a food additive, it is used as a phenolic antioxidant in oils and fats in some countries. The test method is described in Food Safety Inspection Notification No. 0303001.

In this application, sample analysis was made using a fluorescence detector in accordance with the test method.

It is also possible to analyze phenolic antioxidants simultaneously using gradient separation. (K.Suzuki)

Structural formula



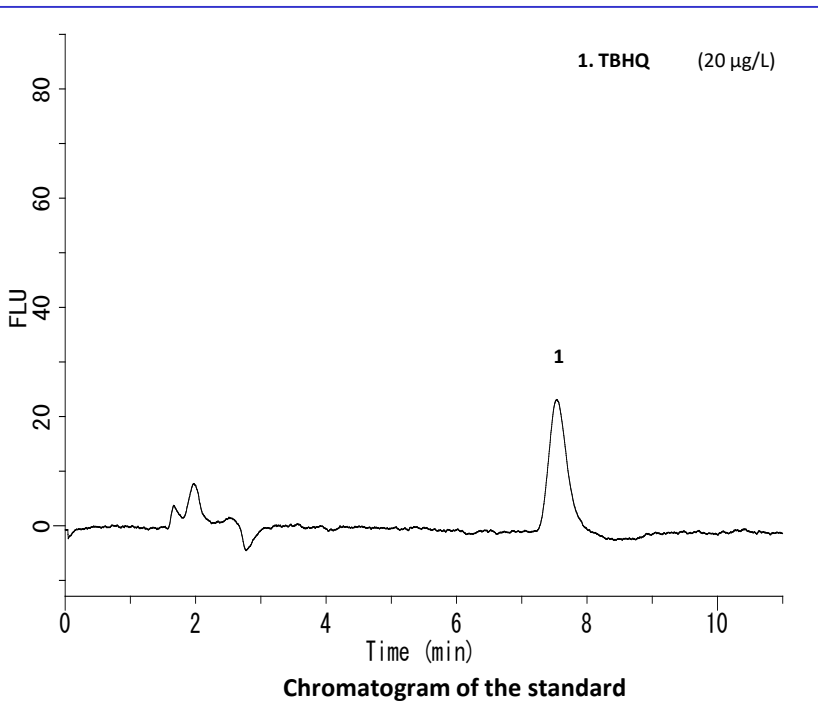
Tert-Butylhydroquinone

Structures are created using Chemistry 4-D Draw which is provided By ChemInnovation Software, Inc.

<Representative phenolic antioxidants>

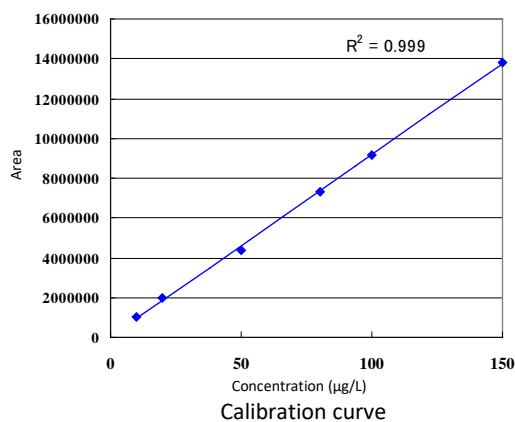
| | |
|--|---------------------|
| Dibutylhydroxytoluene (BHT) | Octyl Gallate (OG) |
| Dibutylhydroxyanisole (BHA) | Lauryl gallate (DG) |
| Nordihydroguaiaretic acid (NDGA) | Propyl gallate (PG) |
| 2,4,5-trihydroxybutyrophenone (THBP) | |
| 4-Hydroxymethyl-2,6-di-tert butylphenol (HMBP) | |

Examples of TBHQ analysis

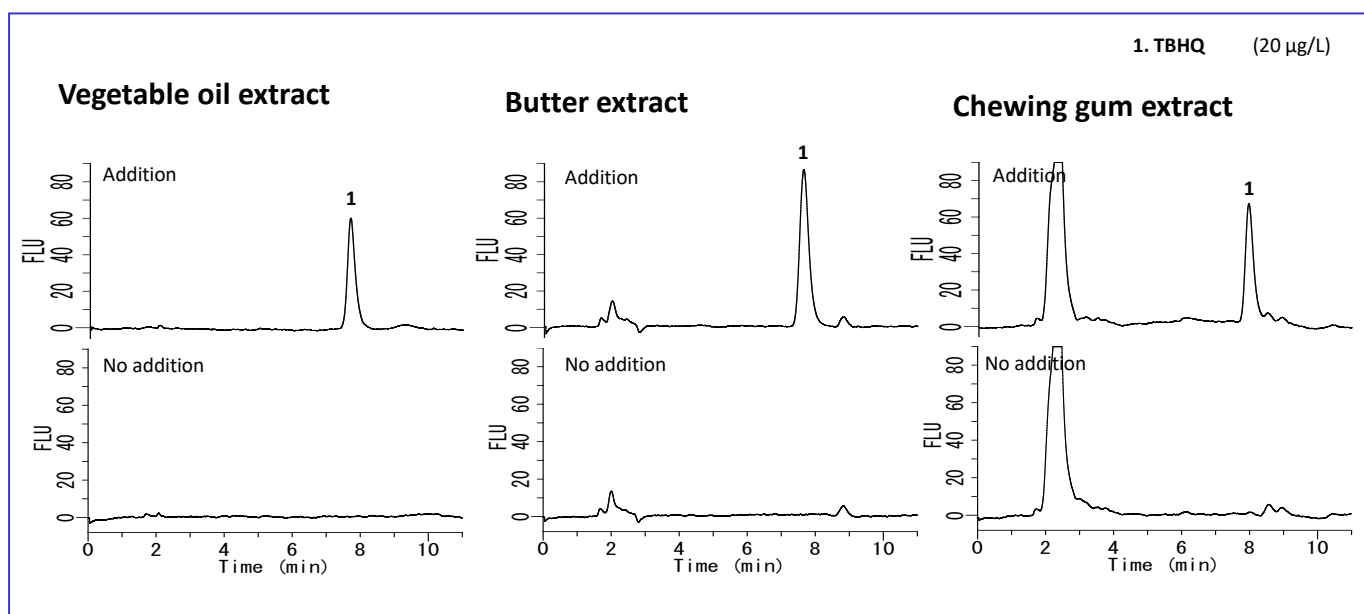
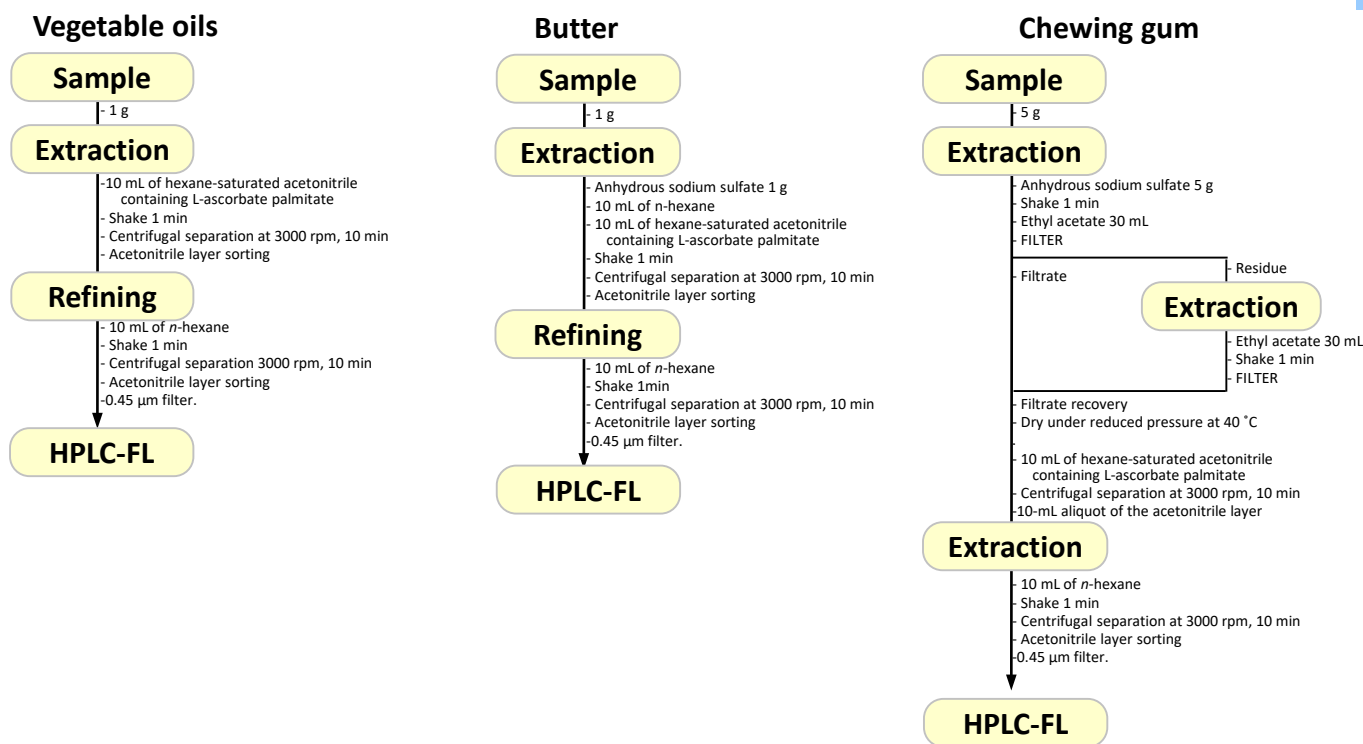


HPLC conditions

| | |
|-------------------------|--|
| Column | :Inertsil ODS-SP (5 µm, 150 x 4.6 mm I.D.) |
| Eluent | : A) CH ₃ CN B) CH ₃ OH C) 5% aqueous acetic acid A/B/C = 20/20/60 v/v/v, 1.0 mL/min |
| Temperature | :40 °C |
| Detector | : FL Ex 293 nm Em 332 nm |
| Injection volume | : 10 µL |



Example of pretreatment



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