

# *Recommended Test Methodology for Lemon Juice Products*

## *IA 99-47*

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\*\*Please note, this recommendation is intended to provide supplemental general information to private laboratories on methods of analysis of lemon juice products. This document does not outline all of the analytical method or worksheet requirements for packages being submitted for FDA review. \*\*

Please refer to the current FDA Laboratory Manual, Volume III, Section 7 for comprehensive information on private laboratory package requirements and the review process:

<https://www.fda.gov/media/73540/download>

Below is some information that serves as reference for analyzing lemon juice product(s):

### **Method for Carbon SIRA.**

Doner, L., J. Agr. Food Chem. (1985) 33, 770-72

Official Methods of Analysis of the AOAC, Methods 981.09, 982.21

### **Method for Original Determination of Citric Acid**

Official Methods of Analysis of AOAC, Method 942.15

### **Method for Confirmatory Determination of Citric Acid**

Official Methods of Analysis of the AOAC, Method 986.13

### **Methods for Enzymatic Determination of D-Isocitric Acid**

1984 Boehringer Mannheim GmbH, p.31-32

IFU Analyses, method #54, Determination of D-isocitric acid

Modern Techniques for Food Authentication, 2008 Academic Press, p. 375.

### **Method for Soluble solids**

Official Methods of Analysis of the AOAC, Method 983.17, Table 900.03

### **Method for Titratable acidity**

Official Methods of Analysis of AOAC, Method 942.15

*\*\*\*FDA does not endorse any private laboratory firms, nor requires specific methods to be used for Private Laboratory Analytical Packages (PLAPs). Information herein is provided as a courtesy, but private laboratories are not required to use them. The requirements state the method should be locally validated and should adequately identify and or quantitate the violative analyte(s). The information herein may also provide supplementary sampling, method information and/or sample preparation information to assist private laboratories who are*

*analyzing products being held under Detention Without Physical Examination (DWPE) as part of an Import Alert to assist private laboratories with submitting scientifically sound PLAPS as testimony pursuant to FD&C Act section 801 and 21 CFR 1.94 or FD&C Act section 422(b) and 21 CFR 1.1107.*