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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3846-2014

Determination of the carbon isotope ratio in apple and apple juice concentrate for export

出口苹果和浓缩苹果汁中碳同位素比值的测定

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard is proposed and managed by the National Certification and Accreditation Administration Committee.

This standard was drafted. People's Republic of China Shaanxi Exit Inspection and Quarantine, Chinese Academy of Inspection and Quarantine.

1 Scope

This standard specifies the stable isotope ratio mass spectrometry apple juice and apple juice concentrate, fructose, fruit stable carbon isotope ratio method.

This standard applies to apples and determination juice, fructose, fruit stable carbon isotope ratio of apple juice concentrate.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 6682 analytical laboratory use specifications and test methods (GB/T 6682-2008, ISO 3696. 1987, MOD).

3 Method summary

Apples and concentrated apple juice after, fructose, fruit juice prepared by the elemental analyzer into the combustion oxidation, chemical purification and separation by GC After using the stable isotope ratio mass spectrometer stable carbon isotope ratio (13C/12C), by

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comparison with standard material determines juice, fructose, fruit delta13C values.

4 Reagents and materials

Unless otherwise indicated, the reagents used were of analytical grade water as a water GB/T 6682 regulations.

4.1
calcium hydroxide.

4.2
acetone. >=99.5%.

4.3
sulfuric acid. 95% to 98% (mass fraction).

4.4 0.1mol/L sulfuric acid. Take 2.8mL of sulfuric acid (4.3) diluted with water to 500mL.

4.5
Standard olive oil. C = 54.00%, delta13CPDB = -28.51 ± 0.16 per mille. (CatNo.B2172-Batch3130).

4.6
sorbent (ChromosorbW30-60Mesh).

4.7
Tin Cup. 8mm x 5mm.

5 Instruments

5.1
stable isotope ratio mass spectrometer, delta13C measurement accuracy. 0.1 per mille. Carrier gas. Helium, 99.999% purity; assisting gas. Oxygen purity 99.999%.

5.2
Balance. a sense of the amount of 0.01mg.

Centrifuge 5.3. more than 3000r/min.

5.4
food cooking machine.

5.5 5μL pipette.

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5.6

centrifuge tubes (resistant to organic solvents). Volume 50mL.

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