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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3538-2013

Determination of six kinds of artificial sweeteners in foodstuffs for export. LC-MS/MS method

出口食品中六种合成甜味剂的检测方法 液相色谱-质谱/质谱法

(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 Hunan Exit Inspection and Quarantine.

1 Scope

This standard specifies the export of food sodium cyclamate, sodium saccharin, acesulfame, aspartame, alitame, neotame six kinds of synthetic sweeteners inspection Measured by liquid chromatography - mass spectrometry/mass spectrometry and confirmation methods.

This standard applies to milk powder, liquid milk, yogurt, butter, cheese, ice cream, wine, fruit juice, pastries, preserves, sweet and sour onion sodium cyclamate, Sodium saccharin, acesulfame, aspartame, alitame, neotame determination.

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.

Laboratory use specifications and test methods GB/T 6682 Analysis

3 Method summary

A sample of artificial sweeteners formic acid - triethylamine buffer (pH = 4.5) to extract, HLB solid phase extraction column purification or armor Alcohol - diluted with water (11 volume) extract injection, liquid chromatography - mass spectrometry/mass spectrometry, external

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standard.

4 Reagents and materials

Except where noted, all reagents were of analytical grade water as a water line with GB/T 6682 regulations.

4.1
acetonitrile. HPLC grade.

4.2
Methanol. HPLC grade.

4.3
formic acid.

4.4
ammonium formate.

4.5
triethylamine.

4.6
potassium ferrocyanide.

4.7
zinc acetate.

4.8
trichloromethane (chloroform).

4.9 10% potassium ferrocyanide solution. 10g of potassium ferrocyanide was dissolved in 100mL of water.

4.10 20% zinc acetate solution. 20g of zinc acetate were dissolved in 100mL water.

4.11 0.1% formic acid -5mmol/L ammonium formate solution. Take 1mL acid, 0.315g of ammonium formate, diluted with water and dilute to 1000mL.

4.12
formic acid - triethylamine buffer solution (pH = 4.5). Take acid 0.8mL, 2.5mL triethylamine, diluted with water to the constant volume 1000mL.

4.13
Methanol - water (11 volume). Measure 100mL methanol, 100mL water was added, mixing spare.

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4.14

cyclamate, sodium saccharin, acesulfame, aspartame, alitame, neotame standard substance. purity >=95%, basic information see Appendix A.

4.15

Standard stock solution. accurately weighed amount of 4.14 standard substance with methanol - water (11 volume) were formulated into a thick mass

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