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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 25531-2010

The national food safety standards of food additives sucralose

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Foreword

Appendix A of this standard is a normative appendix.

National Food Safety Standard

Sucralose Food Additive

1 Scope

This standard applies to sugar as raw material, a chlorine atom optionally substituted three hydroxyl groups prepared food additive sucralose.

2 Normative references

The standard file referenced in the application of this standard is essential. For cited documents with dates, only the date of

Version applies to this standard. For undated references, the latest edition (including any amendments) applies to this standard.

3.1 Chemical Name

1,6-dichloro-1,6-dideoxy -beta-D- fructofuranosyl 4-chloro-4-deoxy-furan -alpha-D-galactopyranoside

Formula 3.2

C12H19Cl3O8

4.1 Sensory requirements. comply with Table 1.

Table 1 Sensory requirements

Project requires test methods

White to nearly white color proper amount of sample is placed in a clean, dry white porcelain dish, in

Natural light, to observe its color and texture, and olfactory

Its taste.

Odour odorless

Organizational status crystalline powder

4.2 Physical indicators. to comply with Table 2.

Table 2. Physical and chemical indicators

Item Index Test Method

Sucralose (dry basis), w /% 98.0 ~ 102.0 Appendix A A.3

Specific rotation alpham (20 degrees C, D)/[(°) . dm2 . kg-1] 84.0 ~ 87.5 Appendix A A.4

Water, w /% <= 2.0 GB/T 6283

Residue on ignition, w /% <= 0.7 GB/T 9741a

Hydrolyzate by examining A.5 Appendix A

Related substances by examining A.6 in Appendix A

Methanol, w /% <= 0.1 Appendix A A.7

Lead (Pb)/(mg/kg) <= 1 GB 5009.12

a sample weight of 1 g ~ 2g.

Appendix A

(Normative)

Testing method

A.1 General Provisions

Unless otherwise indicated in the analysis using only recognized as analytical reagents and

GB/T 6682-2008 specified in the water. In the analysis

Standard titration solution, impurities measured by standard solution, preparations and products, did not indicate when the other requirements, according to GB/T 601, GB/T

602, the provisions of preparation GB/T 603's. This solution was used in the test does not indicate what is formulated with solvent, it refers to an aqueous solution.

A.2 Identification Test

A.2.1 detecting sucralose test, the specimen in the liquid phase chromatogram peak retention time of the standard solution should sucralose

Sugar same retention time.

A.2.2 related substances detection tests, Rf value of thin-layer chromatogram of the sample solution in the main spots should be the standard solution of the main spots with Rf value

with.

A.3 Determination of sucralose

A.3.1 Reagents and materials

a) acetonitrile. chromatography.

b) Sucralose Standard. mass fraction >=98.0%.

A.3.2 Instruments and Equipment

High performance liquid chromatograph. equipped with a differential refractive index detector, or other equivalent detectors.

A.3.3 reference chromatographic conditions

a) Column. C18 reverse phase column, 8mm x 10cm, particle size 5μm; or other equivalent column.

b) Mobile phase. After 150mL of acetonitrile and 850mL of water were mixed uniformly, using 0.45μm membrane filter, degassed ultrasound standby.

c) Column temperature. room temperature.

d) Mobile phase flow rate. 1.5 mL/min.

e) Injection volume. 20 μL.

f) Sucralose retention time. about 9min, required to ensure the retention time, the proportion of mobile phase can be adjusted if necessary.

NOTE. System Suitability standard solution is injected twice repeated, resulting in response to the relative error is less than 2.0% area.

A.3.4 Analysis step

A.3.4.1 Preparation of standard solutions

Weigh about 0.025g sucralose standard (accurate to 0.0001g), dissolved in mobile phase and transferred to 25mL volumetric flask, add stream

Mobile phase to volume, and the resulting solution was 0.45μm membrane filter, and the filtrate set aside.

A.3.4.2 Preparation of sample solution

Weigh about 0.025g sample (accurate to 0.0001g), dissolved in mobile phase and transferred to 25mL volumetric flask, add the mobile phase to volume

Scale, the resulting solution was 0.45μm membrane filter, the filtrate was set aside.

A.3.5 Determination

In A.3.3 reference chromatographic conditions, respectively, the standard solution and the sample solution was measured injection volume of 20 μL, repeat injections once,

Calculate the peak area average.

A.3.6 Calculation Results

Sucralose content X1 according to formula (A.1) Calculated.

) 1 (0

1 x - xx

xx =

XMA

PMAX

US

sU (A.1)

Where.

Content X1-- sucralose sample,%;

AU-- liquid chromatography sample mean peak area;

MS-- weighed sucralose standard mass in grams (g);

P-- sucralose content standards in marked sucralose,%;

AS-- mean standard solution chromatogram peak area;