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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准

GB/T 5009.35-2003

Replaces GB/T 5009.35-1996

Determination of synthetic colour in foods

食品中合成着色剂的测定

Issued on August 11, 2003 Implemented on January 1, 2004

Issued by National Health and Family Planning Commission of the People's Republic of China

Contents

Foreword

This standard replaces GB/T 5009.35-1996 *The Determination Method of Synthetic Colour in Food*.

Compared with GB/T 5009.35－1996, this Standard is modified as follow:

—— The standard Chinese name is modified, and changed into *Determination of Synthetic Colour in Food*;

—— According to GB/T 20001.4-2001 *Standard Writing Rules Part 4: Chemical Analysis Method*, it modifies the primary standard structure;

—— Increase the oscillographic polarography, as the third method.

The Standard is put forward and centralized by Ministry of Health of the People's Republic of China.

The first method for such standard is drafted by Tianjin Institute of Food Hygiene Supervision and Inspection, Liaoning Institute of Food Hygiene Supervision and Inspection, Ningxia Hui Autonomous Region Sanitation and Anti-Epidemic Station, and Xi'an Sanitation and Anti-Epidemic Station.

The second method for such standard is drafted by the Ministry of Health of Food Hygiene Supervision and Inspection.

The third method for such standard is drafted by the Ministry of Health of Food Hygiene Supervision and Inspection.

This Standard was first issued in 1985, first revised in 1996 and this is the second revised.

Determination of Synthetic Colour in Food

1 Scope

This Standard specifies the determination method of synthetic colour in food.

This standard applies to the determination of synthetic colour in food.

Detection Limit of This Method: Mesobilirubinogen 5ng, tartrazine 4ng, amaranth 6ng, carmine 8ng, sunset yellow 7ng, erythrosine 18ng, brilliant blue 26ng. When the sample amount is 0.025g, the concentration detected shall be 0.2 mg/kg, 0.16 mg/kg, 24 mg/kg, 0.32 mg/kg, 0.28 mg/kg, 0.72 mg/kg and 1.04 mg/kg separately.

The First Method High-Performance Liquid Chromatograph

2 Principle

The artificial synthetic colorant in the food can be extracted with the method of polyamide adsorption or liquid-liquid partition, made into the water solution, injected into the high-performance liquid chromatograph and separated by reversed-phase chromatography and we carry out the qualitative analysis as per the retention time and quantitative analysis according to the comparison with peak area.

3 Reagents

3.1 N-Hexane.

3.2 Hydrochloric Acid.

3.3 Acetic Acid.

3.4 Methyl Alcohol: Filter it with 0.5μm filter membrane.

3.5 Polyamide Powder (nylon 6): Through 200 mesh sieve.

3.6 Ammonium Acetate Solution (0. 02 mol/L): Dissolve 1.54g of ammonium acetate in 1000mL of water, and then filtered with 0.45μm of filter membrane.

3.7 Ammonia Water: Mix 2mL ammonia water and mix into 100mL water evenly.

3.8 Ammonia - Ammonium Acetate Solution; Measure 0.5mL ammonia water, and add into 1000mL of ammonium acetate solution (0.02mol/L).

3.9 Methyl Alcohol – Formic Acid (6+4) Solution: Measure 60mL of methyl alcohol and 40mL of formic acid, mixing together evenly.

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