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# INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

# SN/T 3868-2014

## Determination of aflatoxin B1, B2, G1, G2 in edible oil for export - Immunoaffinity column clean-up and HPLC with fluorescence detection

出口植物油中黄曲霉毒素B1、B2、G1、G2的检测-免疫亲和柱净化高效液相色谱法

**(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 by the People's Republic of China Shandong CIQ is responsible for drafting.

## 1 Scope

This standard specifies the vegetable export of aflatoxin B1, B2, G1, G2 detection methods.

This standard applies to peanut oil, olive oil, sesame aflatoxin testing.

## 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

Aflatoxins in the sample with methanol - water (5545, volume ratio) extract, the extract was centrifuged, filtered, diluted with immunoaffinity column Purification by liquid chromatography with fluorescence detector post-column derivatization method for the determination of aflatoxin toxin content, external standard.

## 4 Reagents and materials

Unless otherwise specified, the use of chemical reagents were of analytical grade water as a water GB/T 6682 regulations.



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**4.1**
Methanol. HPLC grade.

**4.2**
acetonitrile. HPLC grade.

**4.3**
nitric acid. 65%.

**4.4**
sodium chloride.

**4.5**
potassium bromide.

Extract 4.6. methanol - water (5,545, volume ratio).

**4.7**
Eluent. methanol - water (1,090, volume ratio).

**4.8**
aflatoxin standard. A6636 (aflatoxin B1), A9887 (aflatoxin B2), A0138 (aflatoxin G1), A0263 (aflatoxin G2), SigmaAldrich, or equivalent person; purity >=99.0%.

**4.9**
aflatoxin standard stock solution. the 1mg aflatoxin standards B1, B2, G1 and G2 (4.8) were dissolved in acetonitrile (4.2), and set the volume to 10mL, was 100μg/mL standard stock solution I, accurate pipetting four kinds of aflatoxin standard stock solution I each 1mL, points Do not dissolved in acetonitrile (4.2) and set the volume to 10mL, was 10μg/mL aflatoxin B1, B2, G1, G2 standard stock solution II, save in-18 °C.

**4.10**
aflatoxin mixed intermediate standard solution. accurate Pipette appropriate amount of four kinds of 10μg/mL stock solution of aflatoxin standard II, placed in the same A flask with acetonitrile (4.2) diluted to the mark, as the standard intermediate mixed solution containing total aflatoxins 400ng/mL (containing Aflatoxin B1, B2, G1, G2, respectively 200,50,100 and 50ng/mL), stored at -18 °C.

**4.11**
aflatoxin standard working solution. Pipette the appropriate amount of aflatoxin mixing different volumes of intermediate standard solution (4.10), 50% formamide Alcohol - Aqueous formulation according to Table 1 the concentration gradient of the standard curve, use namely distribution.



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