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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 5508-2025

Replacing GB/T 5508-2011

**Inspection of grain and oils - Determination of sand content of
flours**

粮油检验 粉类粮食含砂量测定

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 5 Reagents Warning 1

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 5508-2011 "Grain and Oil Inspection. Determination of Sand Content in Flour Grains". Compared with GB/T 5508-2011, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

---The reagents and reagent warnings have been changed; carbon tetrachloride has been replaced with tetrachloroethylene (see 5.2, Chapter 5 of the 2011 edition).

---A 10% hydrochloric acid solution reagent has been added (see 5.3);

---The instruments and equipment were changed, and the electric furnace was replaced with an electric heating plate (see 6.5, 2011 edition of 6.5);

---The instruments and equipment have been expanded to include volumetric flasks, pipettes, water baths, and muffle furnaces (see 6.9~6.12);

---A step of muffle furnace calcination has been added (see 7.2.1, 7.2.2);

---The determination of sand content in flour-based grains containing nutritional fortifiers and inorganic salt food additives has been added (see 7.2.3);

---Reproducibility requirements have been added (see 9.2). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the National Food and Strategic Reserves Administration. This document is under the jurisdiction of the National Technical Committee on Standardization of Grain and Oil (SAC/TC270). This document was drafted by: China Grain Reserves Chengdu Research Institute Co., Ltd., China Grain Quality Inspection Center Co., Ltd., and Beijing Municipal Institute for Food Inspection and Research. Research Institute (Beijing Municipal Food Safety Monitoring and Risk Assessment Center), China Grain Reserves Corporation Shaanxi Quality Inspection Center Co., Ltd., China Enterprise United Grain Reserves Co., Ltd. Company, Shaanxi

Provincial Grain Quality and Safety Center, Sichuan Provincial Grain Quality Monitoring Center, Shandong Provincial Grain and Oil Testing Center, Hubei Provincial Grain and Oil Food Quality Supervision Supervision and testing center. The main drafters of this document are. Liu Xiaoli, Li Hui, Zhang Cheng, Zhang Yuchong, Guo Qin, Chen Chao, Liu Xiaoxi, Xu Nuo, Jiang Tao, Feng Yongjian, and Luo Shilong. Tang Kun, Lü Juncang, Wei Zhihua, Shan Xiaoxue, Lan Xueping, Zhang Ruiting, Yang Chao, Yang Wei, Shi Lingge, Jiang Yuanyuan, Su Xiaomeng, Zou Jie. The release history of this document and the document it replaces is as follows:

---First published in 1985 as GB/T 5508-1985, and revised for the first time in.2011;

---This is the second revision. Grain and oil testing. sand content determination of flour grains

1 Scope

GB/T 5508-2025 is the Chinese national standard covering the grit in flour - the separation of mineral matter from the flour by density, the weighing of what remains, and the percentage, which is a direct measure of how well the grain was cleaned before milling. Issued on 31 October 2025, it has been in force since 1 May 2026, replacing GB/T 5508-2011.

This document describes a method for determining the sand content in floury grains. This document applies to the determination of sand content in powdered grains. It does not apply to powdered grains such as sesame powder, which can co-precipitate with sand and dust.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 5491 Sampling and Divided Sampling Methods for the Inspection of Grains and Oils

GB/T 6682 Specifications and test methods for water used in analytical laboratories

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 flour grains The term refers to the processing of raw grains and oilseeds into powdery substances of a certain fineness.

3.2 sand content The amount of inorganic sand and dust contained in floury grains.

Note. The percentage of sand and dust in the total mass of the sample is expressed as a percentage (%).

4.Principles In tetrachloroethylene reagent, due to the difference in relative density between powdered grains and sand/dust, the powdered grains are suspended on the surface of tetrachloroethylene, while the sand/dust settles. The tetrachloroethylene base layer separates powdered grains from sand and dust.

5 Reagents Warning 1

---Tetrachloroethylene has a peculiar odor and is toxic when inhaled or in contact with skin and eyes. Handling should be carried out in a fume hood. Warning 2

---Tetrachloroethylene is harmful to water bodies. Waste liquid after use should not be discharged directly, but should be collected and treated in accordance with relevant regulations. Unless otherwise stated, all reagents used in this method are of analytical grade.

5.1 Water, GB/T 6682, Grade III.

5.2 Tetrachloroethylene (C_2Cl_4). 5.3 10% hydrochloric acid solution. Measure 24 mL of concentrated hydrochloric acid and dilute it with water to 100 mL.