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

LS/T 1223-2020

**Technical specification for storage of emergency reserve milled
rice
(English Translation)**

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1 Scope

This standard specifies the terms and definitions, requirements, daily management and technical measures, emergency storage quality control, pest control, and out-of-warehouse control for emergency storage of milled rice.

This standard is applicable to the quality preservation storage of rice packaged in an emergency reserve granary located in horizontal warehouses and multi-floor buildings with grain condition monitoring capabilities, including temperature and humidity, and good moisture-proof, heat-insulating, and thermal insulation properties.

2 Normative references

The following documents are essential for the application of this document. For any dated reference, only the version corresponding to that date applies to this document;

for any undated reference, the latest version (including all amendments) applies to this document.

GB/T 1354 Milled rice

GB 5009.3 National food safety standard - Determination of moisture in food

GB/T 5490 Inspection of grain and oils - General rules

GB/T 5491 Inspection of grain and oil seeds - Sampling and dividing

GB/T 5496 Inspection of grain and oils - Determination of yellow-colored rice and cracked kernels

GB/T 5502 Inspection of grain and oils - Determination of milling degree of rice and other grain kernels

GB/T 5503 Inspection of grain and oils - Determination of broken kernels

GB/T 5510 Inspection of grain and oils - Determination of fat acidity of cereals and cereal products

GB/T 8946 General technical requirements of plastic woven sack

GB/T 15682 Inspection of grains and oils - Method of sensory evaluation of paddy or rice cooking and eating quality

GB/T 29890 Technical specifications for the storage of grains and oilseeds

GB 50320 Code for design of grain storehouses

LS/T 6132-2018 Inspection of grain and oils - Storage fungal examination - Enumeration spores of fungi

Building Standard 172. Standard for Construction of Grain Warehouse

Key Points for Construction Design of Emergency Reserve Warehouse for Finished Grain (Exhibition Document No. 37 [2012] of the National Grain Office)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

emergency storage of milled rice

Rice reserves that are used to regulate the total supply and demand of rice in society, stabilize the grain market, and respond to major natural disasters or other emergencies.

3.2

emergency storage of granary

Buildings that are used for storing emergency finished grain and oil products and meet the basic functional requirements for safe grain storage.

3.3

exchange cycle

The time period or interval for replacing stockpiled goods (grain and oil) with new reserve goods (grain and oil) in equal quantities.

3.4

emergency storage of cycle [Translator's note. here should be emergency]

The storage time of emergency reserve finished grains and oils from when they enter the warehouse to when their quality changes to a certain extent, but they are still in a state suitable for storage.

3.5

grain moisture

The relative humidity of the air at a certain point inside the grain pile.

3.6

tempering

When the temperature difference between rice and the environment is greater than the temperature dew point difference, in order to avoid the rice from condensing and becoming moldy, the process in which further heat and moisture exchange and homogenization occur between the rice and the environment.

3.7

tempering of in-and-out storehouse

Tempering is carried out during the rice's entry to and exit from the warehouse.

3.8

tempering room

The granary or room used for tempering of in-and-out storehouse.

4.1 Basic requirements

4.1.1

Necessary finished grain storage facilities are provided to ensure the quality of rice entering the warehouse and the integrity of rice packaging, and reasonable technical measures are adopted to reduce losses and damage, prevent pollution, and delay quality decline.

4.1.2

Before the grain is stored, the granary and storage yard shall be cleaned to remove any remaining rice grains, ash, and debris, and any gaps shall be sealed. If pests are present, they shall be killed with pesticides, and the warehouse shall be cleaned before the grain is stored. For floors that cannot be insulated from moisture, moisture-proof materials shall be laid down before the grain is stored.

4.1.3

The safety of emergency rice storage shall be ensured. Storage technical requirements shall be implemented in accordance with GB/T 29890.

4.2 Requirements for rice entering the warehouse

4.2.1

Emergency storage of milled rice entering the warehouse shall meet the quality requirements specified in GB/T 1354 and GB/T 5502 and have a milling degree of grade II or above; it shall also meet the relevant food safety standards.

4.2.2

Rice of different grades, moisture contents, varieties, and production years shall be stored separately. For rice intended for long-term storage, the moisture content shall be below 13.5%. Low-temperature storage can control the moisture content of rice to around 14.5%.

4.2.3

Rice grains with a temperature difference of more than 5 °C shall be stored in separate stacks.

4.3 Requirements for warehouse construction