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

GB/T 22497-2008

**Grain and oil storage - Guidelines for the application of
fumigants**

粮油储藏 熏蒸剂使用准则

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Quarantine;
Standardization Administration of the PRC**

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Foreword

The standard proposed by the National Food Authority. This standard by the National Standardization Technical Committee OILS. This standard is drafted by: National Food Reserve Chengdu Grain Storage Research Institute Science, Henan University of Technology, China Grain Reserve Management Corporation, the Guangdong Provincial Institute of Food Science. The main drafters of this standard. Yan Xiaoping, Bai Xuguang, Zhang Xiuming, Guodao Lin, Li Wanwu, Lv Jianhua, Cheng Tao, Zeng Ling, Zhou Hao, Xu Shengwei, Wang Lidan. Grain and oil storage fumigant use guidelines

1 Scope

China's national guidelines for the use of fumigants in grain and oilseed storage. It specifies the terms and definitions, the fumigants permitted and their application, the residue limits and their determination, and the principles of safe use. Fumigation is how a large grain store is disinfested, and there is no alternative at that scale. A silo or a warehouse holding tens of thousands of tonnes cannot be treated by contact insecticide, because the insects are inside the grain mass and inside individual kernels; a gas is the only agent that reaches them. Phosphine, generated from aluminium or magnesium phosphide, is the fumigant that dominates because it penetrates a grain bulk, leaves little residue and is cheap. It is also acutely toxic to people at concentrations well below what can be smelled reliably, it is flammable, and it kills fumigators regularly - almost always through the same failures: an inadequately sealed structure that leaks into an occupied space, re-entry before the gas has cleared, or the residue of undecomposed phosphide handled carelessly afterwards. So the guidelines are as much an occupational safety document as a pest control one. They cover the selection of the fumigant and the dose, the sealing of the structure and the verification that it holds gas, the exposure period and the concentration to be maintained, the ventilation and the criteria for re-entry, the monitoring of gas concentration during and after, the disposal of the spent residue, and the personal protective equipment and the training required. And they set the residue limits in the treated grain with the methods for determining them, since the grain is food. Issued on 4 November 2008 and in force since 20 January 2009.

This standard specifies the terms and definitions related to the use of fumigants guidelines fumigant use, residue limits and testing methods and safe use Protection principles. This standard applies to the storage of grain and oilseeds fumigation pest control.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB 2715 food hygiene standards

GB 2762 Contaminants in Foods Limited

GB 2763 Maximum residue limits for pesticides in food Determination of

GB/T 5009.18 foods fluorine Determination of

GB/T 5009.20 in food organophosphorus pesticide residues

GB/T 5009.36 analysis of food hygiene standards

GB 7797 occupational acute phosphine poisoning diagnostic criteria and principles

GB/T 14233.1 Infusion, transfusion, injection equipment - Part 1. Chemical analysis

GB/T 16886.7 Biological evaluation of medical devices - Part 7. Ethylene oxide sterilization residuals GB Z

2.1 Workplace Hazardous Occupational Exposure Limits for chemical harmful factors

LS1206 food warehouse safety procedures LS/T 1211 grain and oil storage Technical

Specifications LS1212 grain storage management and use of chemicals specification

3 Terms and Definitions

The following terms and definitions apply to this standard.

3.1 Under certain temperature and pressure, it is possible to form a sufficient concentration of gaseous chemicals lethal pest of stored grain.

3.2 After the last use of the fumigant to the residual amount of food hygiene standards fell below the maximum limit elapsed time.

4 Fumigant use

4.1 Basic requirements Fumigant for stored grain should obtain pesticide registration number (or pesticide temporary registration number), pesticide production license number

(or pesticide Health Production approval document number) and product quality inspection certificate. Not use the obsolete and prohibit the use of fumigants, as well as by the unqualified stored grain fumigant.

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