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

GB/T 24684.1-2009

**Crop protection equipment -- Test methods for the evaluation of
cleaning systems -- Part 1: Internal cleaning of complete
sprayers**

植物保护机械 评价清洗系统的试验方法 第1部分：喷雾机整机的内部清洗
(English Translation)

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Foreword

GB/T 24684 "Standard Test Method for Evaluation of plant protection machinery and washing system" is divided into the following three parts.

- Part 1. Internal sprayer machine cleaning;
- Part 2. External cleaning of the sprayer;
- Part 3. Internal tank cleaning.

This section is GB/T Part of 124,684.

This section identical with ISO 22368-1:2004 Test methods "plant protection machinery Evaluation cleaning system - Part 1. Sprayers Internal cleaning machine "(in English).

This section is equivalent translation ISO 22368-1:2004.

For ease of use, this section made the following editorial changes.

- "ISO 22368-1:2004 this part" to "this Part";
- Deleted international standards foreword;
- With a decimal point "." As an alternative to the decimal point "." Appendix A of this section is normative appendix, Appendix B is an informative annex.

This part is proposed by China Machinery Industry Federation.

This part of the National Standardization Technical Committee (SAC/TC201) Agricultural machinery centralized.

This section drafted by. Chinese Academy of Agricultural Mechanization Sciences, Ministry of Agriculture, Nanjing Institute of Agricultural Mechanization, Modern Agricultural Equipment Technologies AG Limited.

Introduction

For the following reasons, plant protection sprayer cleaning becomes more and more important.

- In order to avoid contamination of the environment and the operator;
- Pesticide that may occur because of an accidental discharge causing crop injury, triggering fears of increased pesticide residues, or Caused by pesticides mixing several mutually exclusive.

In addition, the relevant industrial sector may need to provide development guidelines washing system to assess the level of technological development and future technology base.

GB/T 24684.1 and GB/T 24684.2 provisions of the relevant test methods and internal and external cleaning sprayer, to provide users Evaluation of internal and external cleaning system as well as the overall performance of a method to determine the future technical performance basis. This series of standards for the spray organs Key components provides a separate chapter (see GB/T 24684.3).

This section evaluation of cleaning a particular part of the system provides test methods in detail the results obtained may be improved and perfected cleaning systems Provide evidence.

GB/T 24684.1-2009/ISO 22368-1:2004 Plant protection machinery Test methods for the evaluation of cleaning systems Part 1. Internal cleaning of the sprayer machine WARNING. Users should be familiar with this part of the routine laboratory practice. This section related to the use of all possible security not addressed Wide issues. Users should make their own provisions appropriate safety and health practices and to ensure compliance with relevant national safety and environmental provisions.

1 Scope

This section GB/T 24684 specifies the sprayer machine (including the tank) is mounted on the internal cleaning plant protection sprayer for Performance test methods for cleaning the system.

This section applies to plant protection and spraying liquid fertilizer suspended, towed and self-propelled agricultural sprayers.

This section does not apply to drugs having direct injection sprayer system.

2 Test conditions

Test should be carried out under the following conditions.

Test solution temperature. 5 °C ~ 25 °C.

Air temperature. 5 °C ~ 25 °C.

Relative humidity. > 30%.

When tested outdoors, it should consider the impact of weather/climate conditions.

3.1 General requirements

Safety Alert --- this method may cause environmental hazards, should comply with generally accepted preventive measures to avoid accidental discharge test solution to test Off-site inspection. All operations should be ensured that the collection of the test solution and wash with water sprayers, or should not pay attention to the discharged liquid it would harm the environment.

Appendix A and the provisions of this chapter, you should use a 1% concentration of basic copper chloride suspension test. If you can prove the same

Performance can also be used to test other liquid tracer. To this end, the measurement accuracy should be at least the original tank concentration of 0.01%.

In some cases the number of detection of the test solution may be less, then you should change the original technical specifications.

3.2 Test Content

3.2.1

When the trial began, the first cleaning interior surfaces of the sprayer machine. Then while stirring agitator tank to fill until the test solution Tank full. It should ensure that all internal surfaces (especially internal medicine chest and the upper surface of the lid medicine) should be soaked in the test solution, and include the use of pressure Stirring force, inhaled drug box and all the features of the relief valve and the like. Stirring was continued for 10min after removed from the sprayer tank agitators Three representative samples to check the concentration of the reference test liquid. Each sample should be less than the amount of 50mL, with respect to the reference concentration of the test solution Degree of deviation should not exceed 5%. Spray the normal working condition (power output shaft speed, rated spray pressure, nozzle number, the number of nozzles and traffic, etc.), using the entire boom sprayer to empty the tank, until no test liquid flows out from the nozzle so far.

3.2.2

Follow the manufacturer's instructions sprayer cleaning system. Spray normal operating procedures, the use of the entire boom sprayer to evacuate drugs Tank until no liquid flows out from the nozzle so far.

3.2.3

to sprayer filled with water. To ensure that all internal surfaces (especially on the surface and internal medicine kits cover), are cleaned with water. clear Washing process to use all the features of the sprayer (pressure stirred tank and inhaled pharmaceutical relief safety valves, etc.).

3.2.4

Start spraying, the liquid collected in a separate vessel in (A).

GB/T 24684.1-2009/ISO 22368-1:2004