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

GB/T 8570.5-2010

Replacing GB/T 8570.5-1988

**Determination of liquefied anhydrous ammonia -- Part 5: Water
content -- Karl Fischer method**

液体无水氨的测定方法 第5部分：水分 卡尔·费休法
(English Translation)

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Foreword

GB/T 8570 "Determination of liquid anhydrous ammonia method" is divided into seven parts.

- Part 1. Adoption of laboratory samples;
- Part 2. Ammonia content;
- Part 3. Residue content weight method;
- Part 4. Residual content volumetric method;
- Part 5. Moisture Fisher Fischer;
- Part 6. Oil content gravimetric and infrared absorption spectroscopy;
- Part 7. Iron content - phenanthroline spectrophotometric method.

This part is part 5 of GB/T 8570.

This part replaces GB/T 8570.5-1988 "Determination of liquid anhydrous ammonia moisture Karl Fischer method".

This part of the revision using ISO 7105. 1985 "Industrial liquid anhydrous ammonia moisture determination Karl Fischer method".

The main differences between this part and ISO 7105. 1985 are the determination of ISO 760 moisture cited in ISO 7105. 1985.

The contents of Fischer (General Law) are written directly to the standard.

The main differences between this edition and the previous edition are.

Preparation and calibration of reagent solutions, standard titration solutions, etc. Execution of HG/T 2843 standards;

--- increase the contents of the security warning;

- standardize the standard format according to the new requirements.

This section is proposed by the China Petroleum and Chemical Industry Association.

This section is under the jurisdiction of the National Technical Committee on Standardization of Fertilizers and Soil Conditioners (SAC/TC105).

This part of the drafting unit. the National Fertilizer Quality Supervision and Inspection Center (Shanghai), the Eastern Airlines Co., Ltd. Security Department.

This part of the main drafters. Ji Min, Feng Zhuo, Wu Juan, Chen Jie.

This part was first published in 1988.

Determination of liquid anhydrous ammonia Part 5. Moisture Fisher Fischer WARNING - Personnel using this standard should have practical experience in formal laboratory work. This standard does not indicate all possible security questions question. It is the responsibility of the user to take appropriate safety and health measures and to ensure compliance with the conditions of the relevant national laws. Liquid anhydrous ammonia high Toxic to the skin, mucous membranes and eyes are corrosive, contact can cause severe burns. Operation should be properly protected.

1 Scope

This part of GB/T 8570 specifies the moisture content of liquid anhydrous ammonia using the Karl Fischer method.

This part of the water is not less than 0.0050% of the liquid anhydrous ammonia products.

2 Normative reference documents

The terms of this document are the terms of this part by reference to this part of GB/T 8570. Any reference to the date of the text , All subsequent amendments (excluding corrigenda) or revisions do not apply to this part, however, encouragement under this section the parties to the agreement study whether the latest version of these documents can be used. For undated references, the latest edition of this document applies section.

GB/T 6283 Determination of moisture content in chemical products - Karl Fischer method (GB/T 6283-2008, ISO 760. 1978, NEQ) GB/T 8570.1 Methods for the determination of liquid anhydrous ammonia - Part 1. Adoption of laboratory samples GB/T 8570.3-2010 Methods for the determination of liquid anhydrous ammonia - Part 3. Residue content gravimetric method HG/T 2843 Chemical analysis of chemical products commonly used standard titration solution, standard solution, reagent solution and indicator solution

3 Principle

In the presence of ethylene glycol, after evaporating the liquid anhydrous ammonia sample, the moisture is quantitatively inverted with the Karl Fischer reagent of the known water titer.

Should, the reaction is as follows.

Lt;/RTI &

When the water is greater than 0.1%, according to GB/T 8570.3 measured residue content estimates, with an appropriate amount of anhydrous methanol diluted evaporation residue, and then take a certain amount of dilution solution for determination.

4 Reagents and materials

The following parts of the reagents and solutions flammable and toxic to humans, the operator should be careful such as splashing on the skin should be immediately washed with water Wash, if not suited to immediate medical treatment.

The reagents, solutions and water used in this part shall comply with the requirements of HG/T 2843 when not specified and formulated.

4.1

Methanol. water mass fraction $\leq 0.03\%$, such as water mass fraction $> 0.03\%$, to 500mL methanol by adding 5A molecular sieve about 50g, plug the stopper, place overnight, learn the use of supernatant;

4.2

ethylene glycol. water mass fraction $\leq 0.1\%$, such as water mass fraction $> 0.1\%$, dehydration treatment with 4.1;

4.3

Sodium tartrate dihydrate;

4.4

sulfuric acid solution, 10%;

4.5

Karl Fischer Reagent;

Note: The pyridine-free Karl Fischer modified reagent can also be used, but only with pyridine-containing reagents during arbitration.