

ICS 71.080.20

CCS G 17



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

GB/T 34237-2017

**Fluorinated olefins for refrigerant use - General method for the
determination of water**

制冷剂用氟代烯烃 水分测定通用方法

Issued on: September 7, 2017

Implemented on: April 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Samples
 - 3.1 Equipment
 - 3.2 Sampling catheter
 - 3.3 Sampling requirements
 - 3.3.2 Low-pressure refrigerant samples of fluorinated olefins by

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard proposed by the China Petroleum and Chemical Industry Federation. This standard by the National Standardization Technical Committee Refrigeration Technical Committee (SAC/TC63/SC9) centralized. This standard was drafted unit. Zhejiang Chemical Industry Research Institute Co., Ltd., China Petroleum & Chemical Corporation Beijing Chemical Industry Research Institute, Zhejiang Fluorochemical Co., Ltd., Changshu three love Fu Hao Chemical New Materials Co., Ltd. Participated in the drafting of this standard. Honeywell (China) Co., Ltd., Shandong Dongyue Chemical Co., Ltd., Zhejiang Yonghe Refrigerants Co., Ltd. Limited, Shandong Huaan New Materials Co., Ltd., Linhai Limin Chemical Co., Ltd. The main drafters of this standard. Shiwan Jun, Fang Road, Li Qi true, Liu Hongxiu, Wang Chen Qian, Pang Yinjuan, Wang Xiangrui, Wang La Shi, Feng Yujie, Huang Yu, Qian Xiaofeng. Common method for the determination of fluoroolefins moisture in refrigerants

1 Scope

China's national method for measuring trace water in fluorinated olefin refrigerants, by Karl Fischer coulometry and by electrolysis. It applies to the determination of trace moisture in fluoroolefins used as refrigerants, with the electrolytic method excluded for low pressure products. Water is the contaminant a refrigeration circuit tolerates least. Free water freezes at the expansion device and blocks it, so the system stops cooling for reasons that look mechanical. Dissolved water hydrolyses the refrigerant and the ester oils used with it, producing acids that attack the compressor motor windings from the inside. And in the fluorinated olefins the stakes are higher than in the fluids they replace, because the carbon-carbon double bond that makes these compounds break down harmlessly in the atmosphere also makes them more reactive in the presence of moisture. The quantities are

correspondingly small - parts per million - which is why Karl Fischer coulometry is used: it counts the water by the charge needed to consume it, and it is one of the few methods honest at that level.

This standard specifies the use of Karl Fischer coulomb power and electrolysis method for the determination of trace moisture in general test methods. This standard applies to the determination of trace amounts of moisture in fluoroolefins for refrigerants, of which electrolytic method is not suitable for low-pressure refrigerant fluorinated olefins.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document. General rules for sampling liquid chemical products General rules for sampling gas chemical products

3.1 Equipment

3.1.1 Sampling cylinders of fluoroolefins for medium and high pressure refrigerants Double valve stainless steel cylinder, the volume of not less than 150mL, the working pressure should be greater than the pressure of the same product.

3.1.2 low pressure refrigerant fluorinated olefin sample bottles 1000mL or 500mL ground glass.

3.2 Sampling catheter

3.2.1 For medium and high pressure refrigerants with fluoroolefins Copper fittings, brass or other suitable material joints and pipes.

3.2.2 low-pressure refrigerant with fluoroolefin Glass or other suitable material pipe.

3.3 Sampling requirements

3.3.1 medium and high pressure refrigerant samples of fluorinated olefins by GB/T 6681-2003 in the provisions of 7.10. Sampling cylinder and mining The sample tube should be vacuum dried, the sample should be liquid sample into the cylinder, the total sample size should ensure that testing needs.

3.3.2 Low-pressure refrigerant samples of fluorinated olefins by

7.1 GB/T 6680-2003 regulations. The sampling bottle and sampling catheter should be For drying, the total amount of sampling should ensure that testing needs.

3.3.3 affix a label and indicate the product name, lot number, sampling date and sample name, for inspection purposes.

--- Some test procedures specified in the test method may lead to dangerous situations.
The operator should take appropriate safety and protection Measures.

chinastandards.org · PREVIEW