

JJF

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**Calibration Specification for Gas Detectors of Acrylonitrile
(English Translation)**

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Table of Contents

Introduction (II)	
1 Scope(1)	
2 Overview(1)	
3 Metering characteristics (1)	
3.1 Indication error (1)	
3.2 Repeatability (1)	
3.3 Response time(1)	
3.4 Alarm functions and alarm values (1)	
3.5 Drift (fixed detector only) (1)	
4 Calibration conditions(1)	
4.1 Environmental conditions(1)	
4.2 Calibration measuring instruments and supporting equipment (1)	
5 Calibration items and calibration methods (2)	
5.1 Adjustment of the detector (2)	
5.2 Indication error (2)	
5.3 Repeatability (3)	
5.4 Response time(3)	
5.5 Alarm functions and alarm values (3)	
5.6 Drift (fixed detector only) (3)	
6 Expression of calibration results (3)	
7 Recalibration interval (4)	
Appendix A Acrylonitrile Gas Detector Calibration Record (5)	
Appendix B Certificate Inner Page Format (7)	
Appendix C Evaluation of measurement uncertainty of indication error of acrylonitrile gas detector (8)	

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Appendix B Certificate Inner Page Format (7)	
Appendix C Evaluation of measurement uncertainty of indication error of acrylonitrile gas detector (8)	

Introduction

JJF 1071 "Rules for the Preparation of National Metrology and Calibration Specifications", JJF 1001 "General Metrology Terms and Definitions", JJF 1059.1 "Evaluation and Expression of Uncertainty in Measurement" together constitute the basic series of regulations supporting the formulation of this specification this specification was formulated with reference to GB 12358-2006 "General Technical Specifications for Gas Detection and Alarm Instruments in Workplace Environments" GB/T 50493-2019 "Petrochemical Combustible Gas and Toxic Gas Detection Alarm Design Standard" and other standards Standard.

This specification is published for the first time.

Calibration Specifications for Acrylonitrile Gas Detector

1 Scope

This specification applies to the calibration of acrylonitrile gas detectors with a measurement upper limit not exceeding 100 $\mu\text{mol/mol}$.

2 Overview

Acrylonitrile gas detector (hereinafter referred to as the detector) is mainly used to detect the concentration of acrylonitrile gas in the workplace.

It is usually composed of detection unit, signal processing unit, display unit, alarm unit, etc.

There are mainly electrochemical and photoionization (PID), etc. When the displayed value is greater than the alarm setting value, it has sound, light or vibration.

Alarm function. According to the sampling method, it can be divided into suction type and diffusion type, and according to the use method, it can be divided into fixed type and portable type.

Portable.

3. Metering characteristics

3.1 Indication error Absolute error. $\pm 2\mu\text{mol/mol}$;

Relative error. $\pm 10\%$.

Just satisfy one of them.

3.2 Repeatability

Repeatability is no more than 3%.

3.3 Response Time

The response time shall not exceed 160s.

3.4 Alarm function and alarm value A detector with an alarm function should have an alarm setting value within its measurement range.

When the alarm setting value is reached, there should be sound, light or vibration alarm.

3.5 Drift (fixed detector only)

3.5.1 Zero drift. $\pm 1 \mu\text{mol/mol}$.

3.5.2 Range drift. $\pm 10\%$.

Note: The above indicators are not used for qualification judgment, but for reference only.

4 Calibration conditions

4.1 Environmental conditions

4.1.1 Ambient temperature. $(15\sim 35)^{\circ}\text{C}$.

4.1.2 Relative humidity. not more than 85%.

4.1.3 The working environment should be free of electromagnetic fields and interfering gases that may affect the normal operation of the detector, and the calibration site should be well ventilated.

And take safety measures.

4.2 Calibration measuring instruments and supporting equipment