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**Calibration Specification for Alarmer Detectors of Benzene
(English Translation)**

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Introduction

The specification measurement characteristics of the reference to the GB 12358-2006 "workplace environmental gas detection alarm General technical requirements ", GB 50493-2009" petrochemical flammable gas and toxic gas detection and alarm design specifications " and other technical regulations.

This specification is first released.

Benzene gas detection alarm calibration specification

1 Scope

This standard applies to the measurement limit of not more than 100 μ mol/mol benzene gas detection alarm (hereinafter referred to as instrument Device) calibration.

2 Overview

Instrument is mainly used for workplace benzene gas detection and other environments, usually photoionization (PID) detection principle and semiconductor detection theory. Instrument mainly by the detection components, amplification circuits, alarm systems, monitors and other components.

Photon ionization (PID) detection principle refers to the gas under test in the ionization of ultraviolet light generated negative charge Charged electrons and positively charged ions form a weak current under the action of an electric field. The magnitude of this current is positively correlated with the concentration of gas.

Now the detection of gas concentrations. Semiconductor detection principle is the use of semiconductor gas sensors contact with the gas, its conductivity and so on the physical properties change to detect the concentration of the characteristic gas.

Instrument types are fixed and portable, sampling methods are diffused and inhaled.

3 measurement characteristics 3.1 indication error Indication error does not exceed the provisions of Table 1.

Table 1 shows the value of error

Measuring range/(μ mol/mol) Indication error 0 ~ 10 $\pm$ 1.0 μ mol/mol > 10 ~ 100 $\pm$ 10%

3.2 Repeatability

Repeatability of not more than 3%.

3.3 Response time

Response time is not greater than 60s.

3.4 alarm function

Has the alarm function of the instrument, in its measurement range should have the alarm set value, when the instrument reaches the alarm set value Set value, should be able to automatically alarm.

3.5 Drift

3.5.1 Zero drift $\pm 3\%$ FS

3.5.2 Range Drift. $\pm 5\%$ FS Note. The above indicators are not for the qualification, for reference only.

4 calibration conditions

4.1 Environmental conditions

4.1.1 Ambient temperature (0 ~ 40) °C.