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**Performance Requirements  
for Toxic Gas Detectors**

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Performance Requirements for Toxic Gas Detectors

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**CAUTION—EXPOSURE TO TOXIC GASES MAY BE HAZARDOUS TO HEALTH AND LIFE.**

## 1 Scope

1.1 This standard provides minimum requirements for the construction, performance, and testing of portable, transportable, mobile, and stationary electrical apparatus whose purpose is for the detection, measurement and notification of toxic gas in air that are used to enhance the safety of personnel in commercial and industrial locations.

NOTE 1 — Laboratory- or scientific-type analysis or process control performance requirements are not part of this standard.

a) Residential locations are outside the scope of this standard.

NOTE 2 — Performance requirements for detection of flammable (explosive) concentrations of toxic gas(es) are not the purpose of this standard.

NOTE 3 — The user should be aware of environmental effects on both the apparatus and the toxic gas. The effects are not intended to be evaluated by this standard.

Hereafter, the term “apparatus” will refer to “gas-detection apparatus.”

## 2 References

ANSI/ISA-12.13.01, Performance Requirements for Combustible Gas Detectors

ISA-RP92.0.02, Installation, Operation, and Maintenance of Toxic Gas-Detection Instruments: Hydrogen Sulfide (recommended practice for this standard), establishes user criteria for the installation, operation, and maintenance of toxic gas-detection instruments

ANSI/ISA-92.04.01, Performance Requirements for Instruments Used to Detect Oxygen-Deficient/Oxygen-Enriched Atmospheres

National Institute for Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards, Title 29, Part 1910.1000, Occupational Safety and Health Standards

Threshold Limit Values for Chemical Substances in the Work Environment Adopted by the American Conference of Governmental Industrial Hygienists (ACGIH)

Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs) (NIOSH Taft Laboratories)

EN 50270, Electromagnetic Compatibility - Electrical Apparatus for the Detection and Measurement of Combustible Gases, Toxic Gases or Oxygen

## 3 Definitions

For the purposes of this standard, the following definitions apply:

### 3.1 alarm:

an audible, visual, or physical signal that alerts the instrument user of a dangerous gas concentration or instrument problem

#### 3.1.1 false alarm:

any alarm that is triggered by a condition other than the one(s) that the alarm function is set for (ex: high gas alarm caused by RF interference or gas alarm caused by temperature changes)