

## **ISEA Statement on Verification of Calibration for Direct Reading Portable Gas Monitors Used in Confined Spaces**

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ISEA, International Safety Equipment Association, is the leading national organization of manufacturers of safety and health equipment including environmental monitoring instruments. ISEA is dedicated to protecting the health and safety of all workers through the development of workplace standards and the education of users on safe work practices and exposure prevention.

ISEA has developed the following statement to ensure definition consistency in all documentation and to emphasize the need to verify calibration when using portable gas monitors in confined spaces.

1. A position statement on verification of calibration is needed to:
  - a. Reemphasize to OSHA and other standards writing bodies the importance of verifying the calibration of instruments used to monitor the atmosphere in potentially hazardous locations.
  - b. Clarify the differences between a full calibration and a functional (bump) test.
  - c. Clarify when daily tests are needed and when less frequent tests may be appropriate.
  
2. Definitions of two methods of verifying calibration:
  - a. Functional (bump) test - A means of verifying calibration by using a known concentration of test gas to demonstrate that an instrument's response to the test gas is within acceptable limits.
  - b. Full calibration - The adjustment of an instrument's response to match a desired value compared to a known concentration of test gas.
  
3. Recommended frequency for verification of calibration:
  - a. A functional (bump) test or full calibration of direct reading portable gas monitors shall be made before each day's use in accordance with the manufacturer's instructions using an appropriate test gas.
  - b. Any instrument which fails a functional (bump) test must be adjusted by means of a full calibration procedure before further use.
  - c. Note: If environmental conditions which could affect instrument performance are suspected to be present, such as sensor poisons, then verification of calibration should be made on a more frequent basis.
  
4. If conditions do not permit daily testing to verify calibration, less frequent verification may be appropriate if the following criteria are met:
  - a. During a period of initial use of at least 10 days in the intended atmosphere, calibration is verified daily to be sure there is nothing in the atmosphere which is poisoning the sensor(s). The period of initial use must be of sufficient duration to ensure that the sensors are exposed to all conditions, which might have an adverse effect on the sensors.
  - b. If the tests demonstrate that it is not necessary to make adjustments, then the time interval between checks may be lengthened but should not exceed thirty days.
  - c. The history of the instrument since last verification can be determined by assigning one instrument to one worker, or by establishing a user tracking system such as an equipment use log.