IN EFFECT | GAS DETECTION

# Enclosed space entry: why your four-gas detector may no longer be enough

The revised IMO recommendations for entering enclosed spaces add carbon dioxide to the atmosphere tested before entry. What changed, what it means for the detectors and calibration gas on board, and what to check.

| ISSUED | APPLIES TO | REFERENCE |
|---|---|---|
| September 2026 | All ship types; enclosed space entry | Res. MSC.581(110) · SOLAS XI-1/7 |

**AT A GLANCE**

- Resolution MSC.581(110) revokes A.1050(27) and took effect on 3 December 2025.
- Carbon dioxide is added to the parameters tested before entry.
- A standard four-gas detector (O2, LEL, CO, H2S) does not measure CO2.
- The carriage requirement for the instrument stays in SOLAS XI-1/7.

## 01 What changed

At MSC 110 in June 2025 the Maritime Safety Committee adopted Resolution MSC.581(110), Revised Recommendations for entering enclosed spaces aboard ships. It revokes Resolution A.1050(27) and took effect on 3 December 2025.

The resolution is a set of recommendations. The carriage requirement for the instrument remains SOLAS XI-1/7, which requires every ship to carry an appropriate portable atmosphere testing instrument or instruments. What MSC.581(110) changes is what the instrument is expected to measure before and during entry, and how the ship identifies and records its enclosed spaces.

## 02 The point that affects your detectors

Carbon dioxide becomes one of the parameters tested before entry, alongside oxygen, flammable gases and vapours, and toxic gases such as hydrogen sulphide and carbon monoxide. Classification society guidance on the resolution gives the entry limit for CO2 as 0.5 per cent by volume, that is 5,000 ppm.

> **The practical consequence.** If the atmosphere testing instruments on board cannot read CO2, the ship cannot test to the revised recommendations, however well the four-gas unit is maintained.

## 03 Other changes worth knowing

- An enclosed space register specific to the ship, including connected spaces and spaces where a hazardous atmosphere can become trapped.
- Defined entry criteria, continuous monitoring of the atmosphere while people are inside, and documented crew competence for entry and rescue.
- Entry and rescue drills, and the equipment for them, aligned with the register.

## 04 What to check on board

| QUESTION | WHAT TO LOOK FOR |
|---|---|
| Can the portable detectors measure CO2? | Sensor configuration on the instrument label or in the maker's documentation. A CO2 channel on the display is the quick check. |
| Is there calibration gas for CO2? | A calibration gas mixture that includes CO2 at the concentration the maker specifies, in date. |
| When was each detector last calibrated? | Calibration certificate per instrument, with as-found and as-left readings and the next due date. |
| Does the SMS reflect the revised recommendations? | Entry procedure, enclosed space register and drill records referring to MSC.581(110) rather than A.1050(27). |

> A detector that is not calibrated reads what it likes. A detector without a CO2 sensor cannot read CO2 at all.

### WHAT TO DO NOW

- Check each portable detector for a CO2 channel.
- Order CO2-capable detectors and calibration gas where missing.
- Update the SMS entry procedure and enclosed space register.
- Record calibration dates for every instrument.

### HOW OZ MARITIME CAN HELP

- Multi-gas detectors with a CO2 channel, delivered calibrated
- Calibration gas mixtures including CO2, matched to the instruments on board
- On-board calibration with as-found and as-left readings
- Fleet-wide calibration due dates in the customer portal

**Ask our engineers · Türkiye +90 216 591 07 39 · Europe +31 164 313 000 · 24/7 +31 6 24 11 76 73 · info@ozmaritime.com**

### SOURCES


- IMO Res. MSC.581(110), Revised Recommendations for entering enclosed spaces aboard ships
- ABS Regulatory News 14/2025, Revised Recommendations for Confined Space Entry
- SOLAS XI-1/7


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