Enclosed Space Entry — study guide

Entering an enclosed space is one of the most dangerous routine jobs on board: the atmosphere can kill within seconds and offers no second chance. This guide covers what counts as an enclosed space, how the atmosphere is controlled, and the roles that keep an entry safe.[1]

What counts as an enclosed space

An enclosed space is any space that may contain toxic or asphyxiant gases, or abnormal concentrations of oxygen in the air. The definition covers *any* entry, including a "head and shoulders" entry.[13] Tanks, cofferdams, void spaces, ducts and many cargo holds all fall into this category — treat every one as dangerous until testing proves otherwise.

The atmosphere: oxygen and gases

Normal air is about 21% oxygen. Below roughly 19.5–20% by volume the space is **oxygen-deficient** (asphyxiation risk); above about 22–23% it is **oxygen-enriched** and sharply increases fire risk.[1] These two are not interchangeable — keep the direction straight. Enclosed spaces can also hold toxic gases, flammable vapours, or be filled with inert gas that has displaced the oxygen. The atmosphere must be tested before entry and monitored while people are inside.[1]

Essential controls before entry

Isolation — from all energy, product and gas sources — and trained, competent personnel are the essentials of the entry itself. Work is carried out under a valid permit.[135] Never take an ordinary (non-intrinsically-safe) torch or non-approved equipment into a space that may hold flammable gas. A Safety Data Sheet is useful for cargo hazards but is not one of the entry essentials.

The Standby Person

The Standby Person remains outside and maintains communication with those inside at all times, and knows the location of the nearest telephone and manual alarm call point.[1] Atmospheric testing and ensuring that personnel are trained and competent are management responsibilities — not the Standby Person's job.

Emergency response

If an alarm or emergency occurs, the Standby Person contacts the Bridge and instructs everyone inside to evacuate immediately. The Standby Person does **not** enter the space to attempt a rescue.[12] Everyone entering must first be briefed on the precautions to be taken before and during the work, and on the emergency procedures and the rescue plan.[12]

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Gas testing and rescue equipment

An Authorised Gas Tester may need to enter the space to take samples; if so they wear approved breathing apparatus together with a safety harness and lifeline.[1] For every entry, keep a means of radio communication, breathing apparatus, and a rescue harness with safety line immediately available.[13] Rubber boots and chemical suits are not part of the baseline equipment set. Relevant requirements come from STCW and SOLAS.[24]

Key facts to remember

- Any entry, even "head and shoulders", into a space that may hold toxic or asphyxiant gas or abnormal oxygen is enclosed space entry.
- Normal air ≈21% O_2; below ~19.5–20% is oxygen-deficient, above ~22–23% is oxygen-enriched.
- Essentials: isolation + trained, competent personnel, under a permit.
- Standby Person stays outside, keeps communication open, and knows the alarm points.
- On an emergency the Standby Person contacts the Bridge and orders evacuation — never enters.
- Always available: radio, breathing apparatus, rescue harness and safety line.
- Governed by STCW and SOLAS.

Sources

1. IMO Resolution A.1050(27) — Revised recommendations for entering enclosed spaces aboard ships.
2. SOLAS Chapter III, Regulation 19 — Emergency training and drills (enclosed space entry and rescue drills).
3. Code of Safe Working Practices for Merchant Seafarers (COSWP) — Maritime and Coastguard Agency (MCA).
4. STCW Convention and Code — Standards of competence, including enclosed space entry and rescue.
5. ISM Code (SOLAS Chapter IX) — shipboard safety management and permit-to-work procedures.