

Risk Management

Entry into enclosed spaces – ships' cargo spaces

IIL/3



ENCLOSED SPACES ON BOARD DRY CARGO SHIPS

REMEMBER – STOP, THINK, ASK

An enclosed space is any workplace with restricted access and egress that may be subject to life threatening atmospheric or physical change, is not subject to continuous ventilation and is not designed for continuous occupancy.

Ensure a **COMPETENT** person assesses potential hazards before entry.

- Are potentially hazardous substances liable to be present?
- Is there enough oxygen?
- Are the contents of the space itself hazardous?
- Has some of it decomposed?
- Has anything leaked?
- Are there residues of any previous contents?
- Can the air in the space be breathed safely?
If not, can the air be made safe to breathe, eg by adequate ventilation?
- Will the air remain safe to breathe throughout the work?
- Can unrestricted entry be allowed to the space?

If not, entry should only be allowed under a safe system of work and the control of a **RESPONSIBLE** person.

Additional precautions that may be needed include:-

- Further air monitoring
- A permit to work in the space
- Respiratory and other appropriate personal protective equipment
- Additional training and instruction
- Additional supervision
- Rescue arrangements

LET'S BE CAREFUL IN THERE!

**DO NOT ENTER AN ENCLOSED SPACE WITHOUT
ADVISING YOUR SUPERVISOR**

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ENCLOSED SPACES ON BOARD DRY CARGO SHIPS

Many cargo spaces on board ships are enclosed and so can be dangerous in some circumstances to cargo handlers. On dry cargo ships such spaces include holds and accessways and trunkings to them as well as other compartments.

Dangers	Examples
<i>Lack of oxygen</i>	<ul style="list-style-type: none"> • Rusting of the ship's structure • Oxidation of coal, organic or vegetable materials, scrap metals or other cargoes • Repair work involving gas cutting or welding • Rotting Cargoes
<i>Toxic or flammable gases or vapours</i>	<ul style="list-style-type: none"> • Decomposition of coal, fish meal, logs, bark or other cargoes • Leakage of packages due to faulty filling or packing, transit damage or mishandling • Operation of engines of IMVs or vehicular cargo • Use of corrosive cleaning agents or fumigants • Leaking pipes, hoses, connections, cylinders etc
<i>Excess oxygen</i>	<ul style="list-style-type: none"> • Leaking oxygen hoses or cylinders
<i>Dust</i>	<ul style="list-style-type: none"> • Handling dry bulk cargoes, eg grain, petroleum coke
<i>Direct contact with hazardous substances</i>	<ul style="list-style-type: none"> • Leakage or breakage of packages
<i>Cargo under fumigation</i>	<ul style="list-style-type: none"> • Fumigant gas still present in the space

It is essential that any space that has been closed is adequately ventilated before entry. Compressed oxygen should **NEVER** be used for this purpose.

ALL POTENTIALLY HAZARDOUS ENCLOSED SPACES SHOULD BE TESTED FOR OXYGEN CONTENT AND TOXIC OR FLAMMABLE GAS CONCENTRATIONS BEFORE CONTROLLED ENTRY IS ALLOWED

REMEMBER – STOP, THINK, ASK

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The dangers of enclosed spaces are universal and are widely found in work activities. The two main concerns are lack of oxygen and presence of harmful gases or vapours. In this pocket card, ICHCA International and the TT Club have addressed the very practical issue of entry into cargo spaces on board ship that can present a danger to port workers and others who may be required to enter them during their work. The dangers, together with examples, are given and the necessary precautions that will ensure safety are specified.

Over the years, a number of shoreside employees have died as a result of these dangers. One man died as he used a separate accessway to a hold full of copra. Two others,

who separately went to his aid, also died. This was because the hatches were still on and the copra had absorbed oxygen out of the air to such a degree that it was subsequently calculated that the atmosphere breathed by the deceased contained 11% oxygen. The air that we normally breathe and that keeps us alive contains 79% nitrogen and 21% oxygen. Once the oxygen percentage goes below 16%, life cannot continue even if the remaining content of the atmosphere is harmless.

Enclosed spaces can be small but can also be large, eg a ship's hold, and this pocket card is recommended for everybody who might have to go into cargo spaces on ship.

TT CLUB 

The **TTClub** is the international transport and logistics industry's leading provider of insurance and related risk management services.

Established in 1968, as a mutual association, we specialise in the insurance of liabilities, property and equipment for intermodal operators. Customers are drawn from a wide range of the world's shipping lines, port authorities, cargo and passenger handling terminals, freight forwarders, and logistics companies. Having developed in step with the multi-modal industry, TT is recognised as an independent industry forum, liaising closely with national and international trade associations, including FIATA, IAPH, WSC, ESPO, EIA, ILO, ICHCA and the IMO.

As a mutual insurer, the Club exists to provide its policyholders with benefits that include specialist underwriting expertise, a world-wide office network providing claims management services, and first class risk management and loss prevention advice. This is one of a number of publications that seek to disseminate good practice through the supply chain.

For more information on TT Club and its services please visit: www.ttclub.com

ICHCA 
International Ltd

ICHCA International is dedicated to the promotion of safety and efficiency in the handling and movement of goods by all modes and throughout the supply chain. Originally established in 1952 and incorporated in 2002, it operates through a series of National Sections, Regional Chapters, Panels, Working Groups and Correspondence Groups and represents the cargo handling world at various international organizations, including the International Maritime Organization (IMO), United Nations Conference on Trade and Development (UNCTAD), International Labour Organization (ILO) and the International Standards Organization (ISO).

Its members include port terminals, transport, companies and other groups associated with cargo handling and coordination.

Members benefit from consulting services and informative publications dealing with technical matters, "good practice" advice, and cargo handling news.

For more information on ICHCA International and its services please visit: www.ichca.com