ZIRCON INDUSTRY ASSOCIATION

THE ZIRCON ACADEMY: FACTSHEET #3

International Maritime Solid Bulk Cargoes (IMSBC) Code

What is the IMO? Based in London, the International Maritime Organization is an agency of the United Nations that is responsible for measures to improve the safety and security of international shipping and to prevent pollution from ships. Its stated objective is, *"safe, secure and efficient shipping on clean oceans*". IMO's governing body is the Assembly which is made up of all 171 Member States, and a Council of 40 Member States acts as its governing body in-between Assembly sessions. In practice, the main technical work is carried out by five committees - Maritime Safety, Marine Environment Protection, Legal, Technical Co-operation and Facilitation Committees – supported by a number of sub-committees. Outputs from these committees include several Codes that lay-out the legal framework for the shipping of goods in bulk and in containers.

What is the IMSBC Code? The primary aim of the IMSBC Code is to enable the safe stowage and shipment of solid bulk cargoes by providing information on the dangers and precautions associated with the shipment of certain types of cargo. The major hazards associated with the shipment of solid bulk cargoes relate to 1) structural damage due to improper cargo distribution, 2) loss of vessel stability during a voyage and 3) chemical reactions of cargoes. The main legislation governing the safe carriage of solid bulk cargoes is the International Maritime Solid Bulk Cargoes (IMSBC) Code, under the Safety of Life at Sea SOLAS[1] Convention

What do these Codes involve? Before loading, the shipper must provide the ship's Master with valid, up-to-date information about the cargo's physical and chemical properties. The exact information and documentation to provide is listed in each Code under 'Assessment of acceptability of consignments for safe shipment; Provision of Information', and includes the correct bulk cargo shipping name and a declaration that the cargo information is correct.

But, my product is safe! This may be the case for the product itself, but in bulk form some hitherto unknown properties, like liquefaction (see Factsheet 2), may occur. This is why the Code refers to bulk cargo rather than the product *per se*. Note that the IMSBC Code does not impact on containerised shipping.

IMSBC Code: The International Maritime Solid Bulk Cargoes Code or IMSBC Code became mandatory on 1 January 2011. The IMSBC Code is updated every second year

MARPOL: The International Convention for the Prevention of Pollution from ships (MARPOL) is the principal international convention for the prevention of pollution of the marine environment. Bulk cargo shipping is affected by Annex V of MARPOL

IMDG: The International Maritime Dangerous Goods Code aims to ensure the safe maritime transport of dangerous goods. The code became mandatory on 1 January 2004 and is updates every second year and copies of the current version can be obtained from the IMO online HERE

[1] SOLAS – Safety Of Life At Sea

How many groups are there? The IMSBC Code categorises cargoes into three groups:

Group A: cargoes that may liquefy – see Factsheet 2.
Group B: cargoes that possess a chemical hazard (e.g. flammable, corrosive, emits gas when wet, etc), which could give rise to a dangerous situation on a ship.
Group C: other cargoes that can still be hazardous (e.g. very dense cargoes that can damage a vessel's structure due to poor loading procedures)

Where do I find the Group? You can find the Group for a particular bulk cargo in its individual schedule of the IMSBC Code.

Any specific examples?

Group A: liquefaction means that a cargo becomes fluid (liquefies). In practice this happens when the cargo is compacted by the ship's motion. Nickel ore is an example of Group A cargo. Cargoes prone to liquefaction contain a certain quantity of moisture and small particles, although they may look relatively dry and granular when loaded. Liquefaction can lead to vessel instability and even to the capsize and total loss of the ship, and can occur even when cargoes are cohesive and trimmed level.

Group B: major risks associated with Group B cargoes are fire and explosion, release of toxic gas and corrosion. Coal is a group B cargo as, when in bulk, coal may create flammable atmospheres, deplete oxygen levels, heat spontaneously, and corrode metal structures. Some types of coal can produce carbon monoxide or methane.

Although Group C cargoes do not present the dangers associated with A and B cargoes, they can still carry risks. For example, extremely dense and heavy cargoes (like metallic ores) can overstress the vessel's loadbearing sections and may lead to significant structural damage if the cargo weight is not trimmed or evenly distributed.

What if my cargo is not in the IMSBC Code? In this case the shipper shall, prior to loading, provide the competent authority of the port of loading with the characteristics and properties of the bulk cargo in accordance with section 4 of the Code. Based on this information, the local authority will assess the acceptability of the cargo for safe shipment

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