



Dangerous Goods – including Chemicals and other Materials – Storage and Use on Board Ship.

Notice to all Ship Owners, Ship Operators and Managers, Masters and Officers of Merchant Ships, Skippers, Owners & Operators of Small Commercial Code Vessels;, Owners, Operators and managers of Fishing Vessels, Agents, Charterers, Training Providers, Inspectors of Cargoes, Port Authorities, Terminal Operators and others involved in the storage and use of dangerous goods, chemicals and materials onboard ship.

Summary

- This Marine Guidance Note highlights the importance of the correct storage and stowage of packaged quantities of dangerous goods including chemicals, and other materials that are not cargo by virtue of their being in use and/or stored ready for use on board and includes the requirement to carry out a risk assessment in accordance with the ship's Safety Management System.

1. Introduction

1.1 This guidance has been issued following recent incidents and requests for clarification from industry concerning the correct storage of chemicals which are intended for use on that vessel or transferred to another vessel for subsequent use.

It is aimed to address situations where chemicals, materials or goods are in use or stored ready for use whether or not they;

fall within the definition for ships' stores,
are taken out of their prescribed containment systems or stowage locations
and either used on board or transferred for use to an associated daughter craft, workboat or tender.

Where there are particular risks as indicated by the supplier's safety data sheets and/or if they are classified as dangerous goods under the International Maritime Dangerous Goods (IMDG) Code as may be indicated by the goods' original packaging, labelling, documentation etc. The taking on board, storage or direct handling of unfamiliar and



suspect goods should be avoided without first consulting the suppliers safety data sheets or obtaining further advice.

- 1.2 An assessment should be carried out to decide whether goods are physically safe and environmentally suitable for carriage, storage, handling and/or use.

2. The Regulations

- 2.1 The IMO definition of ships' stores (MSC.1/Circ.1216) is as follows: *Ships stores means materials which are on board a ship for the upkeep, maintenance, safety, operation or navigation of the ship (except for fuel and compressed air used for the ship's primary propulsion machinery or fixed auxiliary equipment) or for the safety or comfort of the ship's passengers or crew. Materials intended for use in commercial operations by a ship are not considered as ships' stores (eg materials used for diving, surveying and salvage operations such as IMDG Code classified dangerous goods (eg Class 1 – Explosives and the other eight classes of dangerous goods).*

- 2.2 Dangerous goods, not meeting the IMO definition of ships' stores that are carried on board, are subject to the provisions of the IMDG Code. The vessel is therefore required to comply with the relevant provisions of SOLAS and the IMDG Code. In addition, when the dangerous goods are transferred to another vessel (eg a daughter craft), the vessel shall comply either with the requirements of SOLAS or MGN 280, section 30 and be issued with a Document of Compliance for the carriage of dangerous goods. Further guidance regarding hazardous substances can be found in the Code of Safe Working Practice, Chapter 27.

Storage of Dangerous Goods, Chemicals and Materials

- 2.3 The importance of the proper storage of Dangerous Goods, Chemicals and Materials on board ship should not be underestimated. If the dangerous goods are subject to the provisions of the IMDG Code, the stowage provisions of chapter 7.1 of the IMDG Code apply. However, a wide variety of chemicals (materials), not subject to the provisions of the IMDG Code, which are commonly used in the marine industry, can react violently together should the packaging become damaged or involved in a fire. Their safe storage should be subject to a risk assessment. The following points should be considered:

- 2.3.1 **Storage areas** – are designated and controlled areas for portable machinery and equipment containing chemicals, materials, waste, flammable substances e.g. foam plastics, flammable liquids and gases such as propane and hazardous substances e.g. pesticides and timber treatment chemicals; such areas should be arranged so that in the event of a spillage or leakage the substance concerned is contained locally and does not react violently with any nearby substances or materials.
- 2.3.2 **Accommodation** – storage areas should not be located in or close to accommodation areas;
- 2.3.3 **Access routes** – corridors and other walkways should not be used as storage areas. Do not store materials where they obstruct access routes or where they could interfere with emergency escape routes;
- 2.3.4 **Segregation** – store incompatible materials in separate areas; flammable materials will usually need to be stored away from other materials and protected from accidental ignition;
- 2.3.5 **Safe stowage/Storage at height** – all stores should be securely stowed, if materials are stored at height (e.g. on shelving) make sure necessary guard rails are in place



to stop items falling and, if the storage area is fitted with a fixed sprinkler system, ensure that the maximum stowage height limit is adhered to at all times.

- 2.3.6 **Tidiness** - keep all storage areas tidy, whether in designated stores areas or at a workstation on board the ship; and
- 2.3.7 **Stock control** - plan deliveries to keep the amount of hazardous materials on board to a minimum, taking into account the operating pattern of the vessel.

Use of dangerous goods and chemicals

- 2.4 When IMDG Code regulated packaged goods are opened or removed from their prescribed containment system or stowage area whilst on board, the IMDG Code provisions no longer apply.
- 2.5 Under such circumstances, it is the responsibility of the master/skipper or the company representative under the General Duties provisions of the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997, as amended, to carry out and document a risk assessment to ensure that an equivalent level of safety is maintained when the dangerous goods are transferred to another vessel or are removed from their packaging or containment system. The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Chemical Agents) Regulations and Marine Guidance Note MGN 409(M+F) may also be relevant. The principles of removing or reducing risks, where possible by replacing with less hazardous substances, minimising risks by reducing exposure and provision of information, training and protection should all be considered. When applicable, the risk assessments should be carried out in accordance with the procedure contained in the ships' Safety Management System (SMS) and a copy kept at the company's offices and on board.
- 2.6 The risk assessment should address such issues as the physical and environmental characteristics, usage, handling, exposure, stowage, personal protective equipment, and emergency procedures, and the subsequent stowage of opened dangerous goods packaging. From this, safe handling procedures should be developed and where appropriate incorporated into the permit to work system. Companies should use their expertise in the use and handling of dangerous goods and make use of material safety data sheets; where a safety data sheet is used as part of a risk assessment, it is recommended that a copy of the sheet should be kept on board the vessel for easy reference. Emergency responses to spillage of dangerous goods are contained in the IMO Medical First Aid Guide and the IMO Emergency Procedures for Ships Carrying Dangerous Goods (EmS). When appropriate, professional legal and technical advice should be referred to in the assessment of risks and in the preparation of procedures to mitigate the risk.
- 2.7 Crew should be familiar and competent in the routine and emergency procedures for handling the goods, and any equipment required for carrying these out is readily available at all times.



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