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**INTERNATIONAL CONVENTION FOR THE CONTROL AND
MANAGEMENT OF SHIPS' BALLAST WATER AND
SEDIMENTS, 2004**

**Guidance to ensure safe handling and storage of chemicals and preparations used to treat
ballast water and the development of safety procedures for risks to the ship and crew
resulting from the treatment process**

1 The Marine Environment Protection Committee, at its fifty-ninth session (13 to 17 July 2009), approved the Guidance to ensure safe handling and storage of chemicals and preparations used to treat ballast water and the development of safety procedures for risks to the ship and crew resulting from the treatment process developed by the BLG Sub-Committee at its thirteenth session (2 to 6 March 2009), as set out in the annex.

2 Member Governments are invited to bring this circular to the attention of all parties concerned.

ANNEX

GUIDANCE TO ENSURE SAFE HANDLING AND STORAGE OF CHEMICALS AND PREPARATIONS USED TO TREAT BALLAST WATER AND THE DEVELOPMENT OF SAFETY PROCEDURES FOR RISKS TO THE SHIP AND CREW RESULTING FROM THE TREATMENT PROCESS

INTRODUCTION

1 The purpose of this guidance is to provide technical advice on the development of a methodology to ensure the safe handling and storage of chemicals used to treat ballast water, and the development of safety procedures addressing risks to the ship's crew resulting from the installation of a ballast water management system on a specific ship.

2 This guidance provides a framework for ensuring that these risks are addressed by the ballast water treatment or chemical/preparation* supplier and the owner and master of a ship, so that they can be included in the onboard Safety Management System as appropriate.

METHODOLOGY FOR ADDRESSING RISK

3 In order to ensure the safe handling and storage of chemicals used to treat ballast water and the development of safety procedures to address the risks to the ship and its crew arising from the treatment process, the following subjects, as appropriate, should be subject to a safety assessment (please note this is not an exhaustive list):

- the loading and storage of chemicals or preparations onto the ship;
- the transfer and application of chemicals or preparations from storage to the ballast water management system;
- the position of the ballast water management system and associated piping;
- operation of the ballast water management system;
- maintenance of the ballast water management system;
- spillages from the ballast water management system; and
- exposure to treated ballast water, chemicals or preparations.

* Chemicals and preparations can be defined as Active Substances as defined in regulation A-1 of the BWM Convention.

4 The safety assessment should be undertaken by the owner/master of the ship in conjunction with the supplier of the ballast water management system and the supplier of the chemical or preparation. This will allow:

- the specific design of the ship;
- the design of the ballast water management system (especially important if the technology is being retrofitted);
- the provisions of any servicing/maintenance contracts; and
- the specific properties and risk of any treatment chemical or preparation,

to be identified, assessed and addressed in this appraisal.

5 The role of the supplier of the ballast water management system and the supplier of the chemical or preparation should provide the owner/master with the following information, as appropriate:

- a safety data sheet of the chemicals or preparations used;
- instructions on how any chemical should be loaded on the ship, stored and transferred/applied to the ballast water management system;
- health and safety information on the risks involved in operating the ballast water management system;
- health and safety information on exposure risks associated with operation of the ballast water management system and the use of chemicals or preparations; and
- details of personal protective equipment to be provided on board for use during any of these operations and during emergency situations, including spillage of the chemicals or preparations.

6 Based on the information provided by the supplier of the ballast water management system and the chemicals or preparations, the role of the owner/master in this process is to:

- identify the position and facilities needed to store chemicals, taking into account the risks involved in storing the chemicals and transferring and applying them to the ballast water management system, including fire protection and extinction;
- develop ship-specific health and safety procedures for loading ballast water treatment chemicals onto the ship;
- develop ship-specific health and safety procedures for handling and applying chemicals/preparations into the ballast water management system;
- develop ship-specific health and safety procedures for normal operation of the ballast water management system;

- develop ship-specific health and safety procedures for use in the event of a spillage on board vessels or crew exposure to treated ballast water, chemicals or preparations; and
- provide adequate personal and protective equipment for all operations covered in this guidance.

7 A safety assessment should be undertaken prior to installation of the ballast water management system, so that any mitigation measures identified can be incorporated either prior to, or during, installation.

8 The Safety Management System should be updated when appropriate, to take account of lessons learned during operation of the treatment technology or after any hazardous occurrence.

9 Shipowners and masters should ensure crew are instructed and trained appropriately, specifically to familiarize themselves with the Safety Data Sheet for any chemicals or preparations used in the course of ballast water treatment. Crew should also be made aware of any potentially hazardous by-products (aqueous or gaseous) which may be produced during the ballast water treatment process.

10 Notwithstanding the fact that the International Maritime Dangerous Goods (IMDG) Code does not apply to these chemicals in this context, the Code contains provisions that can be relevant to the safe stowage, handling and carriage of dangerous goods. The IMDG Code also contains requirements for electrical equipment, wiring, fire-fighting equipment, ventilation, smoking provisions and requirements for any special equipment. This could be a good source of information for ballast water treatment chemicals that are also categorized as dangerous goods to ensure appropriate construction, loading, stowage, segregation and carriage provisions are put into place. However, it should be noted that the provisions of the IMDG Code are based on intact and unopened packaging. This aspect should be taken into account when carrying out the safety assessment to ensure an equivalent level of safety is maintained when dangerous goods remain after use.
