

EU Occupational Health & Safety Legislation and the Shipping Sector

Analysis of EU Legislation and compilation
of best practices in its implementation

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Executive summary

The aim of this report is to identify the ways in which European occupational safety and health legislation is implemented within the European shipping industry and to highlight good practices in this field.

The first section presents the objectives of the study and the methodology used to achieve them.

The second section provides an overview of European safety and health legislation applicable to the shipping industry. Where the issue addressed by a given text presents particular challenges for the shipping industry, these points are highlighted. Where relevant, reference is made to texts of the International Maritime Organization or the International Labour Organization relating to the same subject.

The third section details the good practices identified with regard to the implementation of certain OSH texts. Where relevant, the main provisions of the text are first outlined. The good practices presented here are taken from study contributions provided by ECSA and ETF members.

The fourth and final section presents several recommendations based on the preceding information:

- › [Two general recommendations for the promotion of occupational safety and health in the shipping industry.](#)
- › [Recommendations specific to each good practice identified above with a view to generalising them across the European Union.](#)

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1. Presentation

Despite the fact that Occupational Safety and Health (OSH) issues have been on the agenda of the Sectoral Social Dialogue Committee for maritime transport for some time, discussions on this topic have not proven conclusive so far. The reasons are a lack of clear information on relevant EU legislation applicable to shipping, and a lack of information on how such legislation is implemented at national level.

As any action must be based on comprehensive knowledge of the regulatory situation, the Social Partners for Maritime Transport – the European Transport Workers' Federation (ETF) and the European Community Shipowners' Associations (ECSA) – have requested financial support from the European Commission to carry out a study that aims at identifying and compiling the existing EU legislation on occupational safety and health of relevance to the shipping industry, together with associated best practices.

The study behind this report was carried out in two stages:

- › Analysis of the existing relevant EU legislation on Health and Safety applying to shipping;
- › Consultation of ETF and ECSA members – on the basis of a Questionnaire – to identify best practices/initiatives taken by Member States and by the industry in the field of Health and Safety;

This report will be the reference document for future discussions between ECSA and ETF.



2. General principles of European occupational safety and health (OSH) legislation applicable to the shipping industry

2.1 Introduction

European OSH legislation is based mainly on a set of directives reviewed in detail below.

The first is Directive 89/391/EEC of 12 June 1989, the so-called “Framework Directive”. This lays down the general principles relating to occupational safety and health. All subsequent individual directives as listed in Article 16 of this “Framework Directive” comply with the common principles outlined in the “Framework Directive”.

To date, the “Framework Directive” is supplemented by nineteen individual directives. Paragraph 3 of Article 16 states that the provisions of the “Framework Directive” shall apply in full to all areas covered by each individual directive.

This set of directives thus establishes a core of minimum standards required to improve the safety and health of workers within the EU. In accordance with the provisions of the “Framework Directive”, member states may exceed these minimum requirements when these directives are transposed into national law. In accordance with these same provisions, they

may not reduce the level of protection already established in their national legislation.

There are also other specific European directives not based on Article 16 of the “Framework Directive” but which have a direct and/or indirect impact on occupational safety and health.

NOTES a and b:

a
Main provisions of both individual and specific directives are detailed in chapter 3 - Best practices

b
Certain guidelines which figure in the Maritime Labour Convention 2006 (MLC 2006) are outlined below as a reminder, bearing in mind that they are not mandatory.

2.2 Directive 89/391/EEC of 12 June 1989 The “Framework Directive”

Directive 89/391/EEC of 12 June 1989, often referred to as the “Framework Directive”, is a fundamental text in the field of occupational safety and health within the EU. It introduces the notion of risk assessment into European OSH legislation.

The main provisions of the “Framework Directive” (not applicable to domestic servants, specific public service activities, such as the armed forces or the police, and freelance workers) are outlined below in a non-exhaustive list:

1. To oblige employers to implement occupational risk assessments and an associated continual improvement process.
2. To define the involvement of workers in this process.
3. To define the nine general principles of prevention intended to guide action in the implementation of this process.
4. To define the requirements in terms of worker training, essential in the implementation of this process.
5. To lay down workers’ obligations in this process.
6. To define the health surveillance workers should receive.

We note that the Maritime Labour Convention 2006 (MLC 2006) includes most of these provisions in Regulation 4.3 – Health and safety protection and accident prevention.

Standard A4.3 of the MLC 2006 specifies one of the methods of worker involvement, requiring that a “ship’s safety committee” be established on board ships with five or more seafarers.

2.3 Individual OSH directives as defined in Article 16 of the “Framework Directive”

These individual directives set out the principles and instruments of the “Framework Directive” relating to specific risks at work (for instance exposure to hazardous substances or physical agents), simple tasks (for instance manual handling of loads, working with display screens, etc.) and various high-risk workplaces (for instance temporary work sites, extractive industries, fishing vessels, etc.).

Another directive covers a combination of these factors in relation to the most exposed workers (i.e. pregnant women and breastfeeding mothers).

The individual directives define how the risks should be assessed and establish limit values for occupational exposure where relevant.

The general provisions of the Framework Directive apply in full to all areas covered by each individual Directive, without prejudice to more stringent and/or specific provisions contained in the individual Directives.

11 of the 19 individual directives listed under Article 16 paragraph 1 of the “Framework Directive” are applicable to the shipping industry:

1. Directive 89/656/EEC on the minimum health and safety requirements for the use by workers of **personal protective equipment (PPE)** at the workplace. This directive lays down the minimum requirements for the assessment, selection and correct use of personal protective equipment (third individual Directive).

This is a key issue on board ships, in particular as concerns the protection of the feet, head and hands, protection against noise, against the risk of drowning and against the risk of falls from height.

In Standard A4.3 - §1-c), the MLC 2006 emphasises the use of PPE as part of on-board programmes for the prevention of occupational accidents.

2. Directive 90/269/EEC on the minimum health and safety requirements for the manual handling of loads where there is a risk particularly of back injury to workers. This directive ensures that workers are protected against risks related to the manual handling of heavy loads and helps in particular to prevent musculoskeletal disorders (fourth individual Directive).

All occupations combined, back injuries due to the manual handling of loads are often the number one cause of workplace accidents and the most common cause of permanent work-related disabilities. The merchant shipping sector is no exception to this trend.

In its Guideline B4.3.1 - §3, the MLC 2006 specifies that the risks relating to the manual handling of loads should be covered in the assessment of the occupational risks encountered on board ships.

3 and 4. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work (sixth individual Directive) and **Directive 2000/54/EC** on the protection of workers from risks related to exposure to **biological agents** at work (seventh individual Directive).

5. Directive 92/58/EEC on the minimum requirements for the provision of safety and/or health signs at work, which introduces a harmonised **system of safety signs** in the workplace (ninth individual Directive).

6. Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of **pregnant workers** and workers who have recently given birth or are breastfeeding (tenth individual Directive).

7. Directive 98/24/EC on the protection of the health and safety of workers from the risks related to **chemical agents** at work (fourteenth individual Directive).

This report considers this directive with regard to the risks induced by chemical agents used in the operation and maintenance of ships. Indeed, workplace accidents relating to the use of chemical agents generally have severe health consequences.

The transport of chemical agents in all forms (packaged, bulk liquid or solid) is governed by existing international agreements and codes which are more specific and stringent.

8 and 9. Directive 2002/44/EC on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (**vibration**) (sixteenth individual Directive): Applicable in the shipping industry except in the case of a derogation requested by a member state; and **Directive 2003/10/EC** on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise) (seventeenth individual Directive).

Ships are both a workplace and a living environment. They are also potentially noisy environments and individuals on board can be exposed to whole body vibrations. Seafarers are potentially exposed to noise and vibrations 24 hours a day. Exposure to noise and to vibrations are therefore two main issues in terms of occupational safety and health on board ships.

MLC 2006 devotes two of its guidelines to these issues, Guideline B4.3.2 on Exposure to noise and Guideline B4.3.3 on Exposure to vibration.

In terms of noise exposure, on 19 November 1981, the IMO General assembly adopted resolution A 468(XII) on noise and on 30 November 2012, its Maritime Safety Committee adopted the 'Code on noise levels on board ships' by Resolution of the Maritime Safety Committee (MSC 337(91)) which amended the International Convention for the Safety of Life at Sea (SOLAS). The Implications of this resolution are detailed in Chapter 3 of this report on best practices.

10 and 11. Directive 2006/25/EC on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (**artificial optical radiation**) (nineteenth individual Directive) and **Directive 2013/35/EU** on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (**electromagnetic fields**). This is the twentieth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC and repeals Directive 2004/40/EC on electromagnetic fields.



While working on board ship, seafarers may be exposed to artificial optical radiation (LED lighting, etc.) and electromagnetic fields (radar, rotating electric machines, etc.), even though the related risks are not specifically mentioned in MLC 2006.

The eight other individual directives do not apply to shipping either because of their nature or because they specifically exclude shipping from their scope.

2.4 Other directives relevant to Occupational Safety and Health (OSH)

The EU OSH acquis also includes other individual directives which are however not based on Article 16, paragraph 1 of the "Framework Directive" and whose provisions primarily address technical OSH aspects. Here again, the general provisions of the Framework Directive apply in full to all areas covered by each individual Directive, without prejudice to more stringent and/or specific provisions contained in the individual Directives.

- › **Directive 92/29/EEC** on the minimum safety and health requirements for medical treatment on board vessels.
- › **Directive 91/383/EEC** supplementing the measures to encourage improvements in the safety and health at work of workers with a fixed-duration employment relationship or a **temporary employment relationship**.
- › **Directive 1994/33/EC** on the protection of **young people at work**. Stricter rules for effective protection of workers under 18 years of age.
- › **Directive 2009/13/EC** of 16 February 2009 implementing the Agreement concluded by the European Community Shipowners' Associations (ECSA) and the European Transport Workers' Federation (ETF) on the Maritime Labour Convention, 2006, and amending Directive 1999/63/EC (organisation of working time of seafarers).
- › **Directive 2009/148/EC** on the protection of workers from the risks related to exposure to asbestos at work.

3. Best practices

3.1 Main sources

The best practices listed below emanate from the input received from ETF and ECSA members in response to a questionnaire sent to them asking for examples of best practices in the practical implementation of the EU OSH directives in the shipping sector. In some cases, documents were appended to the responses. These documents are outlined below:

A. CODE OF SAFE WORKING PRACTICES FOR MERCHANT SEAFARERS - 2015 EDITION

This document is issued by the United Kingdom's Maritime and Coastguard Agency and is endorsed by the National Maritime Occupational Health and Safety Committee (UK Chamber of Shipping, Nautilus International and Maritime and Transport Workers).

This Code is to be considered as best practice guidance for improving health and safety on board ships. It is also intended to give guidance as to how the statutory obligations should be fulfilled.

This Code provides guidance on safe working practices and covers 7 of the 11 directives listed in the questionnaire.

B. WORKING ENVIRONMENT MANUAL - SEAFARERS - MARCH 2016 EDITION

This manual is issued by Prevent, a non-profit organization owned by the Confederation of Swedish Enterprise, the Swedish Trade Union Confederation and the Negotiation Cartel for Salaried Employees in the Private Business Sector.

This study material consists of two parts. The first, "A better work environment at sea", describes how work activities should and can be carried out on board, legal requirements and some basic facts on various subjects. The second part is more comprehensive. It contains work environment manuals describing different tasks found on board, what the risks are and what is necessary for the work to be done as safely as possible. The material also includes a number of instruments and checklists, which may be used in systematic work environment management (SAM) in accordance with Swedish Work Environment Authority provisions.

This manual provides guidance on safe working practices and covers 8 of the 11 directives listed in the questionnaire.

C. SAFETY FIRST - JANUARY 2006 EDITION

This document is issued by Stichting Scheepvaart, a Dutch umbrella foundation covering other foundations, associations involved in social security, training, health and safety promotion for Dutch seafarers.

This foundation formulates coherent policies in the areas of employment, pay and care in the field of merchant shipping and fisheries.

This document provides guidance on safe working practices and covers 3 of the 11 directives listed in the questionnaire.

D. HANDBOOK OF SAFE WORKING PRACTICES - OCCUPATIONAL HEALTH AND SAFETY FOR MERCHANT SHIPPING AND FISHING VESSELS - OCTOBER 2014

This Handbook is issued by BG Verkehr, the German social insurance organisation for the transport, post-logistic and telecommunication sectors.

This Handbook helps management and crews on vessels to identify and assess dangerous working situations. It has a modular structure and contains numerous illustrations. It covers at least 4 of the 11 directives listed in the questionnaire.

Note on these documents:

The production of such guidance documents, specific to the merchant shipping sector and addressing all aspects of occupational safety and health, [is in itself a good practice](#) which would be worth generalising across the European Union.

However, each document has its own approach: some aim to be exhaustive while others are more concise. Some systematically refer to the texts and regulations applicable to the issue at hand, while others do not. Some are intended to be very educational and contain many illustrations, while others are more academic.

In all cases, it is valuable to have a manual – both at company headquarters and on board vessels – which outlines the different working situations encountered on board vessels and attempts to identify the risks and the appropriate prevention and/or protection measures for these situations.

Other sources provided by questionnaire answers:

A. SEAHEALTH

Seahealth is a Danish not-for-profit organisation with a management board composed of equal numbers of representatives of shipowner associations and trade unions.

Seahealth's mission is to improve the safety, health and well-being of seafarers and contribute to a safer and more efficient maritime working environment.

B. MARITIME PREVENTION INSTITUTE

[The Institut Maritime de Prévention](#) (Maritime Prevention Institute) is a French not-for-profit association which fulfils the same role in France as Seahealth in Denmark. Its management board includes a representative of the social security organisation for seafarers.

The aim of the analysis below is to identify what appear to be the most effective and relevant practices in terms of occupational safety and health from these different sources, within the scope of the issues addressed by the questionnaire. These best practices should additionally:

- › Fall within the preventative practices outlined in the Framework Directive.
- › Be tailored to the maritime shipping sector and work on board vessels.
- › Be concrete, pragmatic, transposable and accessible.
- › Possibly go beyond directive provisions

The existence of specialised organisations devoted to occupational risk prevention on board ships **is also in itself a good practice.**

OTHER SOURCE:

A- COMMISSION STAFF WORKING DOCUMENT - Ex-post evaluation of the European Union occupational safety and health Directives (REFIT evaluation), accompanying the document COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS - Safer and Healthier Work for All - Modernisation of the EU Occupational Safety and Health legislation and policy.

This document, published on 10 January 2017, assesses the practical implementation of the OSH directives within the EU. It summarises a number of studies conducted between 2007 and 2012 and comes under the Regulatory Fitness and Performance Programme ('REFIT') launched in 2012 by the European Commission. Where necessary, some of its conclusions or findings will be outlined in the chapter on recommendations.

3.2 Identified best practices - Overview

Directive	Best practice	Title	Source
General	G.1	Health and Safety Maritime Guide	
General	G.2	Health and Safety Maritime Organisation	
Framework	1.1	"Risk Assessment" – a four-level process	"Code of Safe Working Practices for Merchant Seafarers" MCA
Framework	1.2	Training and involving seafarers	Maritime Prevention Institute
Framework	1.3	Involving seafarers - Setting up Health, Safety and Working Conditions Committees in companies with over 50 employees.	Questionnaire
PPE	2.1	Providing information on PPE	"Handbook of Safe Working Practices - Occupational Health and Safety for Merchant Shipping and Fishing Vessels" BG Verkehr
PPE	2.2	Regulation regarding use of PPE against drowning	Questionnaire
Manual Handling	3.1	Manual handling risk assessment	"Code of Safe Working Practices for Merchant Seafarers " MCA
Manual Handling	3.2	Training and information on "movements and postures"	"Handbook of Safe Working Practices - Occupational Health and Safety for Merchant Shipping and Fishing Vessels" BG Verkehr
Manual Handling	3.3	Training and information on "movements and postures"	Internal trainers training provided by Maritime Prevention Institute to Brittany Ferries
Pregnant workers	4.1	Italian legislation - decreto legislativo 151/2001	Questionnaire
Chemical Agents	5.1	Chemical agents - whitelist - database – substitution	Seahealth (Denmark)
Chemical Agents	5.2	Mandatory training on the use of chemicals on board vessels	Seahealth (Denmark)
Noise	6.1	IMO regulation implementation	Prevent (Sweden)
Vibrations	7.1	Hand-arm vibration exposure calculator	Seahealth (Denmark)
Medical treatment	8.1	DOTA B - optimisation of the storage and management of medical supplies on category "B" vessels	Maritime Prevention Institute (France)

3.3 Identified best practices - Details

3.3.1 FRAMEWORK DIRECTIVE

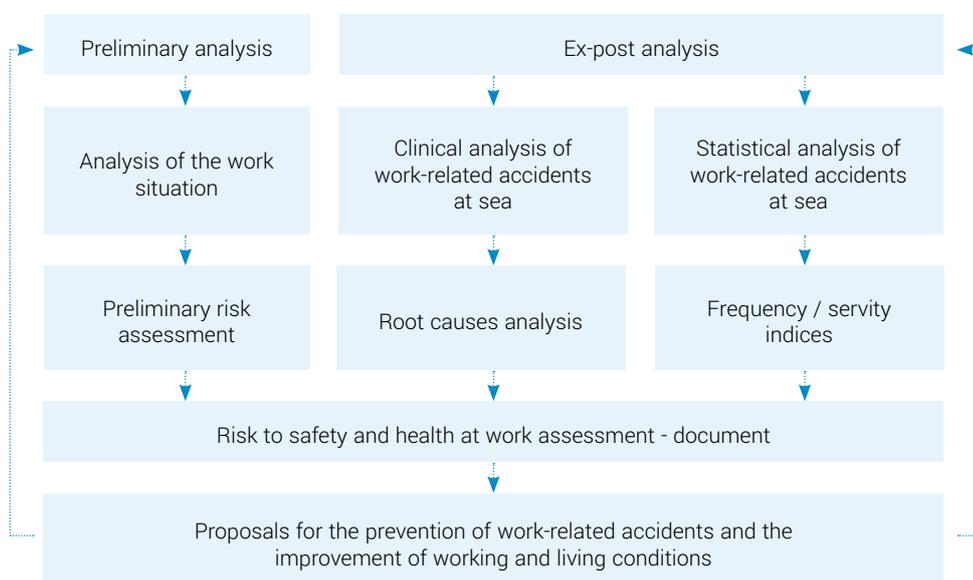
The Framework Directive requires employers to assess the professional risks their employees face and to take the necessary prevention and/or protection measures to mitigate them. This process must be implemented in compliance with the nine prevention principles outlined below:

- › avoiding risks
- › evaluating the risks
- › combating the risks at source
- › adapting the work to the individual
- › adapting to technical progress
- › replacing the dangerous by the non- or the less dangerous
- › developing a coherent overall prevention policy
- › prioritizing collective protective measures (over individual protective measures)
- › giving appropriate instructions to the workers

It must be carried out in cooperation with the seafarers and individuals designated by the shipowner to work on these occupational health and safety issues.

This risk assessment process is the cornerstone of all company OSH policies. It should be conceived as a **continuous improvement effort** whose overall organisation is presented on the following page.

Prevention resources and continuous improvement process:



The main risk observed is of this process being mainly carried out at the shipping company's headquarters and resulting in the production of an "inert" document which is generally unknown to or ignored by seafarers.

The directive therefore lays down the principles to be complied with to carry out the risk assessment without specifying either the method to be used or the form this assessment should take. The good practices detailed below aim to provide a methodological framework suited to the shipping industry, ensuring that all individuals on board are involved in the process and take responsibility for their own safety.

BEST PRACTICE 1.2

“RISK ASSESSMENT” - A FOUR-LEVEL PROCESS

In this respect, the [Code of Safe Working Practices for Merchant Seafarers](#) published by the United Kingdom Maritime and Coastguards Agency puts forward a method which appears to be efficient and avoids the above-mentioned risk.

The following boxes presenting the chosen approach are taken directly from the [Code of Safe Working Practices for Merchant Seafarers](#).

“A very effective approach that is employed by some companies is to use a four-level process, as outlined below.

Risk assessment level 1: Generic risk assessment

The ISM Code requires that the safety management objectives of the Company should, amongst other things, assess the risks associated with all identified hazards in respect of its ships, personnel and the environment, and establish appropriate safeguards.

These risk assessments, sometimes known as generic risk assessments, should therefore be carried out at a high level in the Company with appropriately knowledgeable and experienced personnel, and the results used to ensure that appropriate safeguards and control measures are contained within the Company’s safety management system in the form of policies, procedures and work instructions.

Risk assessment level 2: Task based

In addition to the general requirements under the ISM Code, the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 require that a suitable and sufficient assessment shall be made of the risks to the occupational health and safety of seafarers arising in the normal course of their activities or duties.

There are vessel- and task-specific risk assessments that must be carried out on board each vessel. Whilst it is clear that the Company can assess the generic risk of, for example, working at height, working with electricity, movement about ship, etc., it is not possible for them to conduct a risk assessment for changing a navigation light bulb up the main mast on a given vessel on a given day because they would not be able to take into account all the factors that were applicable at that time on that vessel. For this reason, it is essential that any generic risk assessments are used in context, and not seen as being suitable for specific tasks. For this, task-based risk assessments (TBRAs) should be carried out on board each vessel by those involved in the work.

Two distinct types of TBRA may be used. First, a range of vessel-specific generic TBRAs that can be used for all routine and low-risk tasks can be developed. These should be periodically reviewed, but frequency would very much depend on the particular circumstances on the vessel and the level of risk.

The second type of TBRA would be used for specific high-risk jobs that are not routine, such as working aloft or enclosed space entry. These should relate to the specific persons who will be involved in the work and valid only for the duration of that job.

In both cases, the assessments should be carried out by a competent person or persons who understand the work being assessed. It is also preferable that seafarers who will be involved in the work should also be involved in the assessment process.

Risk assessment level 3: Toolbox talk

A toolbox talk is another form of risk assessment carried out in support of a TBRA. Its prime purpose is to talk through the procedures of the job in hand and the findings of the TBRA with the seafarers involved.

When carrying out a toolbox talk, it is important to actively involve those carrying out the work and others who may be at risk, i.e. seafarers, sub-contractors and others on board ship who may be affected by the work. Full and active participation should be encouraged and any questions or concerns discussed and taken into consideration. Once finished, confirm that all fully understand their role in the task and the precautions in place ('closed-loop communication'). This should then be recorded along with details of any relevant risk assessment referred to.

A toolbox talk should be conducted prior to any work being carried out that involves more than one person and where there is significant risk to persons or assets.

Risk assessment stage 4: Personal assessment of risk

This is an informal assessment of day-to-day risks carried out as you are going about your work and life in general. It is a technique used to ensure that we perform even the most mundane of tasks without getting hurt. It is used to maintain awareness of our environment at all times and aid in the identification and control of immediate hazards as we go about our work. Use of personal assessment of risk should be developed and encouraged.

This is about taking a few minutes to step back, look at the job to be done, consider what could go wrong and how it may occur, and what steps you can personally take to avoid any incident occurring. As the work is proceeding, you should also monitor the worksite for any change in conditions that might alter the hazards and controls in place. If there is any concern, stop the work, re-assess the controls and, if necessary, re-plan and re-assess the task.

This approach may also be called a 'dynamic risk assessment'. If the person does not believe that the dynamic risk assessment is sufficient move back to stage 2."

This approach appears to be exemplary. In most cases, only the two first steps are performed (sometimes only the first one). It has several advantages:

- › Preventing the risk assessment from being carried out "in a vacuum", being too general and remote from on-board reality.
- › Ensuring, through stage 2, that the assessment is suited to each vessel, taking account of its design, use and the environment in which it operates.
- › Ensuring that seafarers are included in the process and, through stage 3, that this risk assessment and mitigation process is ongoing.
- › Ensuring, through stage 4, that seafarers are involved in the process and acquire a prevention culture, keeping a critical eye on the safety of their activities.

This method however no doubt requires prior effort to be devoted to training seafarers in the preliminary analysis of the work to be conducted, the analysis of workplace accidents and in prevention and protection.

In this regard, the Maritime Prevention Institute (France) provides another good practice example.

BEST PRACTICE 1.2

TRAINING AND INVOLVING SEAFARERS

In collaboration with a major shipowner, the French Maritime Prevention Institute (IMP) developed a training module on occupational health and safety designed for all seafarers.

In each session of this **2.5-day** module, 12 participants are trained. The 12 trainees are of all ranks, from Able Bodied Seaman to Captain.

The programme of this module is presented below:

1.5 days: Professional risk prevention resources

- › Epidemiological surveillance of occupational health impacts/Statistical analysis of workplace accidents
- › Systemic approach to occupational situations
- › Clinical analysis of workplace accidents using the causal tree analysis method
- › Analysis of occupational situations
- › Professional risk assessment document - company approach

0.5 days:

- › Personal protective equipment (PPE), selection and use
- › Prevention of back injuries due to manual handling of loads

0.5 days:

- › Company OSH policy, presented by the company's OSH manager

This course draws on concrete examples provided by the participants.

The impact of this initiative was quickly observed in the company's accident record, with the number of accidents being halved in one year (although it is important to remain cautious about statistics, as progress must be measured over longer periods of time).

BEST PRACTICE 1.3

ESTABLISHMENT OF A HEALTH, SAFETY AND WORKING CONDITIONS COMMITTEE

French law requires a health, safety and working conditions committee (CHSCT) to be established within all **establishments with at least 50 employees**. In shipping companies, this committee comprises a section for shore-based staff and a section for seafaring staff. It is composed of the employer, who chairs it, and staff members appointed by an elected panel of staff representatives.

Its missions are to help to protect workers' health, to improve working conditions and to ensure correct application of legal provisions in these fields. It should therefore be consulted before making any decisions relating to "major changes affecting health and safety conditions or working conditions". It analyses occupational risks and working conditions.

This provision institutionalises the participation of workers in the management of safety and health at work as provided for by the directive and formalises the framework governing their participation.

3.3.2 DIRECTIVE 89/656/EEC ON THE MINIMUM HEALTH AND SAFETY REQUIREMENTS FOR THE USE BY WORKERS OF PERSONAL PROTECTIVE EQUIPMENT AT THE WORKPLACE (PERSONAL PROTECTIVE EQUIPMENT)

NB for this chapter and the following chapters: The “Main provisions” section which presents the main provisions of each directive is by no means exhaustive; for a comprehensive understanding of all the implications, the directive must be read in full. This section aims to draw parallels between the good practices identified and the main provisions of each directive.

Main provisions (1 to 6):

1. Personal protective equipment (PPE) must comply with the relevant Community provisions on design and manufacture with respect to safety and health.
2. According to the prevention principles laid out in the Framework Directive, collective protection should be prioritised over individual protection. The use of personal protective equipment (PPE) is required when collective prevention and/or protection measures are unable to reduce the risk to an acceptable level. In this case, all PPE must be appropriate for the risks involved, without itself leading to any increased risk.
3. PPE is, in principle, intended for personal use and must fit the wearer correctly after any necessary adjustment.
4. PPE shall be provided free of charge by the employer, who shall ensure its good working order.
5. The employer shall first inform the worker of the risks against which the wearing of the personal protective equipment protects him. The employer shall arrange for training and shall, if appropriate, organize demonstrations in the wearing of PPE.

6. Member States shall ensure that general rules are established for the use of PPE and/or rules covering cases and situations where the employer must provide the PPE. In this regard, the annexes of the directive do not make mention of the PPE required to protect workers against drowning, which is a major risk in the shipping industry. Any national regulations relating to this point are therefore welcome.

The examination of the questionnaire responses relating to personal protective equipment showed that PPE is generally duly provided and used. Problems may arise however in terms of the suitability of this equipment to the work carried out or the people required to wear it.

The aim is therefore to inform those in charge of safety and the seafarers required to use PPE on its technical characteristics, conditions of use and maintenance and on the level of protection provided.

In this respect, the 4 above-mentioned documents each include a chapter which reviews, in varying degrees of detail, all the types of PPE liable to be used on board vessels:

- › Protection against noise
- › Face and eye protection
- › Head protection
- › Hand and foot protection
- › Body protection
- › Respiratory protection
- › Protection against drowning
- › Protection against falls from height
- › Protection against the cold

BEST PRACTICE 2.1**PROVIDING INFORMATION ON PPE**

The presentation in the [BG Verkehr "Handbook of Safe Working Practices - Occupational Health and Safety for Merchant Shipping and Fishing Vessels" \(Germany\)](#) appears to be the most comprehensive and instructive (although it lacks information on protection against the cold).

Section "A" of this handbook is devoted to PPE and organised into subsections which each focus on a given category of PPE.

Each subsection has a similar structure:

1. General presentation of the PPE and legal framework
2. When to use the PPE
3. How to choose the PPE - Categories and technical characteristics
4. How to use and, where relevant, maintain the PPE

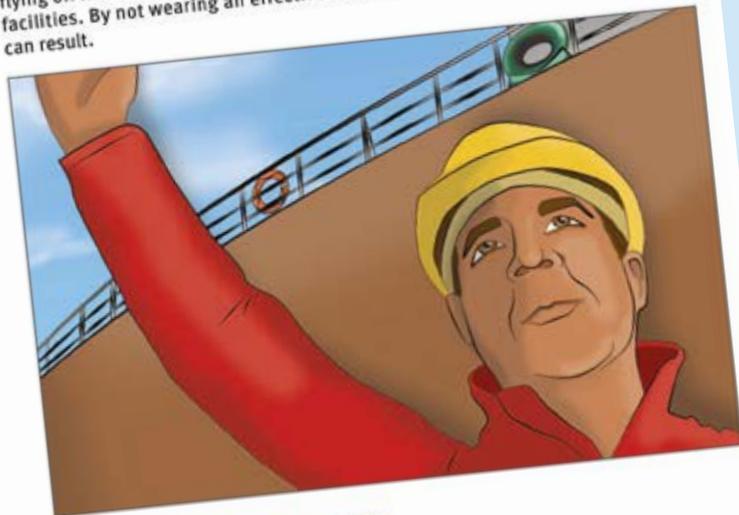
The presentation is well illustrated, instructive and appears to be readily available to safety managers and users, in the form of datasheets and through a training and awareness-raising approach.

As an illustration, the datasheet relating to the use of helmets is presented on the following pages.

Head Protection – Safety Helmet

2014 

Many jobs on board can be dangerous due to objects falling, toppling, swinging or flying off from moving parts as well as hitting one's head on parts of machines or facilities. By not wearing an effective head protection, life-threatening injuries can result.



Dangerous situations frequently develop as a result of:

- not using the head protection at all
- using an unsuitable or defective head protection
- a loose-fitting head protection
- wearing the head protection incorrectly
- removing the head protection for short periods of time during works in a danger area

For further information refer to:
DGUV Vorschrift 1 „Principles of Prevention“,
DGUV Regel 112-193 „Benutzung von Kopfschutz“,
DIN EN 397 „Industrieschutzhelme“

Selecting the Suitable Head Protection

2014 

The safest head protection on board is a safety helmet which is suitable for the specific conditions of work.

If jobs have to be carried out under special conditions, special safety helmets which are designed for work under these conditions are advised to be used, e.g.:

- if there is a hazard of a short, unintended contact with alternating voltages
- if there is a danger by sideways strains

Only approved safety helmets with the appropriate test mark are permitted to be used.

Helmet shells are made from thermoplastics or thermosetting plastics:

- It is advisable to use helmet shells made from thermosetting plastics at temperatures which are below 0°C.
- Helmet shells made from thermoplastics are sufficient for standard board operations.

Each user must select a helmet with an appropriate size to make sure the helmet fits tightly and securely.

The properties of a safety helmet can be found on its label.



①	CE-Symbol
②	Identification number of the production supervision
③	Standard „EN 397“
④	Manufacturer
⑤	Year and quarter or month of production
⑥	Model name
⑦	Head circumference in cm
⑧	Code for helmet material
⑨	Temperature resistance
⑩	Electrical properties

When to Use a Head Protection

A suitable head protection must always be worn when carrying out jobs which might cause tools or objects to fall, topple, swing or fly off. It is also important to use a head protection in work places where it is easily possible to bump one's head due to a constrained posture or the narrowness of the space.

Examples for such jobs on board are:

- working with lifting gear
- re-lashing cargo lashings
- cleaning cargo holds
- working at heights
- repairing machines
- working in narrow spaces
- working during bad weather conditions



Safety Measures When Using a Safety Helmet



A head protection must be worn in all work places marked with the mandatory sign shown above.

Every crew member on board must have an individual safety helmet at her or his disposal.

All crew members must be instructed on the use of safety helmets.

Maintenance

- It is good practice to clean the helmet shells regularly with lukewarm soap water.
- Dirty sweatbands are to be replaced.
- In general, safety helmets made from thermoplastics have a maximum service life of four years from the date of manufacture (5). After this period the helmet must be replaced by a new one.

Use

The safety helmet must be checked for obvious defects before use. After a heavy impact or when defects are visible, it must not be used any more and must be withdrawn securely from further use.

It is not permitted to apply any coatings, solvents, adhesives or self-adhesive labels on the safety helmet because this might interfere with the protective effect.

A safety helmet provides protection in the best possible way if it is worn properly.

- The straps of the suspension system must fit closely to one's head.
- The helmet must be adjusted to fit the user's head size with the adjustable neck strap. The helmet must fit tightly without squeezing the head.
- An additional chin strap should be used to prevent the helmet from falling off the head during strong winds and exposure to bouncing movements.

The safety helmet must neither be worn too loosely or too tightly.

The responsible officer must check that safety helmets are worn during jobs when the wearing of safety helmets is necessary.

Superiors set a good example by wearing a safety helmet!

A 1.2

Head Protection – Safety Helmet

BEST PRACTICE 2.2

REGULATION REGARDING USE OF PPE AGAINST DROWNING

The directive and its annexes make no mention of personal protective equipment against drowning. Yet in the shipping industry, this is a major risk in terms of its severity and exposure levels. The introduction of regulations on the use of this equipment on board ships should be considered as a good practice.

In France, a decree and order address this issue:

<https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000029254293&categorieLien=id>

3.3.3 DIRECTIVE 90/269/EEC ON THE MINIMUM HEALTH AND SAFETY REQUIREMENTS FOR THE MANUAL HANDLING OF LOADS WHERE THERE IS A RISK PARTICULARLY OF BACK INJURY TO WORKERS (MANUAL HANDLING)

Main provisions (1 to 3):

1. In accordance with the prevention principles laid down in the Framework Directive, the employer shall take appropriate organizational measures to avoid the need for the manual handling of loads.
2. Where the need for the manual handling of loads by workers cannot be avoided, the employer shall take all the necessary measures to reduce the risks of back injury. To do so, he shall examine the characteristics of loads (weight, size, easy of handling, etc.), the physical effort required (strenuousness, twisting movement of the trunk, sudden movement of the load, unstable posture, etc.), the characteristics of the working environment (insufficient space, uneven or unstable floor etc.) and the requirements of the activity (frequency, rest periods, etc.).
3. Employers must ensure that workers receive precise information on the weight of a load and its centre of gravity. Furthermore, employers must ensure that workers receive proper training on how to handle loads correctly.

All occupations combined, back injuries due to the manual handling of loads are often the number one cause of workplace accidents and the most common cause of permanent work-related disabilities.

The merchant shipping sector is no exception to this trend.

There are two main ways of mitigating this risk:

- › [Improving workstation ergonomics and equipment](#)
- › [Training employees on appropriate movements and postures](#)

Though workplace ergonomics on board vessels can be improved, there are clear limitations given the wide range of situations that may be encountered, the lack of standardisation of the required handling operations and the very nature of moving vessels.

The problem should be addressed by marine engineering, firms and shipyards. None of the documents or questionnaire responses received indicates that this is the case.

Therefore training and raising awareness among seafarers to the risks to which they are exposed are seen as the best way to achieve good results.

The 4 above-mentioned documents each address this issue in their own way.

BEST PRACTICE 3.1

“MANUAL HANDLING” RISK ASSESSMENT

The most exhaustive document in this respect is the “Code of Safe Working Practices for Merchant Seafarers” (United Kingdom - Maritime and Coastguards Agency). It includes a risk assessment procedure which takes into account the specificity of work on board vessels. It also provides a diagram indicating the weights which can be safely handled by a single person, according to their sex and the lifting height. All this information is presented on the following illustrations.

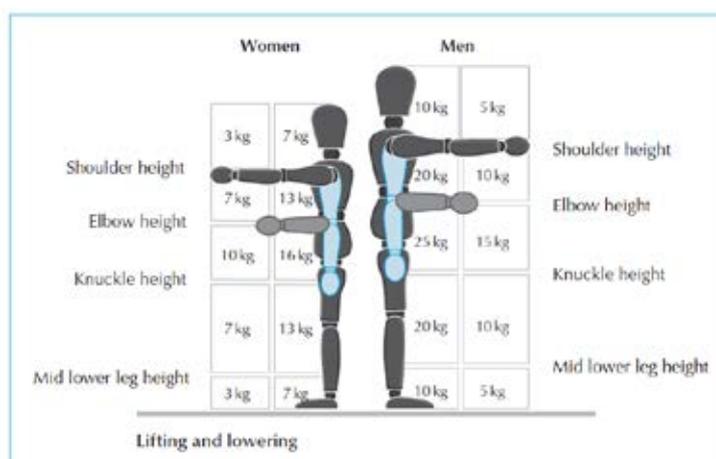
ANNEX 10.1 FACTORS TO BE CONSIDERED

The following are examples of the factors to which the Company should have regard, and the questions they should consider when making an assessment of manual-handling operations or providing instruction for personnel.

Plain text gives the general factors and questions to be considered in the risk assessment carried out under the regulations. *Additional specific factors that may be found on board ship are included for guidance (text in italics).*

Factors	Questions
1. The tasks	<p>Do they involve:</p> <ul style="list-style-type: none"> ● activity that is too strenuous? ● holding or manipulating loads at distance from trunk? ● unsatisfactory or unstable bodily movement or posture, especially: <ul style="list-style-type: none"> – twisting the trunk? – stooping? – reaching upward? ● excessive movement of loads, especially: <ul style="list-style-type: none"> – excessive lifting or lowering distances? – excessive carrying distances? ● risk of sudden movement of loads? ● frequent or prolonged physical effort, particularly affecting the spine? ● insufficient rest or recovery periods? ● a rate of work imposed by a process? ● <i>climbing up or down stairs?</i> ● <i>handling while seated?</i> ● <i>use of special equipment?</i> ● <i>team handling?</i>
2. The loads	<p>Are they:</p> <ul style="list-style-type: none"> ● heavy? ● bulky or unwieldy, or difficult to grasp? ● unstable or with contents that are likely to shift? ● likely, because of the contours and/or consistency, to injure workers, particularly if the individual collides with someone or something? ● <i>wet, slippery, very cold or hot and, therefore, difficult to hold?</i> ● <i>sharp?</i> ● <i>potentially damaging/dangerous if dropped?</i>
3. The working environment	<ul style="list-style-type: none"> ● Are there space constraints preventing the handling of loads at a safe height or with good posture? ● Is there an uneven, slippery or unstable deck surface? ● Are there variations in level of deck surfaces (e.g. door sills) or work surfaces? ● Are there extremes of temperature or humidity? ● <i>Has account been taken of the sea state, wind speed and the unpredictable movement of the deck?</i> ● <i>Are there steps, stairs or ladders or self-closing doors to be negotiated?</i> ● <i>Is the area adequately lit?</i> ● <i>Is movement or posture hindered by personal protective equipment or by clothing?</i>
4. Individual capability	<p>Is the individual:</p> <ul style="list-style-type: none"> ● physically unsuited to carrying out the task, either because of the nature of the task or because of a need to protect an individual from a danger that specifically affects them? <ul style="list-style-type: none"> – <i>i.e. does the job require unusual strength, height, etc.?</i> – <i>is there a hazard to those who might reasonably be considered unsuited to the task?</i> – <i>does it pose a risk to those who are pregnant or have a health problem?</i> ● wearing unsuitable clothing, footwear or other personal effects? ● inadequately experienced or trained? ● inadequately equipped?

The diagram below shows guidelines for safe weights for manual handling.



The guidelines for safe weight vary depending on the capacity of the individual and also the position in which the weight is held. Subject to risk assessment, lighter weights may be safely lifted with arms extended or at high or low levels. The diagram above gives guidelines, which will reduce the risk of harm. The safe weight is reduced if the seafarer has to twist or carry out the lift repeatedly (say more than 30 times per hour). Consideration should also be given to the movement of the vessel during the risk assessment for the task. If the load moves through more than one box, use the lower weight as the safe weight.

It is important to remember that the directive does not determine the maximum weight to be handled by a single person. Generally speaking, the value of 16kg is commonly accepted for a woman as 25 kg is commonly accepted for a man.

The directive does however require seafarers to be informed of the weight to be handled.

BEST PRACTICE 3.2

TRAINING AND INFORMATION ON "MOVEMENTS AND POSTURES"

In terms of training and information on suitable movements and postures, datasheet B-12.1 of the [BG Verkehr "Handbook of Safe Working Practices - Occupational Health and Safety for Merchant Shipping and Fishing Vessels"](#) lays down the basic principles in an instructive form (presented on the following illustrations).

2014

Lifting and Carrying

Lifting and carrying loads is part of many jobs on board. A wrong body posture and jerky movements can result in painful damages to the spine, the joints and the muscles.



Frequent causes for accidents are:

- a wrong body posture when taking and putting down the load
- jerky movements and twisting the body
- carrying of loads which are too heavy
- bad distribution of the load
- visual obstruction by the load
- unsecured stacking of single loads on top of each other
- slipping of a load as a result of a bad grip
- unsafe footing because of the vessel's movements.

For further information refer to:
DGVV-Vorschrift 1 „Principles of Prevention“, Lastenhandhabungsvorordnung, BAAW-Broschüre „Heben und Tragen ohne Schaden“, Module B 16 „Jobs with Lifting Equipment“

Lifting and Carrying B 12.1

Using Technical Auxiliary Devices

Loads which are heavy or difficult to handle should be lifted, carried and put down with suitable transport auxiliary devices, if possible.

The following devices are suitable for lifting and carrying loads during ship's operation:

- pulleys, winches
- workshop cranes
- sack barrows
- transport trolleys
- carts
- pallet trucks

The user has to be familiar with handling the particular lifting or transportation devices. The indicated safe loading capacity must not be exceeded.

Carrying Devices

If loads have to be carried, simple carrying devices can make the lifting and carrying of loads easier. They also help to prevent typical injuries like cuts and crushings.

Sheet-metal clamps should be used, for example, for holding thin sheets of metal, clamping knobs for wooden panels, carrying straps for heavy loads or carrying boxes for small objects.

Personal Protective Equipment

In general, safety shoes have to be used when lifting and carrying loads.

If loads with sharp edges or rough surfaces have to be lifted and carried, suitable protective gloves have to be used.



B 12.1 Lifting and Carrying

Finally, still in terms of training and informing seafarers, only the [Prevent "Working environment manual - Seafarers"](#) (Sweden) makes reference to the importance of prior stretching exercises and physical preparation. If companies want to alleviate the problem of manual handling injuries, they must address this issue which requires considerable management involvement.

BEST PRACTICE 3.3

TRAINING AND INFORMATION ON “MOVEMENTS AND POSTURES”

The French Maritime Prevention Institute offers a programme of train-the-trainer courses on “movements and postures”.

This two-day course is intended for seafarers who will be in charge, on board ship, of informing others of safe practices in

terms of manually handling loads.

This internal course draws on a video adapted to the context of the ship’s activity (a car ferry in this example).

3.3.4 DIRECTIVE 92/85/EEC ON THE INTRODUCTION OF MEASURES TO ENCOURAGE IMPROVEMENTS IN THE SAFETY AND HEALTH AT WORK OF PREGNANT WORKERS AND WORKERS WHO HAVE RECENTLY GIVEN BIRTH OR ARE BREASTFEEDING (PREGNANT WORKERS)

Main provisions (1 to 5):

1. This directive establishes a non-exhaustive list of working situations, in the broadest sense, for which a specific risk assessment must be carried out for the health at work of pregnant workers and workers who have recently given birth or are breastfeeding (noise, vibrations, exposure to chemical agents, manual handling of heavy loads, stress, etc.).
2. The directive establishes a non-exhaustive list of working situations, in the broadest sense, to which pregnant workers and workers who have recently given birth or are breastfeeding should not be exposed, with a particular focus on night work.
3. The employer must assess the risks to which pregnant workers and workers who have recently given birth or are breastfeeding are exposed, in particular in relation to the above-mentioned work situations.
4. According to the results of this assessment and in order to mitigate the risks, the employer should consider adjusting the working conditions, moving the worker concerned to another job or even granting leave. The directive specifies in each case the rights connected with the employment contract of workers, in particular in relation to the maintenance of payment (including during maternity leave as outlined below).
5. The directive grants workers the right to maternity leave of at least 14 continuous weeks, allocated before and/or after confinement, and renders necessary the compulsory nature of maternity leave of at least two weeks. The directive prohibits the dismissal of pregnant workers and workers who have recently given birth or are breastfeeding during the period from the beginning of their pregnancy to the end of the maternity leave.

BEST PRACTICES 4.1

MEMBER STATE REGULATION GOING BEYOND DIRECTIVE PROVISIONS

The working conditions on board vessels clearly expose workers to the above-mentioned working situations. For this reason, in certain Member States, regulations relating to the medical fitness of seafarers consider pregnancy to be a cause for temporary disability to work at sea. Moreover, the law stipulates that a mother of a new-born baby or who is breastfeeding can continue receiving her pay for a certain time after giving birth. The Estonian example, as shown in the questionnaire, is displayed below:

"After detecting the pregnancy, doctor notifies the shipowner, requesting him to move the pregnant woman to different work. Usually this means that the woman is sent home until the birth on full pay provided by our social security system. After the birth, our legislation provides the possibility to stay at home until the child is 3 years old. In the first 1.5 years, the person who stays at home will receive her full salary. "

3.3.5 DIRECTIVE 98/24/EC ON THE PROTECTION OF THE HEALTH AND SAFETY OF WORKERS FROM THE RISKS RELATED TO CHEMICAL AGENTS AT WORK (CHEMICAL AGENTS)

Main provisions (1 to 6):

1. For certain hazardous chemical agents, i.e. which may have harmful effects on human health, the European Commission sets binding occupational exposure limit values and binding biological limit values which must be transposed into the regulations of Member States.
2. Employers must list the chemical agents used within the workplace and must assess the risks related to their use. When several hazardous chemical agents are present simultaneously, the risk should be assessed on the basis of the risk presented by all the chemical agents in combination.
3. Based on the risk assessment, the employer must take preventive measures, in particular to reduce the number of workers exposed, reduce the duration of exposure, reduce the quantity of chemical agents present at the workplace, optimise arrangements for the safe handling and storage of these chemical agents, substitute hazardous chemical agents with less hazardous chemical agents, take collective protection measures and provide suitable personal protective equipment. Where a chemical agent with an effectively established occupational exposure limit value is used and the risk assessment shows that this value has been exceeded, these preventive measures should be reinforced.
4. Specific measures should be taken to deal with accidents and/or incidents.
5. The employer must ensure that the information obtained from the risk assessment is available to workers exposed to hazardous chemical agents. Workers should also have access to all relevant information on the chemical agent, in particular the information presented on the safety data sheet produced by the supplier. The employer must also provide exposed workers with appropriate training.
6. According to the results of the risk assessment and whenever a chemical agent for which a biological limit value has been established is used, the exposed worker must undergo specific medical surveillance.

Workplace incidents/accidents relating to the use of chemical agents generally have severe health consequences. In this field, always after applying general prevention principles, hazardous products should wherever possible be substituted by less hazardous ones. Information and training remain efficient methods of preventing incidents/accidents in this field. In this field, the above-mentioned Danish organisation Seahealth submitted several best practices.

BEST PRACTICES 5.1

CHEMICAL AGENTS WHITELIST - DATABASE - SUBSTITUTION

Seahealth offers Danish shipowners the possibility of entering the chemicals they use on board their vessels into a database. Each company can thus draw up its own whitelist by following the procedure laid out on the Seahealth website and presented in the box below. <http://www.seahealth.dk/en/page/white-list>

“Drawing up a whitelist

It's a lot of work to make a whitelist, but when it is done there is only a minor maintenance work. However, we recommend that you remember to continuously follow up on the ships that have purchased new chemicals by creating guidelines for the ships' registration to only one person responsible for the task in the company.

If you start over with creating a white list it can be done as follows :

- › Register all the products aboard by going through all the compartments and cabinets containing chemicals.
- › Clean up and dispose the products that are no longer in use.
- › Consider if the product is necessary or if the use can be limited? It might not be required for all the purposes it is used for at present.
- › Is the product one of those you do not want aboard and should it therefore be replaced with something less dangerous?
- › Which is the least dangerous of all the products used for the same purpose?
- › Can you find a less dangerous product that could be used instead?
- › Which hazardous products cannot immediately be replaced by less dangerous ones? Could they be replaced in the long run?

The list of products that remain after the recovery and selected as the least dangerous ones, is sent to the company, so they can gather all the information from all their ships to the company's white list. The list of all products registered on board the program Health and Safety at Sea can be exported from the program and sent as an excel-file to the company.”

This database today comprises 4500 products and is shared by 18 Danish shipowners.

In addition, Seahealth is working on the “Subsport” platform <http://www.subsport.eu> which aims to substitute hazardous chemicals with less harmful substances. Several products have already been substituted and are on offer to shipowners.



BEST PRACTICE 5.2**MANDATORY TRAINING ON THE USE OF CHEMICALS ON BOARD VESSELS**

The Danish maritime authorities provided information on the mandatory training requirement for crew members through a training film on the use of chemicals on board ships. All crew members exposed to chemicals as part of their on-board work must watch this film, under the authority of the captain.

The film shows how Workplace Instructions on the use of chemicals on board should be used and how the proper use of PPE can help reduce injuries.

The film consists of four sections – a general section for all crew members, and three chapters relating to accommodation, the engine room and the deck – so that workers can watch the chapter relevant to them.

This training film was produced by Seahealth and is available for sale on their website. A presentation of this film is available at:

<http://www.seahealth.dk/en/page/new-instructional-material-about-handling-chemicals>

3.3.6 DIRECTIVE 2003/10/EC ON THE MINIMUM HEALTH AND SAFETY REQUIREMENTS REGARDING THE EXPOSURE OF WORKERS TO THE RISKS ARISING FROM PHYSICAL AGENTS (NOISE)

Main provisions (1 to 3):

1. This directive establishes 3 exposure limit values based on two parameters:

- › The level of exposure to noise: LEX, 8h, expressed in dB(A)
- › This value is the daily noise exposure level, i.e. the "daily dose" of noise received for an eight-hour working day.
- › The peak sound pressure: Lp,C,peak, expressed in dB(C)
- › This is the maximum value of instantaneous noise pressure.

The three exposure limits are as follows:

- › Lower exposure action values:
 - › LEX, 8h= 80 dB(A) and Lp,C,peak=135 dB(C)
- › Upper exposure action values:
 - › LEX, 8h= 85 dB(A) and Lp,C,peak =137 dB(C)
- › Exposure limit values: LEX, 8h= 87 dB(A) and Lp,C,peak =140 dB(C)

2. The employer must assess the noise levels to which workers are exposed, with reference to the above-mentioned parameters. This assessment should, if necessary, include the measurement of noise levels. Where such measurements are carried out, they should comply with the provisions of the international standard ISO 1999 :1990.

To determine the level of exposure in relation to the exposure action values, the effect of the attenuation provided by individual hearing protection equipment is not taken into account.

To determine the level of exposure in relation to the exposure limit values, the effect of the attenuation provided by individual hearing protection equipment is taken into account.

3. Prevention measures resulting from the assessment

Whatever the level of noise	<ul style="list-style-type: none"> » Risk assessment » Noise eliminated or reduced to a minimum » Consultation and participation of workers in relation to the risk assessment, actions aimed at eliminating or reducing risks, the choice of individual hearing protection equipment
Above the lower exposure action limit	<ul style="list-style-type: none"> » Provision of individual hearing protectors » Information and training of workers in relation to risks, PPE, etc. » Increased health surveillance offered
Above the upper exposure action limit	<ul style="list-style-type: none"> » Implementation of a noise reduction action plan » Marking of workplaces with appropriate signs and restricted access » Use of individual hearing protectors » Increased health surveillance carried out
Above the exposure limit value	<ul style="list-style-type: none"> » Must not be exceeded - immediate noise exposure reduction measures implemented

Noise is a risk factor for occupational safety and health in several respects:

1. Excessive noise can cause irreversible damage to workers' hearing.
2. An excessively noisy working environment is a risk for the safety of operations as it prevents seafarers from communicating effectively.
3. Noise is a stress factor, inducing fatigue and increasing the risk of workplace accidents.

In its preamble, the directive mentions IMO Resolution A 468(12) " Code on noise levels onboard ships".

This IMO resolution establishes noise exposure limit values and requires noise measurements to be carried out on board vessels.

The aim here is not to compare the two texts but rather to draw attention to an additional contribution made by the IMO Resolution which is not covered by the directive. Given that seafarers live at their workplace, the IMO resolution introduces the notion of a limit exposure value for a 24-hour period: $L_{ex,24 h} = 80 \text{ dB(A)}$. This is the daily noise exposure level on board.

Although the directive refers to "the extension of exposure to noise beyond normal working hours under the employer's responsibility" which should be considered as part of the risk assessment, no 24-hour limit is established.

Thus, the introduction of this limit $L_{ex,24 h} = 80 \text{ dB(A)}$ in national regulations is a good practice going beyond the provisions of the directive.

BEST PRACTICE 6.1**INTRODUCING THE EXPOSURE LIMIT VALUE $L_{EX,24H} = 80 \text{ dB(A)}$ IN NATIONAL REGULATIONS OR GUIDES APPLICABLE TO WORK ON BOARD VESSELS**

The box below contains an extract of the [Working environment manual - Seafarers - March 2016 edition \(Prevent - Sweden\)](#)

Limit

- › Daily noise exposure level for 8 hours, taking into consideration hearing protection used 85 dB(A)
- › Daily noise exposure level for 24 hours, taking into consideration hearing protection used 80 dB(A)
- › Maximum sound level (with the exception of impulse sound). 115 dB(A)
- › Maximum impulse peak level. 135 dB(C)
- › The limits are diffuse and there is no guarantee that hearing damage will not arise from exposure to lower sound levels.
- › Seafaring personnel spending time at a work place or other place where equivalent noise levels (a type of average value) exceed 75 dB(A) over a 24-hour period must be informed of the risks of high sound levels and given ear defenders by their employer. If equivalent noise levels exceed 80 dB(A) over a 24-hour period, ear defenders must be used.

3.3.7 DIRECTIVE 2002/44/EC ON THE MINIMUM HEALTH AND SAFETY REQUIREMENTS REGARDING THE EXPOSURE OF WORKERS TO THE RISKS ARISING FROM PHYSICAL AGENTS (MECHANICAL VIBRATION)

Main provisions (1 to 5):

1. This directive identifies two types of mechanical vibrations to which workers may be exposed during their work:

- › "hand-arm vibration", which entails risks to the health and safety of workers, in particular vascular, bone or joint, neurological or muscular disorders.
- › "whole-body vibration", which entails risks to the health and safety of workers, in particular lower-back morbidity and trauma of the spine.

2. For each type of vibration, the directive establishes exposure limit values, which are presented in the table below:

	Hand-arm vibration	Whole-body vibration
Daily exposure action value standardised to an eight-hour reference period	2.5 m/s²	0.5 m/s²
Daily exposure value standardised to an eight-hour reference period	5 m/s²	1.15 m/s²

3. The employer shall assess and, if necessary, measure the levels of mechanical vibration to which workers are exposed. In the case of maritime shipping, Member States may consider only vibrations of a frequency exceeding 1 Hz.

The risk assessment should take into account any indirect effects on worker safety resulting from interactions between mechanical vibration and the workplace or other work equipment.

4. If the assessment shows that the exposure action values are exceeded, the employer shall implement measures based on the general principles of prevention laid out in the Framework Directive. Appropriate health surveillance should also be carried out with regard to the above-mentioned risks.

In all cases, the employer must provide exposed workers with adequate information and training on the prevention measures taken, why and how to detect and report signs of injury and on safe working practices to minimise exposure to mechanical vibration.

5. The exposure limit values must not be exceeded; if this were to occur, effective reduction measures should immediately be taken. Member States may however grant derogations for exposure to whole-body vibration on board vessels.

BEST PRACTICE 7.1

PROVISION OF A HAND-ARM VIBRATION EXPOSURE CALCULATOR

The link below provides access to an Excel spreadsheet which can be used to easily calculate the level of exposure to hand-arm vibrations when using manually operated tools. This calculator offers a simple and practical way of ensuring that the exposure limits laid out in the directive are not exceeded and of organising work processes to ensure they will not be exceeded.

<http://www.seahealth.dk/en/page/vibrations#1>

3.3.8 DIRECTIVE 92/29/EEC ON THE MINIMUM SAFETY AND HEALTH REQUIREMENTS FOR IMPROVED MEDICAL TREATMENT ON BOARD VESSELS (MEDICAL TREATMENT ON BOARD)

Main provisions

1. This directive requires all vessels, according to their size, the nature of the voyage and the number of workers on board:

- › to carry medical supplies (medicines and medical equipment), the details of which will depend on the area of operation:
 - Category A: Sea-going vessels, with no limitation on length of trips.
 - Category B: Sea-going vessels making trips of less than 150 nautical miles from the nearest port with adequate medical equipment.
 - Category C: Harbour vessels, boats and craft staying very close to shore or with no cabin accommodation
 - NB: inland navigation vessels, warships, pleasure boats used for non-commercial purposes and tugs operating in harbour areas are excluded from these requirements.
- › All vessels of more than 500 gross registered tonnes, with a crew of 15 or more workers and engaged on a voyage of more than three days, must have a sick-bay.
- › All vessels with a crew of 100 or more workers and engaged on an international voyage of more than three days, must have a doctor responsible for the medical care of the workers on board.

The directive also requires the relevant antidotes to be carried on board vessels carrying dangerous substances.

The directive specifies that the employer is responsible for providing medical supplies, while the management of the

medical supplies is placed under the responsibility of the captain of the vessel.

2. The directive specifies that workers in charge of medical care on board must have received special training. In this respect, the IMO International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW Convention), in Chapter VI, Regulation VI/4, specifies and considerably supplements the provisions of this directive.

3. The directive also states that each Member State should set up one or more centre(s) to provide medical advice by radio. The doctors providing their services for such radio consultation centres must have been trained in the special conditions prevailing on board ship.



BEST PRACTICE 8.1

OPTIMISATION OF THE STORAGE AND MANAGEMENT OF MEDICAL SUPPLIES ON CATEGORY "B" VESSELS - "DOTA B" CONCEPT

On the initiative of its medical advisor and with the help of a pharmacist, the French Maritime Prevention Institute has established a system to assist in the on-board storage and management of category B medical supplies as provided for in French regulations. This concept, dubbed "DOTA B", is to be found, in French, at the following address:

http://www.institutmaritimede prevention.fr/2014/02/dota-b-simplifier-et-optimiser-la-consultation-medicale-maritime/#4_LE_CONCEPT_DOTA-B

This system comprises a physical storage system for medicines and medical equipment (with appropriate containers) and a computerised inventory management system. It has several advantages:

- › Improves the management of medical supplies, expiry dates and quantities. This ensures that the correct medicines are on board and are fit for consumption.
- › Reduces the cost of managing these medical supplies.
- › Improves communication between the person in charge of medical care on board and the medical radio consultation centre which is able to obtain information on the physical organisation of the storage of medicines and medical equipment on board. This may be crucial in an emergency.

4. Recommendations and conclusion

4.1 General “best practice” recommendations

4.1.A A EUROPEAN GUIDE ON OCCUPATIONAL RISK PREVENTION ON BOARD SHIPS

The survey conducted among ECSA and ETF members showed that certain countries have an occupational risk prevention guide specifically developed for the shipping industry and work on board vessels.

The four documents received (although others may exist within the European Union) are all different and complementary. None covers all European directives applicable to the shipping industry in terms of health and safety at work.

It would doubtlessly be useful to have a pan-European document based on the directives outlined in the second part of this report and divided into two parts:

- › A “company” part, for managers and those in charge of health and safety at work. For each issue addressed, it should include:
 - References to the applicable texts (national, European and IMO and ILO texts).
 - A methodology or guide on the implementation of the main measures within the context of work on board ship.
 - A training programme where relevant.

- › An “on board” part, for captains, safety officers and all seafarers. For each issue addressed, it should include:
 - A recap of the obligations of all individuals in terms of health and safety at work.
 - Practical and educational sheets.
 - Training materials where relevant.

Such a document could be developed by one of the organisations referred to below.

4.1.B A EUROPEAN PLATFORM OF ORGANISATIONS DEVOTED TO OCCUPATIONAL RISK PREVENTION ON BOARD SHIP

The survey conducted among ECSA and ETF members also showed that in certain Member States there are organisations in charge of promoting health and safety at work in the shipping industry. These organisations design and provide tools suited to shipping in the field of health and safety at work. They support companies in the implementation of their health and safety policies.

The role of these organisations is particularly important in that they aim to support small companies without sufficient or adequately qualified personnel on land to treat these issues seriously.

It would no doubt be useful to bring together the existing structures within a European exchange platform, enabling them to share their know-how and experience to support all European shipping companies.

4.2 Specific “best practice” recommendations

Specific best practices can be divided into three categories:

1. LEGAL OR REGULATORY PROVISIONS INTRODUCED IN CERTAIN MEMBER STATES WHICH GO BEYOND THE PROVISIONS OF THE EUROPEAN DIRECTIVES.

This is the case with the representation and participation of workers in a company’s OSH policy (France), the use of protective equipment against the risk of drowning (France), mandatory training on the risks related to the use of chemicals on board all ships (Denmark), provisions intended to protect pregnant workers and workers who have recently given birth or are breastfeeding and the establishment of a noise exposure limit for a 24-hour period (Estonia, Italy).

In these fields, the provision of information on the benefits of these provisions in relation to workers’ health and safety constitutes the only way to encourage companies to voluntarily adopt these practices.

2. METHODOLOGICAL ADVICE FOR OPERATORS TO SUPPORT THE IMPLEMENTATION OF THE PROVISIONS OF THE EUROPEAN DIRECTIVES.

Several good practices identified in the questionnaire responses belong to this category.

The methodology put forward by the [Code of Safe Working Practices for Merchant Seafarers \(UK\)](#) for efficiently conducting a risk assessment through a proactive initiative, to promote a strong safety culture, as well as the guidance proposed in this document to correctly assess risks related to the manual handling of loads, could feature in the above-mentioned European guide.

The report entitled “Ex-post evaluation of the European Union occupational safety and health Directives” reminds us that “Both national stakeholders and EU stakeholders tend to attach relatively higher importance to risk assessment as it is seen as a foundation for developing a risk prevention culture rather than taking a more reactive approach to safety and health.” It nevertheless warns us that “risk assessments in SMEs are often of insufficient quality to ensure adequate risk management as they sometimes lack the resources (human and financial) to identify and manage hazards adequately”.

The concept of a guide for the procurement, use and maintenance of personal protective equipment (PPE) as proposed by the [BG Verkehr “Handbook of Safe Working Practices - Occupational](#)

[Health and Safety for Merchant Shipping and Fishing Vessels” \(Germany\)](#) could also be a useful addition to a European guide.

Referring again to the “Ex-post evaluation of the European Union occupational safety and health Directives”, this report states in its conclusions that “The external evaluation study suggested that consideration be given to the preparation of freely available EU-level guidance on the selection and use of PPE, possibly targeted at SMEs.”

Finally, operators within the EU could be made aware of existing training programmes.

This relates both to general OSH training (Maritime Prevention Institute - France) and to specific training, for instance on chemical risks (Seahealth- Denmark) or risks pertaining to the manual handling of loads (BG Verkehr - Germany).

In terms of training on the manual handling of loads, the “Ex-post evaluation of the European Union occupational safety and health Directives” states that:

“Given the evidence from the scientific literature for the ineffectiveness of manual handling training, supported by the views from NIRs and stakeholders, the study recommended that Article 6(2) should be revised. Whilst education to raise awareness of the risks arising from handling activities remains of value, the text should be amended to diminish the perceived requirement for training in manual handling techniques.

To accompany this ‘downgrading’ of the ‘requirement’ for training in manual handling techniques it would seem advisable to clarify the risk-based approach embodied in Article 3 to emphasise the hierarchy of:

- › Risk prevention;
- › Risk reduction;
- › Risk (personal) protection.

In this hierarchy, manual handling training could correctly be seen as a potential adjunct to workplace design improvements (prevention & reduction of risks) and as a personal protection approach.”

Regarding manual handling, risk prevention and reduction must remain the main priorities. However in the specific case of work on board ships, this often remains a challenge as the tasks are rarely standardised. A training programme on this theme should therefore be developed along the lines presented above.

3. PRACTICAL TOOLS FOR OPERATORS TO SUPPORT THE IMPLEMENTATION OF THE PROVISIONS OF THE EUROPEAN DIRECTIVES.

Most of the tools revealed through the questionnaire responses are available online and have been developed by the occupational risk prevention organisations for the shipping industry.

They could be made more widely available via the platform referred to in Chapter 4-2-b.

This platform could also offer an IT tool providing shipping-related risk assessments such as the Online Interactive Risk Assessment web application (OIRA) offered by the European Agency for Safety and Health at Work. The link is displayed below:

<https://oiraproject.eu/en/oira-tools?q=oira-tools&page=7>

4.3 Conclusion

The questionnaire responses provided by ECSA and ETF members as part of this study do not point to any issues relating to the transposition of European directives into national law (in the Member States of the organisations who responded to the questionnaire). The only problems highlighted here and there concern the proper application of the legislation in small and medium-sized enterprises. Several responses underline the possible deficiencies in terms of the quality and adequacy of personal protective equipment. By providing small and medium-sized enterprises with a guide as described in Chapter 4-1-a, this risk could be mitigated.

However, the questionnaire responses also highlighted several relevant initiatives which would be worth sharing within the industry across the EU. The distribution of this report could contribute to this effort.

Nevertheless, the findings obtained through the questionnaire, which was restricted to ECSA and ETF members, suggest that there may be many other relevant OSH initiatives and good practices implemented at company level which have been overlooked in this study. This report could encourage companies which have implemented such initiatives to share their good practices. If considered appropriate, responsibility for defining how these company-specific good practices should be collected and compiled lies with the ECSA and ETF.



	89/391/EEC	89/656/EEC	90/269/EEC	92/85/EEC	98/24/EC
Country	Framework	PPE	Manual Handling	Pregnant Workers	Chemical
Austria	Austrian Act on Occupational Safety and Health (ArbeitnehmerInnen-schutzgesetz-(ASchG) 17/06/1994)	Multiple	Multiple	Law for maternity protection,BGBI.Nr. 221/1979	Multiple
Belgium	Law of 4 august 1996 " Well being of workers in the performance of their work" and implementing Royal Decree of 9/14/1992 forms "Code on Well-being at Work"	Royal Decree of 13 june 2005	Royal Decree of 12 august 1993	Royal Decree of 2 may 1995	Royal Decree of 11 march 2002
Bulgaria	"Safety and Health at Work Act" December 1997 - amended in 2007 and 2010	Ordinance n3 of 19/4/2001 modified by Ordinance of 18 april 2008	Ordinance n16 of 31 may 1999	Multiple	Ordinance n13 of 30 december 2003
Cyprus	Regulations on the Management of Occupational Health and Safety Issues (2002) and a cluster of laws brought together under the Health and Safety at Work Laws of 1996 to 2011	Regulation 470/2001	Regulation 267/2001	Regulation 255/2002	Regulation 268/2001 amended by 55/2004
Czech Republic	Labour Code (Act N° 262/2006) and OSH Act (Act N° 309/2006)				
Croatia	Safety and Health at Work Act of 19 june 2013	Rules of 2 december 2012	Rules of 21 december 2012	Multiple	Ordinance of 21 june 2013 Rule of 11 april 2013
Denmark	Consolidated Act on "Safety at sea" N°72 of 17 January 2014	Danish Maritime Authority - "Technical regulation on occupational health in ships"(12/15/2009)	Danish Maritime Authority - "Technical regulation on occupational health in ships"(12/15/2009)	Consolidated Act on "Safety at sea" N°72 of 17 January 2014	Danish Maritime Authority - "Technical regulation on occupational health in ships"(12/15/2009)
Spain	Law 31/1995 of 8 November 1995 - Prevention of Occupational Risks	Royal Decree 773/1997 of 30 May 1997	Royal Decree 487/1997 of 14 April 1997	Law 34/1995 of 8 November 1995	Royal Decree 374/2001 of 6 April 2001
Estonia	Occupational Health and Safety Act - 7/26/1999	Legal Act n°12 - 01/11/2000	Legal Act n°26 - 2/27/2001	Multiple	Legal Act n°105 - 3/20/2003
Finland	Occupational Safety and Health Act N° 738/2002 + Occupational Health Care Act N° 1383/2001)	Government decision N°1407/93 - 12/22/1993		Law on work contracts N° 55/2001 - 01/26/2001	Government decree N°715/2001 - 8/9/2001
France	Law N°91/1414 - 12/31/1991 - Modifying Labour Code	Multiple	Decree N° 92-958 - 9/3/1992	Decree N° 96-364 - 4/30/1996 and Ordinance N° 2001-173 - 2/22/2001	Decree 1254 - 12/23/2003
Germany	German Act on Occupational Safety and Health (Arbeitsschutzgesetz (ArbSchG))- 7 August 1996	Regulation 12/4/1996		Maternity protection Act 1/17/1997	Chemical Act - amended 5/14/1998
Greece	"Code of laws/statutes for the health and safety of workers" ratified through law 3850/2010 -			Presidential decrees 176/97 and 41/2003	
Hungary	Occupational Safety and Health Law ("OSH Law" -Act XCIII -11/3/1993)	Ministerial decree 65/1999 - 12/22/1999	Ministerial decree 25/1998 - 12/27/1998	Act CCXI through Labour Code and Ministerial decree 33/1998 -6/24/1998	Act XXV (chemical safety) and join decree 25/2000 - 9/30/2000
Ireland	Safety Health and Welfare at Work (SHWW) - 2005 and SHWW General Application Regulation - 2007 (amended 2010, 2012, 2016)	SHWW General Application Regulation - 2007 (amended 2010, 2012, 2016)	SHWW General Application Regulation - 2007 (amended 2010, 2012, 2016)	SHWW General Application Regulation - 2007 (amended 2010, 2012, 2016)	Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 S.I. n° 619 of 2001, 19/12/2001 + Code of Practice for the Chemical Agents Regulations 2016
Italy	Consolidated Occupational Health and Safety Legislation under Legislative decree 81/2008 - 4/9/2008	Consolidated Occupational Health and Safety Legislation under Legislative decree 81/2008 - 4/9/2008	Consolidated Occupational Health and Safety Legislation under Legislative decree 81/2008 - 4/9/2008	Legislative decree 151/2001 Consolidated Act of the provisions on maternity's and paternity's safeguard and support	Consolidated Occupational Health and Safety Legislation under Legislative decree 81/2008 - 4/9/2008
Latvia	Labour Protection Law -7/6/2001	Ministerial regulation N°372/2002 -8/20/2002		Labour Law - 7/6/2001	Ministerial regulation N°325/2002 -5/15/2007
Lithuania	Labour Code and Law on Safety and Health at Work	Order of Minister N° A1-331 - 11/26/2007		Resolution of the Government	
Luxembourg	Laws on the Safety and Health of the Workers at Work and on the Occupational Health service - 6/17/1994	Grand Ducal Regulation - 11/4/1994	Grand Ducal Regulation - 11/4/1994	Labour Code - 9/1/2006	Grand Ducal Regulation - 11/14/2016
Malta	OCCUPATIONAL HEALTH AND SAFETY AUTHORITY ACT ACT XXVII of 2000, as amended by Act XXXII of 2007; Legal Notice426 of 2007; and Act X of 2013.	LEGAL NOTICE 121 of 2003	LEGAL NOTICE 35 of 2003.	LEGAL NOTICE 92 of 2000, as amended by Legal Notice 436 of 2012 and LEGAL NOTICE 195 of 2015.	LEGAL NOTICE 227 of 2003, as amended by Legal Notices 353 of 2007 and 53 of 2012 and LEGAL NOTICE 198 of 2015.
The Netherlands	Working Conditions Act of 18 March 1999 - Amended up to 03/25/2013	Working Conditions Decree of 15 January 1997 - Amended up to 1-09-2016	Working Conditions Decree of 15 January 1997 - Amended up to 1-09-2016	Working Conditions Act of 18 March 1999 - Amended up to 03/25/2013	Working Conditions Regulation -Text amended up to 1-9-2016
Poland	Act of 26 June 1974 – Labour Code (LC)	Art. 2376 § 1 of LC	Act of 26 June 1974 – Labour Code (LC) : SECTION 10: "Occupational safety and health"		Act of 26 June 1974 – Labour Code (LC) : SECTION 10: "Occupational safety and health"
Portugal	Law 102/2009 of 10 September 2009 Labour Code - Art.º 281º a 284º (Law 7/2009 of 12 february 2009)	Decree- Law 348/93 of 1 october 1993	Decree- Law 330/93 of 25 september 1993	Law 7/2009 of 12 february 2009 and Law 102/2009 of 10 september 2009	Decree- Law 24/2012 of 6 february 2012
Romania	Law 319/2006 of 14 July 2006 on Safety and Health at Work	Government decision of 23 august 2006	Government decision of 21 august 2006	Governmental Ordinance 96/2003 of 27 october 2003	Government decision of 13 october 2006
United Kingdom	The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 - Statutory Instrument (SI) 1997/2962	SI 1999/2205 - Merchant Shipping Notice (MSN) 1731	SI 1998/2857	SI 1997/2962	SI 2010/330 - Maritime Guidance Notice (MGN) 409 & 454
Slovakia	Occupational Health an Safety Act 124/2006 and Public Health Act335/2007	Government regulation 395/2006	Government regulation 281/2006	Labour Code Act 311/2001 and Government regulation 272/2004	Government regulation 355/2006
Slovenia	Health and Safety at Work Act of 24 may 2011	Rule of 19 april 2005	Rule of 1 may 2005	Multiple	Rule of 1 december 2001 modified by Rule of 19 april 2005
Sweden	Swedish Statute-Book (SFS) 1977:1160 Work Environment Act Swedish Work Environment Authority Statute-Book (AFS) 2001:1 Systematic Work Environment Management	AFS 2001:3	AFS 2012:2	AFS 2007:5	AFS 2015:7 AFS 2014:43

Disclaimer

This matrix is the result of research conducted by the author, according to the information he was able to find. Responsibility for the information included in this list lies entirely with the author. ECSA, ETF and

2002/44/EC	2003/10/EC	92/29/EEC	91/383/EEC	94/33/EC	2009/13/EC
Vibrations	Noise	Medical treatment	Fixed duration contract	Young workers	MLC 2006
Multiple	Multiple	Not transposed given to the territorial situation of Austria	Multiple	Multiple	Not transposed given to the territorial situation of Austria
Royal Decree of 7 July 2005	Royal Decree of 16 January 2006	Royal Decree of 7 January 1998 modified by Royal Decree of 9 December 2014	Royal Decree of 15 December 2010	Royal Decree of 3 May 1999	Multiple
Ordinance n3 of 5 May 2005	Ordinance n6 of 15 August 2005	Ordinance n9 of 29 March 2006	Ordinance n5 of 20 April 2006 modified by Ordinance of 26 February 2013	Ordinance n6 of 24 July 2006 Ordinance of 10 April 2001	Decree n7 of 28 March 2014
Regulation 332/2005	Regulation 230/2002	The Merchant Shipping (Minimum Requirements of Medical Treatment on Board Ships) Law of 2002 (Law 175(I)/2002)	Regulation 184/2002	Law on the Protection of Young Persons at Work 48(I)/2001	
Rules of 11 April 2013	Rules of 11 April 2013	Not transposed given to the territorial situation of the Czech Republic	Multiple	Multiple	Multiple
Danish Maritime Authority - "Technical regulation on occupational health in ships" (12/15/2009)	Order no. 1283 of 11 November 2013 amending the order on Notice A from the Danish Maritime Authority, "Technical regulation on occupational health in ships".	Danish Maritime Authority - "Technical regulation on occupational health in ships" (12/15/2009)	Consolidated Act on "Safety at sea" N°72 of 17 January 2014	Danish Maritime Authority - "Technical regulation on occupational health in ships" (12/15/2009)	Consolidated Act on "Safety at sea" N°72 of 17 January 2014
Royal Decree 1311/2005 of 4 November 2005	Royal Decree 286/2006 of 10 March 2006	Royal Decree 258/1999 of 12 February 1999	Law 31/1995 of 8 November 1995 - Royal Decree 216/1999 of 5 February 1999 - Law 14/1994 of 1 June 1994	Law 31/1995 of 8 November 1995	Council of State Ruling n° 325/2015 (Employment and social security)
Legal Act n°109 - 4/12/2007	Legal Act n°108 - 4/12/2007			Multiple	
Government decree N°48/2005 - 2/2/2005	Government decree N°85/2006 - 2/2/2006	Government decree N°509/93 - 12/30/94		Young worker Ordinance 189/2012	Act N°756/2011 - 6/17/2011
Decree 2005-748 - 7/4/2005 (specific to shipping)	Decree 2006-1044 - 8/23/2006			Ordinance N° 2001-174 - 2/22/2001	Law 2013-619 (Art 22 to 33) - Modifying Transport Code
		MariMed Regulation 8/14/2014			
CELEX number: 72002L0044GRC_124539 - 9/14/2005	CELEX number: 72003L0010GRC_134994 - 7/28/2006		"Code of laws/statutes for the health and safety of workers" ratified through law 3850/2010 and law 4052/2012 Art 125		CELEX number: 72009L0013GRC_222296 -12/24/2014
Ministerial decree - 22/2005 - 6/24/2005	Ministerial decree 66/2005 - 12/22/2005	Ministerial decree 6/2000 - (3/17/2000)	Labour Code and "OSH Law"	Labour Code and "OSH Law"	
SHWW General Application Regulation - 2007 (amended 2010, 2012, 2016)	SHWW General Application Regulation - 2007 (amended 2010, 2012, 2016)	Statutory instrument N°506/1997		SHWW General Application Regulation - 2007 (amended 2010, 2012, 2016)	CELEX number: 72009L0013IRL_217555 - 7/4/2014
Consolidated Occupational Health and Safety Legislation under Legislative decree 81/2008 - 4/9/2008	Consolidated Occupational Health and Safety Legislation under Legislative decree 81/2008 - 4/9/2008	Inter-ministerial decrees 279/88 - 5/25/1988 and 708/96 - 12/20/1996	Consolidated Occupational Health and Safety Legislation under Legislative decree 81/2008 - 4/9/2008	Legislative decree 345/1999	Law 113/2013
	Ministerial regulation N°249/2008 -4/8/2008	Multiple	Labour Law - 7/6/2001	Labour Law - 7/6/2001	Ministerial regulations N° 18/2014 - 1/14/2014 and 278/2014 - 6/3/2014
Order of Minister N° A1-55/V91 - 3/2/2004	Order of Minister N° A1-103/V-265 - 4/15/2005			Resolutions of the government N° 138 and 139 - 1/29/2003	
Grand Ducal Regulation - 2/6/2007	Grand Ducal Regulation - 2/6/2007	Grand Ducal Regulation - 6/22/2000	Labour Code - 9/1/2006	Labour Code - 9/1/2006	Grand Ducal Regulation - 11/21/2014
LEGAL NOTICE 371 of 2005.	LEGAL NOTICE 158 of 2006.	MERCHANT SHIPPING ACT (CAP. 234) Merchant Shipping (Maritime Labour Convention) Rules, 2013		LEGAL NOTICE 91 of 2000, as amended by Legal Notice 283 of 2004 and LEGAL NOTICE 196 of 2015 + MERCHANT SHIPPING ACT (CAP. 234) Merchant Shipping (Maritime Labour Convention) Rules, 2013.	MERCHANT SHIPPING ACT (CAP. 234) Merchant Shipping (Maritime Labour Convention) Rules, 2013
Working Conditions Decree of 15 January 1997 - Amended up to 1-09-2016	Working Conditions Decree of 15 January 1997 - Amended up to 1-09-2016	Environment and infrastructure ministry Rule 12/12/2011	Working Conditions Act of 18 March 1999 - Amended up to 03/25/2013	Working Conditions Act of 18 March 1999 - Amended up to 03/25/2013	Environment and infrastructure ministry Rule of 12 October 2012
Act of 26 June 1974 – Labour Code (LC) : SECTION 10: "Occupational safety and health"	Act of 26 June 1974 – Labour Code (LC) : SECTION 10: "Occupational safety and health"	Multiple		Art. 204 § 1 of LC	Multiple
Decree- Law 46/2006 of 24 February 2006	Decree- Law 182/2006 of 6 September 2006	Decree- Law 274/95 of 23 October 1995	Decree-Law 441/91 of 14 November 1991	Law 7/2009 of 12 February 2009 and Law 102/2009 of 10 September 2009	Law 146/2015
Government decision of 30 January 2006	Government decision of 3 May 2005	Government decision of 15 August 2006	Government decision of 18 June 2007	Minister Order of 15 November 2006	Multiple
SI 2007/3077 - MGN 353	SI 2007/3075 - MGN 352	Multiple	SI 1997/2962	SI 1998/2411 - MSN 1838	SI 2014/1616
Government regulation 416/2005	Government regulation 115/2006	Government regulation 488/2004	Labour Code Act 311/2001	Labour Code Act 311/2001 and Government regulation 286/2004	
Rule of 25 October 2005	Rule of 17 February 2006 + Practical guidelines	Rule of 9 March 2006	Multiple	Multiple	Multiple
AFS 2005:15 Swedish Transport Statute-Book (TSFS) 2009:119 Working Environments on Board Ships, Vibrations 63–65 §§	AFS 2005:16 TSFS 2009:119 Working Environments on Board Ships, Ch. 4 Noise and appendix 2 Highest noise levels on board ships			TSFS 2009:119 Working Environments on Board Ships, Ch. 6 Minors	

EU Occupational Health & Safety Legislation and the Shipping Sector

Analysis of EU Legislation and compilation of best practices in its implementation

