MLN 4.3(D)

Revision No 0

DEPARTMENT OF ECONOMIC DEVELOPMENT

MLC Title 4.3(D) Health and Safety (Hazardous Chemical Agents)

This MLN provides guidance on compliance with Isle of Man (IOM) regulations which give effect to MLC 2006 Title 4.3. Implementation of these guidelines will be taken as evidence of compliance with the Isle of Man regulations.

The guidelines do not preclude the shipowner from demonstrating an equivalent or higher standard as an "alternative method" of evidence of compliance.

Documents referred to in this notice:

European Council Directives 67/548/EEC, 88/379/EEC, 91/322/EEC, 80/1107/EEC, 2000/39/EC, 98/24/EC, 2006/15/EC, 2009/161/EU;

European Regulation (EC) No 1272/2008 classification of labelling and packaging of substances and mixtures (CLP Regulations);

Health and Safety Executive publication EH40/2005 Workplace exposure limits;

Maritime Labour Convention 2006.

Most regulations and notices are available on the Isle of Man Government website: www.iomshipregistry.com or by contacting marine.survey@gov.im

Hazardous Chemical Agents

This Maritime Labour Notice forms part of a series of MLNs for MLC Regulation 4.3 health and safety protection and accident prevention.

MLC regulation 4.3 requires that reasonable precautions are taken to reduce and prevent the risk of exposure to harmful levels of ambient factors and chemicals on board the vessel. This MLN explains the Ship Registry regulations and where necessary gives guidance on how the regulations can be met.

During MLC inspections the surveyor will check to ensure that a hazardous chemical agent risk assessment has been carried out and if hazardous chemical agents are present on the vessel the surveyor will look for evidence that the appropriate action has been taken as described in this MLN.

SECTION 1

Introduction

1.1 Protecting seafarers from hazardous chemical agents

A hazardous chemical agent is a chemical element or compound with the potential to cause harm if inhaled, ingested or by coming into contact with or absorbed through the skin and could potentially include chemical substances such as paints, cleaning materials, fumigants and pesticides. Some illnesses caused by exposure to hazardous chemical agents may not appear until a long time after the first exposure, therefore it is important to know how to protect the health of people working with the chemical agents and also of other people who may be affected by the work being carried out.

It is the shipowner's responsibility to reduce and prevent the risk of exposure to hazardous chemicals agents used at work on board the ship. However where there are more stringent or specific provisions relating to the transport of hazardous chemical agents the more stringent requirements shall be applied, for example the IMDG Code, the IBC Code, or the IGC Code.

1.2 Definition of hazardous chemical agents

The simplest method of ascertaining whether or not a substance is classed as a hazardous chemical agent is to check with the supplier of the chemicals for any hazardous properties the chemical may have, and inspect the chemical data sheets of any chemicals arriving on board.

In a legal context the definition of hazardous chemical agent is any dangerous substances and preparation according to the criteria in the following directives -

- Council Directive 67/548/EEC with respect to dangerous substances;
- Council Directive 88/379/EEC with respect to dangerous preparations.

However these directives will be revoked on 01/06/15 and will be replaced by –

- (EC) No 1272/2008 classification of labelling and packaging of substances and mixtures (CLP Regulations).

Alternatively a list of hazardous substances can be found in: Table 3.2, Part 3 of Annex VI to the CLP Regulations. This states the list of harmonised classification and labelling of hazardous substances, and is available on the UK's Health and Safety Executive website.

http://www.hse.gov.uk/ghs/eureg.htm *(Please note this is a very large document)*

This list does not include dangerous preparations or hazardous mixtures.

'*Hazardous chemical agents used at work'* means any work activity which may expose a seafarer to a hazardous chemical agent, including the –

a. production of chemicals;

b. handling of chemicals;

c. storage of chemicals;

d. transport of chemicals;

e. disposal and treatment of waste chemicals; or

f. release of chemicals resulting from work activities.

1.3 The European publications referred to in the definition of hazardous chemical agents are -

Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances;

Council Directive 88/379/EEC of 7 June 1988 on the approximation of the laws, regulations and administrative provisions of the member States relating to the classification, packaging and labelling of dangerous preparations; and

Regulation (EC) No 1272/2008 of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

SECTION 2

Risk Assessment

2.1 Risk assessment for hazardous chemical agents

It is the shipowner's responsibility to ensure that if hazardous chemical agents are present on board the ship a risk assessment is carried out to assess any risks to the health and safety of seafarers. The risk assessment shall be based on –

a. the hazardous properties of the chemical agents;

b. any information on health and safety provided by the supplier;

c. the level, type and duration of seafarers' exposure to the chemical agent;

d. the circumstances of work involving the chemical agents, including their amount;

e. the *occupational exposure limit values* and *binding biological limit values* relevant to those agents (refer to Section 6 and 7); and

f. where available any conclusions from any health surveillance already undertaken.

The risk assessment shall -

a. cover activities such as maintenance where there may potentially be significant exposure, or which may result in harmful effects to health and safety for other reasons;

b. in the case where a seafarer may be exposed to several hazardous chemical agents the assessment shall be based on the risks presented by all the chemical agents in combination;

c. record the significant findings, any measures the shipowner has taken or intends to take to eliminate or control the exposure to hazardous chemical agents and any information and training required to be given to seafarers;

d. (if appropriate) explain the reason the risk assessment concludes there is no risk to the health and safety of seafarers from hazardous chemical agents;

e. be reviewed at suitable intervals or if there are any significant changes in working conditions such as if a new hazardous chemical agent is being used on the vessel, or if the results of any health surveillance indicates a seafarer's health is being affected; and

f. be retained on the vessel for inspection purposes.

SECTION 3

General principles for prevention of risks

3.1 If the risk assessment concludes that there is a risk to the health and safety of seafarers from hazardous chemical agents the risks need to be eliminated, or where reasonably practicable reduced to a minimum by appropriate means, such as -

a. replacing hazardous chemicals with a less harmful alternative or by reducing the quantity of chemicals stored on the vessel;

b. using a safer form of the chemical, for example use a paste rather than a powder;

c. using different technology that eliminates or minimises the risk: for example putting an enclosure around a chemical work station and using local exhaust ventilation to extract the air to a safe place;

d. adapting working procedures that minimise the risk which includes arrangements for the safe handling, storage and transport on the ship of hazardous chemical agents and of waste containing such agents;

e. in the case when the above measures are not sufficient, provide personal protective equipment such as gloves, coveralls, goggles and respirators at no cost to the seafarer, and implementing measures to ensure their use;

f. reducing to a minimum the number of seafarers exposed or likely to be exposed;

g. reducing to a minimum the duration and intensity of exposure; and

h. conducting relevant safety drills.

3.2 First aid facilities appropriate to the hazardous chemical agents used at work on board the ship must be provided to protect the health of seafarers following an accident, incident or emergency related to the presence of hazardous chemical agents.

SECTION 4

Labelling, chemical safety data sheets, transferring and disposing of chemicals

4.1 Labelling and chemical safety data sheets

Hazardous chemical agents used at work may only be used if they have been labelled and the chemical safety data sheets have been provided by the supplier.

The container storing the hazardous chemical agent must be labelled in a way which is easily understandable in order to provide information regarding the chemical's identity and classification, the hazards they present and any safety precautions to be observed.

Chemical safety data sheets have to contain at least the following information –

- the identity of the chemical agent;
- the supplier (this is the company responsible for placing the substance on the market, whether it is the manufacturer, importer or distributer);
- the classification of the chemical agent;
- hazards identification;
- safety precautions;
- first aid measures;
- fire-fighting measures; and
- accidental release measures.

A central record of all the hazardous chemicals used on the vessel and their chemical safety data sheets shall be maintained on the vessel. This record shall be available to all seafarers in a language understood by the seafarers.

4.2 Transfer of chemicals

If hazardous chemical agents are transferred into other containers or equipment for storage the contents must be indicated on the container to provide information regarding their identity, classification, the hazards they present and any safety precautions to be observed.

4.3 Disposal of chemicals

Hazardous chemicals which are no longer required and containers which have been emptied but which may contain residues of hazardous chemicals shall be handled or disposed of in accordance with the manufacturer's instructions. This shall be in a manner which eliminates or minimises the risk to health and safety and to the environment.

SECTION 5

Information, training and health surveillance

Information and training

5.1 Information and training for seafarers shall involve -

a. informing of the hazards associated with exposure to chemicals used at work;

b. instruction on how to obtain and use the information provided on labels and chemical safety data sheets; and

c. training in the practices and procedures to be followed for safety in the use of chemicals at work.

Chemical safety data sheets and any information specific to the workplace must be used as the basis for the preparation of safety instructions and training for seafarers.

5.2 Health surveillance for exposure to chemicals

The risk assessment may require that seafarers are to be provided with health surveillance. Health surveillance in this context means the assessment of the seafarer to determine their state of health as related to exposure to chemical agents on the vessel.

Health surveillance may be required when seafarers are working with chemicals which have an exposure limit value or a biological limit value (refer to Sections 6 and 7) where these limits must not be exceeded.

Health surveillance when working with chemicals is dependent on the harmful effects of the particular chemical but could involve simple health checks such as regular visual examinations of the skin.

SECTION 6

Exposure limit values

6.1 If there are any hazardous chemical agents on the vessel with an occupational *exposure limit value* seafarers are not to be exposed to an extent which exceeds that limit.

The Health and Safety Executive (HSE) publication EH40/2005 contains the list of workplace exposure limits, however it is recommended that all the publications below are referred to in order to check if any hazardous chemical agents on the vessel have an exposure limit value.

EH40/2005 can be found on the following website -

http://www.hse.gov.uk/pubns/books/eh40.htm

All the exposure limit values can be found in the following publications -

a. any indicative occupational exposure limit value established for that agent in the Annex to Commission Directive 91/322/EEC on establishing indicative limit values by implementing Council Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work as amended from time to time;

b. any indicative occupational exposure limit value established for that agent in the Annex to Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended from time to time;

c. any indicative occupational exposure limit value established for that agent in Commission Directive 2006/15/EC establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC as amended from time to time;

d. any indicative occupational exposure limit value established for that agent in the Annex to Commission Directive 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC, as amended from time to time; or

e. where more stringent, any workplace exposure limit established for that agent in Table 1 of publication EH40/2005, list of approved workplace exposure limits (as consolidated with amendments December 2011) approved by the UK Health and Safety Commission.

6.2 European directives are available on the following website -

http://eur-lex.europa.eu/en/index.htm

SECTION 7

Binding biological limit values

7.1 It is not expected that this section is relevant to seafarers working on Isle of Man registered vessels. However there are specific requirements for health surveillance for persons working with lead as stated below.

7.2 '*Binding biological limit value'* in relation to a hazardous chemical agent means the binding biological limit value established for the agent under Annex II to Council Directive 98/24/EC*, which is -

Binding biological limit values and health surveillance measures

Lead and its ionic compounds

1. Biological monitoring must include measuring the blood-lead level (PbP) using absorption spectrometry or a method giving equivalent results. The binding biological limit value is -

   70µg Pb/100 ml blood

2. Medical surveillance shall be carried out if:

   - exposure to a concentration of lead in air is greater than 0,075 mg/m^3, calculated as a time-weighted average over 40 hours per week, or

   - a blood-lead level greater than 40 µg Pb/100 ml blood is measured in individual workers.

3. Practical guidelines for biological monitoring and medical surveillance must be developed in accordance with Article 12(2). These must include recommendations of biological indicators (e.g. ALAU, ZPP, ALAD) and biological monitoring strategies.

* Council 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 within the meaning of Article 16(1) of Directive 89/391/EEC).

Control of chemicals on Isle of Man registered Vessels