



BERMUDA

MERCHANT SHIPPING AND FISHING VESSELS (HEALTH AND SAFETY AT
WORK) (CARCINOGENS AND MUTAGENS) REGULATIONS 2019

BR 28 / 2019

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PRACTICAL RECOMMENDATIONS FOR THE HEALTH SURVEILLANCE OF WORKERS

The Minister responsible for Maritime Administration, after consulting the persons referred to in section 94(3) of the Merchant Shipping Act 2002, and in exercise of the powers conferred by sections 93 and 94 of the Merchant Shipping Act 2002, makes the following Regulations:

Citation

1 These Regulations may be cited as the Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Carcinogens and Mutagens) Regulations 2019.

Interpretation

2 (1) In these Regulations—

“Bermuda ship” means a ship which is—

- (a) a Bermuda ship within the meaning of section 16(3) of the Act;
- (b) a Government ship within the meaning of section 4(3) of the Act; or
- (c) a hovercraft;

“Bermuda waters” means the sea or other waters within the seaward limits of the territorial sea of Bermuda;

“carcinogen” means—

- (a) a substance, preparation or agent that induces unregulated growth processes in cells or tissues of persons; or
- (b) a substance or preparation—
 - (i) listed in Schedule 1; or
 - (ii) which arises from a process specified in Schedule 1 and is a substance hazardous to health;

“employer” means a person by whom a worker is employed on a ship under a contract of employment;

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“exposure” means exposure to carcinogens or mutagens or to both;

“General Duties Regulations” means the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 2004;

“health and safety” means the health and safety of persons boarding or leaving a ship or while on board a ship;

“mutagen” means a substance, preparation or agent that induces heritable changes in cells or organisms;

“preparation” means a mixture or solution of two or more substances;

“Regulation 4 assessment” has the meaning given by Regulation 4(2);

“representative” in relation to workers means any person lawfully elected, chosen or designated to represent the workers, in regard to issues about the safety and health protection of workers at work;

“substance” means any natural or artificial substance, whether in solid or in liquid form or in the form of gas or vapour and includes micro-organisms;

“trainees and apprentices” does not include persons who are training in a sail training vessel.

(2) In these Regulations, “worker” means a person employed under a contract of employment, whether express or implied, and if express whether oral or in writing, to work on activities to which these Regulations apply and includes a trainee or apprentice so employed, except a trainee to whom paragraph (3) applies.

(3) This paragraph applies to a trainee, training in a sailing vessel which is—

(a) being used either—

- (i) to provide instruction in the principles of responsibility, resourcefulness, loyalty and team endeavour and to advance education in the art of seamanship; or
- (ii) to provide instruction in navigation and seamanship for yachtsmen; and

(b) being operated under one of the following codes—

- (i) the Large Commercial Yacht Code as set out in a Merchant Shipping Notice issued by the Chief Marine Surveyor, or the equivalent UK Merchant Shipping Notice, as applicable;
- (ii) the Code of Practice for the Safety of Small Commercial Sailing Vessels;
- (iii) the Code of Practice for the Safety of Small Commercial Motor Vessels; or
- (iv) the Code of Practice for the Safety of Small Vessels in Commercial Use for Sport or Pleasure Operating from a Nominated Departure Point.

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(4) In paragraph (3), each reference to a Code includes a reference to any document containing an amendment or replacement of that Code which is considered by the Minister to be relevant, from time to time.

Application

3 (1) Without prejudice to Regulation 5 of the General Duties Regulations and subject to paragraphs (2) to (6), these Regulations apply to activities on Bermuda ships in which workers are or are likely to be exposed to carcinogens or mutagens as a result of their work.

(2) Where a ship is being used in the course of public service activities or activities for the purpose of civil protection services, and characteristics peculiar to those activities inevitably conflict with a provision of these Regulations, that provision does not apply in relation to that ship to the extent of that conflict.

(3) To the extent that a provision of these Regulations does not apply in relation to a ship because of paragraph (2), there is in relation to that ship a duty on the employer to ensure, so far as reasonably practicable, the health and safety of the workers engaged in that activity.

(4) The General Duties Regulations shall continue to apply to activities to which these Regulations apply; where these Regulations contain more stringent or more specific provisions, then these Regulations shall apply.

(5) This Regulation (other than paragraph (1)) and Regulations 21 and 23 apply in relation to ships, which are not Bermuda ships, when they are in Bermuda waters.

(6) In paragraph (2)—

“civil protection services” includes the fire and rescue and ambulance services and search and rescue services provided by any other person;

“public service activities” include the activities of the Bermuda Regiment, customs officers, immigration officers, police officers, prisons officers and the security and intelligence services.

Assessment of health risks

4 (1) In case of any activity likely to involve a risk of exposure, the employer shall—

(a) in carrying out the risk assessment required by Regulation 7 of the General Duties Regulations—

(i) determine the nature, degree and duration of workers’ exposure in order to make it possible to assess any risk to the workers’ health or safety and to lay down the measures to be taken;

(ii) in assessing the risk of such exposure, take account of all routes of exposure, such as absorption into or through the skin; and

(iii) give particular attention to any effects concerning the health and safety of workers at particular risk and take account of the desirability of not

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employing such workers in areas where they may come into contact with carcinogens or mutagens;

- (b) renew the assessment regularly and in any event, when any change occurs in the conditions which may affect workers' exposure; and
- (c) supply the Minister, if he so requests, with the information used for making the assessment.

(2) An assessment carried out in accordance with this Regulation, whether for the first time or by way of renewal, is in these Regulations called, a Regulation 4 assessment.

Reduction and replacement of carcinogens and mutagens

5 (1) The employer shall reduce the use of carcinogens and mutagens on Bermuda ships where workers are employed to work, in particular by replacing them, in so far as it is technically possible, by substances, preparations or processes which, under their conditions of use, are not dangerous or are less dangerous to workers' health or safety.

(2) The employer shall, upon request, submit the findings of his investigations, to the Minister.

Prevention and reduction of exposure

6 (1) Where the results of a Regulation 4 assessment reveal a risk to workers' health or safety from their exposure, the employer shall take the steps required by this Regulation to prevent that exposure.

(2) The employer shall replace the carcinogen or mutagen as mentioned in Regulation 5(1).

(3) Where that is not possible, the employer shall ensure that the carcinogen or mutagen is, so far as technically possible, manufactured or used in a closed system.

(4) Where a closed system is not technically possible, the employer shall ensure that the level of exposure of workers is reduced to as low a level as is technically possible.

(5) In no circumstances shall exposure exceed the limit values set out in the table in Schedule 2.

(6) Wherever a carcinogen or mutagen is used, the employer shall, in addition to the measures required by paragraphs 1 to 5, take all the measures prescribed in Schedule 3.

(7) In this Regulation and in Schedule 2, "limit value" means, unless otherwise specified, the limit of the time-weighted average of the concentration for a carcinogen or mutagen in the air within the breathing zone of a worker in relation to a specified reference period as set out in that Schedule.

Information for the Minister

7 Where a Regulation 4 assessment reveals a risk to workers' health or safety, the employer who carried out the assessment shall, if so requested by the Minister, make available to the Minister, appropriate information on—

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- (a) the activities or industrial processes assessed, including the reasons for using carcinogens or mutagens;
- (b) the quantities of substances or preparations manufactured or used, which contain carcinogens or mutagens;
- (c) the number of workers exposed;
- (d) the preventive measures taken;
- (e) the type of protective equipment used;
- (f) the nature and degree of exposure; and
- (g) the cases of replacement.

Unforeseen exposure

8 If an unforeseeable event or an accident likely to result in an abnormal exposure of workers occurs, the employer shall—

- (a) inform the workers, of the occurrence; and
- (b) until the situation has been restored to normal and the causes of the abnormal exposure eliminated, take the following precautions—
 - (i) only those workers essential to the carrying out of repairs and other necessary works are to be permitted to work in the affected area;
 - (ii) the workers concerned must be provided with, and required to wear, protective clothing and individual respiratory protection equipment;
 - (iii) the exposure must not be permanent and must be limited to the minimum time strictly necessary for each worker; and
 - (iv) unprotected workers must not be allowed to work in the affected area.

Foreseeable exposure

9 (1) This Regulation applies to activities (“relevant activities”), such as maintenance, in respect of which—

- (a) it is foreseeable that there is potential for a significant increase in the exposure of workers; and
- (b) all scope for further technical preventive measures for limiting exposure has been exhausted.

(2) The employer shall, subject to this Regulation, determine the measures necessary to reduce the workers’ exposure to the minimum possible and to ensure their protection, while they are engaged in relevant activities.

(3) Without prejudice to his responsibility, the employer shall consult the workers engaged in relevant activities in his undertaking or establishment, or both, before making a determination under paragraph (2).

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(4) The employer shall in particular—

- (a) ensure that the exposure of workers engaged in relevant activities, is not permanent and is kept to the strict minimum of time necessary for each worker;
- (b) provide workers engaged in relevant activities with protective clothing and individual respiratory equipment which they must be required to wear as long as the abnormal exposure persists; and
- (c) take appropriate measures to ensure that the areas in which relevant activities take place are clearly demarcated and indicated or that unauthorised persons are prevented by other means, from entering those areas.

(5) This Regulation is without prejudice to the Merchant Shipping and Fishing Vessels (Protective Clothing and Equipment) Regulations 1991.

Access to risk areas

10 (1) The employer shall take appropriate measures to ensure that risk areas are accessible only to workers who are required to enter them by reason of their work or duties.

(2) In paragraph (1), “risk areas” means the areas in which any activity takes place which has been shown by a Regulation 4 assessment, to involve a risk to workers’ health and safety.

Hygiene and individual protection

11 The employer shall take appropriate measures to ensure that, in any activity involving a risk of contamination by carcinogens or mutagens—

- (a) workers do not eat, drink or smoke in working areas where there is a risk of contamination by carcinogens or mutagens;
- (b) without prejudice to Regulation 9, workers are provided with appropriate special clothing;
- (c) separate storage places are provided for working or protective clothing and for other clothes;
- (d) workers are provided with appropriate and adequate washing and toilet facilities;
- (e) protective equipment is properly stored in a well-defined place and is checked and cleaned, if possible, before, and after each use; and
- (f) defective equipment is properly repaired or replaced before further use.

Information and training of workers

12 (1) The employer shall take appropriate measures to ensure that workers or their representatives, or both, receive sufficient and appropriate training, on the basis of all

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available information, in particular, in the form of information and instructions concerning—

- (a) potential risks to health, including the additional risks due to tobacco consumption;
 - (b) precautions to prevent exposure;
 - (c) the requirements of hygiene;
 - (d) the wearing and use of protective clothing; and
 - (e) the steps to be taken by workers, including rescue workers, in case of incidents, and to prevent incidents.
- (2) Training provided under paragraph (1) shall be—
- (a) adapted to take account of new or changed risks; and
 - (b) repeated periodically, if necessary.
- (3) The employer shall, in relation to all installations, containers and packages containing carcinogens or mutagens—
- (a) tell workers where they are;
 - (b) ensure that they are clearly and legibly labelled; and
 - (c) ensure that clearly visible warning and hazard signs are displayed on them.
- (4) The employer shall take appropriate measures to ensure that—
- (a) notwithstanding the duties imposed on the employer by these Regulations, (in particular, by Regulation 9), workers or their representatives can verify that these Regulations are being applied, or can be involved in their application, in particular, with regard to—
 - (i) the consequences for workers' safety and health of the selection, wearing and use of protective clothing and equipment; and
 - (ii) the measures to be determined by the employer under Regulation 9;
 - (b) workers or their representatives are informed as quickly as possible of abnormal exposures, including those referred to in Regulation 9, of the causes thereof and the corrective measures to be taken;
 - (c) an up-to-date list is kept of the workers engaged in activities in respect of which a Regulation 4 assessment has revealed a risk to the health or safety of workers, including (if the information is available), the exposure to which they have been subjected;
 - (d) the doctor or the Minister of Health, as well as any other person with responsibility for the health and safety of workers at work has access to that list;

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- (e) each worker has access to the information on the list that relates to him personally; and
- (f) workers or their representatives have access to anonymous collective information.

Consultation with and participation of workers

13 The employer shall consult workers or their representatives, about matters covered by these Regulations, in accordance with Regulation 20 of the General Duties Regulations.

Health surveillance

14 (1) The employer shall ensure that there are arrangements whereby workers for whom a Regulation 4 assessment reveals a risk to health or safety, are kept under health surveillance.

(2) In particular, a worker must be able to undergo, if appropriate, relevant health surveillance before exposure and at regular intervals thereafter and the arrangements shall be such that it is directly possible to implement individual and occupational hygiene measures.

(3) If a worker is found to be suffering from an abnormality which is suspected to be the result of exposure to carcinogens or mutagens, the doctor or body responsible for the health surveillance of workers, may require other workers who have been similarly exposed, to undergo health surveillance and, in that event, a further Regulation 4 assessment shall be undertaken.

(4) In cases where health surveillance is carried out, an individual medical record shall be kept and the doctor or body responsible for health surveillance shall propose any protective or preventive measures to be taken in respect of any individual workers.

(5) Information and advice shall be given to workers, regarding any health surveillance, which they may undergo, following the end of exposure.

(6) Workers must be given access to the results of health surveillance, which concern them.

(7) Workers or the employer may request a review of the results of health surveillance.

(8) The doctor or body undertaking health surveillance, shall have regard to the practical recommendations for the health surveillance of workers, set out in Schedule 4.

(9) The Minister of Health shall be notified of all cases of cancer identified as resulting from occupational exposure to a carcinogen or mutagen.

Record-keeping

15 (1) The employer shall keep—

- (a) the list referred to in Regulation 12(4)(c); and
- (b) the medical record referred to in Regulation 14(4),

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for at least 40 years following the end of exposure.

(2) If the employer ceases to trade, he shall make the records referred to in paragraph (1) available to the Minister.

Persons on whom duties are imposed

16 (1) Where a person on whom a duty is imposed by any of Regulations 2 to 15 does not have control of the matter to which that provision relates, because that person does not have responsibility for the operation of the ship, that duty also extends to any other person who has control of that matter.

(2) It is the duty of every worker performing activities to which these Regulations apply, to—

- (a) make full and proper use of all clothing and equipment with which he has been provided by the employer, in pursuance of these Regulations; and
- (b) give effect to all instruction and training with which he has been provided under Regulation 12.

Offences and penalties

17 (1) A person who acts in contravention of, or fails to comply with, Regulation 4, 5, 6, 9 or 14 commits an offence and is liable—

- (a) on summary conviction, to a fine not exceeding \$10,000; or
- (b) on conviction on indictment, to imprisonment for a term not exceeding two years or a fine of \$10,000 or both such fine and imprisonment.

(2) A person who acts in contravention of, or fails to comply with Regulation 8, 10 or 13 commits an offence and is liable on summary conviction, to a fine not exceeding \$5,000.

(3) A person who acts in contravention of, or fails to comply with, Regulation 7, 11, 12, 15 or 25 commits an offence and is liable on summary conviction, to a fine not exceeding \$2,000.

(4) A worker who fails to comply with Regulation 16(2), commits an offence, and is liable on summary conviction, to a fine not exceeding \$1,000.

(5) Section 145(1) of the Act, applies to any fine imposed for an offence under paragraphs (1) to (3) of this Regulation, as if the reference to proceedings against the owner or master of a ship for an offence under Chapter II were a reference to proceedings against any person for an offence under those paragraphs.

Offences by body corporate

18 (1) Where a body corporate commits an offence under these Regulations and that offence is proved to have been committed with the consent or connivance of, or to be attributable to any neglect on the part of any director, manager, secretary or other similar officer of the body corporate or a person who was purporting to act in any such capacity,

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he, as well as the body corporate, commits that offence and is liable to be proceeded against and punished accordingly.

(2) Where the affairs of a body corporate are managed by its members, paragraph (1) applies in relation to the acts and defaults of a member, in connection with his functions of management as if he were a director of the body corporate.

Onus of proving what is reasonably practicable

19 In any proceedings for an offence under these Regulations consisting of a failure to comply with a duty or requirement to do something, as far as is reasonably practicable, it shall be for the defendant to prove that, it was not reasonably practicable to do more than was in fact done, to satisfy the duty or requirement.

Detention of a Bermuda ship

20 (1) Where a surveyor of ships is satisfied that there is or has been a failure by an employer or other person referred to in Regulation 16(1), to comply, in relation to any Bermuda ship, with a requirement under these Regulations, that ship is liable to be detained until the surveyor of ships is satisfied that those requirements are complied with.

(2) A surveyor of ships may permit a ship which is liable to be detained under paragraph (1), to proceed to sea for the purposes of proceeding to the nearest appropriate repair yard.

(3) A ship shall not be delayed or detained unreasonably under this Regulation.

(4) Where a ship is detained because in relation to it, there has been a failure to comply with the requirements of these Regulations, and that failure has ceased, a person having power to detain the ship shall, at the request of the owner or master, immediately release the ship—

- (a) if no proceedings for an offence arising from the failure in question are instituted within the period of seven days beginning on the day on which the ship is detained;
- (b) if proceedings for an offence arising from the failure in question, having been instituted within that period, are concluded without the employer or other person having control of the matter in question being convicted;
- (c) if either—
 - (i) the sum of \$50,000 is paid to the Minister by way of security; or
 - (ii) security which, in the opinion of the Minister, is satisfactory and is for an amount not less than \$50,000 is given to the Minister,by or on behalf of the employer or other person having control of the matter in question;
- (d) where the employer or other person having control of the matter in question is convicted of an offence arising from the failure in question, if any costs or expenses ordered to be paid by him, and any fine imposed on him, have been paid; or

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- (e) if the release is ordered by a court or tribunal referred to in article 292 of the 1982 United Nations Convention on the Law of the Sea, and any bond or other financial security ordered by such court or tribunal is posted.
- (5) The Minister shall repay any sum paid in pursuance of paragraph (4)(c) or release any security so given—
 - (a) if no proceedings for an offence arising from the failure in question are instituted within the period of seven days beginning with the day on which the sum is paid; or
 - (b) if proceedings for an offence arising from the failure in question, having been instituted within that period, are concluded without the employer or other person having control of the matter in question, being convicted.
- (6) Where a sum has been paid, or security has been given, by any person in pursuance of paragraph (4)(c) and the employer or other person having control of the matter in question, is convicted for an offence arising from the failure in question, the sum so paid or the amount made available under the security shall be applied as follows—
 - (a) first, in payment of any costs or expenses ordered by the court to be paid by the employer or other person having control of the matter in question;
 - (b) next, in payment of any fine imposed by the court; and
 - (c) any balance shall be repaid to the first-mentioned person.
- (7) Section 144 of the Act applies for the purposes of paragraphs (4) to (6) as if—
 - (a) references to the master or owner of the ship were references to the employer or other person having control of the matter in question; and
 - (b) references to an offence under section 130, were references to an offence arising from the failure in question.

Inspection and other measures in respect of ships registered outside Bermuda

- 21
- (1) When a ship which is not a Bermuda ship is in Bermuda waters, a relevant inspector may inspect that ship to ascertain whether the standards required in relation to Bermuda ships by these Regulations, are met in relation to that ship.
 - (2) Where a surveyor of ships is satisfied that the standards required in relation to Bermuda ships by these Regulations are not met in relation to a ship which is not a Bermuda ship but is in Bermuda waters, that surveyor of ships may—
 - (a) send a report to the government of the State whose flag the ship is entitled to fly, and a copy thereof to the Director General of the International Labour Organization; and
 - (b) where conditions on board are clearly hazardous to health or safety, take such measures as are necessary to ensure those conditions are rectified.
 - (3) A ship to which paragraph (2)(b) applies, is liable to be detained until a surveyor of ships is satisfied that those conditions are rectified.

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(4) A surveyor of ships may permit a ship which is liable to be detained under paragraph (3), to proceed to sea for the purposes of proceeding to the nearest appropriate repair yard.

(5) If any of the measures specified in paragraph (2)(b) or (3) are taken, the surveyor of ships shall immediately notify the nearest maritime, consular or diplomatic representative of the State whose flag the ship is entitled to fly.

(6) A ship shall not in the exercise of the power under this Regulation, be delayed or detained unreasonably.

(7) In paragraph (1), “relevant inspector” means a person mentioned in section 219(1) of the Act.

Application of powers of inspectors in relation to Government ships

22 Sections 219 to 227 of the Act apply to these Regulations as if they were for all purposes made under section 93 of the Act and accordingly, those sections apply in relation to Government ships.

Enforcement of detention

23 (1) Section 242 of the Act applies where a ship is liable to be detained under these Regulations, as if—

- (a) references to detention of a ship under the Act were references to detention of the ship in question under these Regulations; and
- (b) subsection (7) were omitted.

(2) Where a ship is liable to be detained under these Regulations, the person detaining the ship shall serve on the master of the ship a detention notice, which shall—

- (a) state that a surveyor of ships is of the opinion that in relation to that ship, there is a failure to comply with the requirements of these Regulations;
- (b) specify the matters which, in the opinion of the surveyor of ships, have the effect, that in relation to that ship, those requirements are not met; and
- (c) require the terms of the notice to be complied with until the ship is released by any person mentioned in section 242(1) of the Act.

Right of appeal and compensation

24 Regulations 14 and 24 of the Merchant Shipping (Port State Control) Regulations 2019 (which by virtue of Regulation 22 of those Regulations, apply in relation to the exercise of powers of detention contained in safety Regulations), apply in relation to a detention notice served on a Government ship under these Regulations, as if these Regulations were for all purposes made under section 93 of the Act.

Prohibition on levy

25 No charge in respect of anything done or provided in pursuance of any specific requirement of these Regulations shall be levied or permitted to be levied on any worker.

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SCHEDULE 1

(Regulation 2)

SUBSTANCES AND PROCESSES TO WHICH THE DEFINITION OF CARCINOGEN RELATES

Aflatoxins

Arsenic

Auramine manufacture

Work involving exposure to dusts, fumes and sprays produced during the roasting and electro-refining of cupro-nickel mattes.

Work involving exposure to polycyclic aromatic hydrocarbons present in coal soot, coal tar or coal pitch.

Hardwood dusts.

Isopropyl alcohol manufacture (strong acid process).

Leather dust in boot and shoe manufacture, arising during preparation and finishing.

Magenta manufacture.

Mustard gas (beta, beta'- dichlorodiethyl sulphide).

Rubber manufacturing and processing giving rise to rubber process dust and rubber fume.

Used engine oils.

The following polychlorodibenzodioxins—

2,3,7,8-TCDD

1,2,3,7,8-PeCDD

1,2,3,4,7,8-HxCDD

1,2,3,6,7,8-HxCDD

1,2,3,7,8,9-HxCDD

1,2,3,4,6,7,8-HpCDD

OCDD.

The following polychlorodibenzofurans—

2,3,7,8-TCDF

2,3,4,7,8-PeCDF

1,2,3,7,8-PeCDF

1,2,3,4,7,8-HxCDF

1,2,3,7,8,9-HxCDF

1,2,3,6,7,8-HxCDF

2,3,4,6,7,8-HxCDF

1,2,3,4,6,7,8-HpCDF

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1,2,3,4,7,8,9-HpCDF
OCDF.

Where T=tetra, Pe=penta, Hx=hexa, Hp=hepta and O=octa.

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SCHEDULE 2

(Regulation 6)

TABLE OF LIMIT VALUES

TABLE OF LIMIT VALUES

(1)

EINCS: European Inventory of Existing Chemical Substances.

(2)

CAS: Chemical Abstract Service Number.

(3)

mg/m³ = milligrams per cubic metre of air at 20° C and 101,3 kPa (760 mm mercury pressure).

(4)

ppm = parts per million by volume in air (ml/m³).

(5)

Measured or calculated in relation to a reference period of eight hours.

(6)

Substantial contribution to the total body burden via dermal exposure possible.

(7)

Inhalable fraction; if hardwood dusts are mixed with other wood dusts, the limit value shall apply to all wood dusts present in that mixture.

Name of agent

EINECS(1)

CAS(2)

Limit values

Notation

mg/m³ (3)

ppm (4)

Benzene 200-753-771-43-23,25 (5)1 (5) Skin (6) Vinyl chloride

monomer 200-83175-01-047,77 (5)3 (5)—Hardwood dusts—5,00 (5) (7)—.

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SCHEDULE 3

(Regulation 6(6))

MEASURES TO BE TAKEN BY THE EMPLOYER

1. Limitation of the quantities of a carcinogen or mutagen at the place of work.
2. Keeping as low as possible the number of workers exposed or likely to be exposed.
3. Design of work processes and engineering control measures so as to avoid or minimise the release of carcinogens or mutagens into the place of work.
4. Evacuation of carcinogens or mutagens at source, local extraction system or general ventilation, all such methods to be appropriate and compatible with the need to protect public health and the environment.
5. Use of existing appropriate procedures for the measurement of carcinogens or mutagens, in particular, for the early detection of abnormal exposures resulting from an unforeseeable event or an accident.
6. Application of suitable working procedures and methods.
7. Collective protection measures.
8. Where exposure cannot be avoided by other means, individual protection measures taken on their own or together with collective protection measures.
9. Hygiene measures, including in particular, regular cleaning of floors, walls and other surfaces.
10. Information for workers.
11. Demarcation of risk areas and use of adequate warning and safety signs including no smoking signs in areas where workers are exposed or likely to be exposed to carcinogens or mutagens.
12. Drawing up plans to deal with emergencies likely to result in abnormally high exposure.
13. Means for safe storage, handling and transportation, in particular using sealed and clearly and visibly labelled containers.
14. Means for safe collection, storage and disposal of waste by workers, including the use of sealed and clearly and visibly labelled containers.

MERCHANT SHIPPING AND FISHING VESSELS (HEALTH AND SAFETY AT WORK) (CARCINOGENS AND MUTAGENS) REGULATIONS 2019

SCHEDULE 4

(Regulation 14(8))

PRACTICAL RECOMMENDATIONS FOR THE HEALTH SURVEILLANCE OF WORKERS

1. The doctor or authority responsible for the health monitoring of workers exposed to carcinogens or mutagens must be familiar with the exposure conditions or circumstances of each worker.
2. Health monitoring of workers must be carried out in accordance with the principles and practices of occupational medicine and must include at least the following measures—
 - (a) keeping records of a worker's medical and occupational history;
 - (b) a personal interview; and
 - (c) where appropriate, biological monitoring, as well as detection of early and reversible effects.
3. Further tests may be decided upon for each worker when he is the subject of health monitoring, in the light of the most recent knowledge available to occupational medicine.

Made this 14th day of February 2019

Minister of Tourism and Transport

[Operative Date: 18 February 2019]