
The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Biological Agents) Regulations 2010

Notice to all Ship, Yacht and Fishing Vessel Owners, Operators and Managers and other employers of seafarers; Masters, Officers and Seafarers on Merchant Ships and Yachts; and Skippers and Crew of Fishing Vessels, Small Commercially Operated Vessels and Yachts with paid crew

This note should be read in conjunction with Marine Guidance Note MGN 20 (M+F) which interprets and provides guidance on the requirements of the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997.

PLEASE NOTE:-

Where this document provides guidance on the law it should not be regarded as definitive. The way the law applies to any particular case can vary according to circumstances - for example, from vessel to vessel and you should consider seeking independent legal advice if you are unsure of your own legal position

Summary

This Marine Guidance Note provides guidance on the Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Biological Agents) Regulations 2010. Biological agents are potentially harmful micro-organisms and the Regulations require employers to take account of the risk to workers of exposure to such agents when carrying out health and safety risk assessment.

1. INTRODUCTION

- 1.1 The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Biological Agents) Regulations 2010 (SI 2010/323) (the "Biological Agents Regulations") implement EC Directive 2000/54/EC (the "Biological Agents Directive") which introduced requirements for the protection of workers from the risks related to exposure to biological agents. The Health and Safety Executive (HSE) have already implemented the Directive for land-based workers, largely through the Control of Substances Hazardous to Health Regulations 2002 (as amended) and the Biological Agents Regulations complete UK implementation by extending the requirements of the Biological Agents Directive to workers on ships, including fishing vessels and other small vessels with workers on board, including those operating on inland waters.

- 1.2 The Biological Agents Directive is a "Daughter Directive" of Directive 89/391/EEC (the "Framework Directive"), which introduced general measures to encourage improvements in the safety and health of workers at work. The Framework Directive was implemented for the maritime sector in the UK by the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 (SI 1997/2962) (as amended) (the "General Duties Regulations"). Under the General duties Regulations, employers are required to carry out a risk assessment. The effect of the new Regulations is that the risk assessment must now specifically consider whether any risks to workers exist or could arise from exposure to biological agents at work. If any actual or potential risks are identified, appropriate measures must be taken to remove or mitigate the risk in order to protect workers.
- 1.3 As the Biological Agents Directive lists a large number of biological agents, this MGN cannot hope to address every possible situation where exposure to such agents could occur or offer guidance on how to deal with each individual agent. What it does therefore is provide guidance of a more general nature in order to assist employers in identifying, whether any risks exist, or could potentially arise, and also advise on measures that might be taken to either remove those risks entirely or, where that is not possible, reduce them as far as is reasonably practicable. It should be noted however that following the guidance contained in this MGN does not relieve the employer of responsibility for ensuring that all risks are properly assessed and that any remedial measures put in place are appropriate for dealing with the risks identified.
- 1.4 Whilst this MGN provides general advice, more detailed guidance on "Contamination of Ships' Air Conditioning Systems by Legionella Bacteria" can be found in Marine Guidance Note MGN 38 (M+F) and guidance on "Prevention of Infectious Disease at Sea by Immunisation and Anti-Malaria Medication (prophylaxis)" is in Marine Guidance Note MGN 399(M). More detailed information on biological agents in general and diseases arising from them can also be found on the websites of the Centers for Disease Control and Prevention in the United States and the Health Protection Agency in the UK. Contact details for both these agencies are given in Annex 6 to this MGN together with details of other potential sources of information.

2. BIOLOGICAL AGENTS AND RELEVANCE TO SHIPPING

- 2.1 The Biological Agents Regulations do not automatically apply to every vessel except insofar as regulation 6 of those Regulations extend the requirement for a risk assessment to be undertaken to include determining whether there is a risk of exposure, or potential exposure, to biological agents at work. Should the risk assessment identify no actual or potential risk of exposure then further action is unlikely to be required. If however the risk assessment does identify actual or potential risks of exposure then the provisions of the Biological Agents Regulations will apply. Regard should however be had to the derogations referred to in paragraphs 4.2 to 4.5 below.
- 2.2 For the purposes of the Biological Agents Regulations, a biological agent is any micro-organism, which includes viruses, fungi, parasites and bacteria, which may cause infection, allergy or toxicity. According to their potential effects on humans, these are split into 4 groups as follows:-
- “**group 1 biological agent**” means a biological agent that is unlikely to cause human disease - These are not listed in the Directive but paragraph 4.4 below sets out the basic requirements for dealing with such agents
- “**group 2 biological agent**” means a biological agent that can cause human disease and might be a hazard to workers but is unlikely to spread to the community and for which there is usually an effective prophylaxis or treatment available
- “**group 3 biological agent**” means a biological agent that can cause severe human disease, presents a serious hazard to workers and may present a risk of spreading to

the community but for which there is usually an effective prophylaxis or treatment available

“group 4 biological agent” means a biological agent that causes severe human disease, is a serious hazard to workers and may present a high risk of spreading to the community and for which there is usually no effective prophylaxis or treatment available.

2.3 Biological Agents in Groups 2-4 are listed in the HSE publication “Approved List of Biological Agents” which can be downloaded from the HSE website at the address given in Annex 6.

2.4 Exposure to biological agents falls into three main groupings as follows:-

- (a) exposure resulting from a deliberate intention to work with a biological agent, i.e work with biological agents that involves research, development, teaching or diagnosis. This is unlikely to be the case on most ships, yachts, fishing vessels etc although it is possible that work with biological agents might occur on specialised research ships;
- (b) exposure which arises out of the work activity, but is incidental to it. Examples of activities in which there may be exposure of this kind and which could be relevant to workers on ships, yachts, fishing vessels etc include giving of first aid or other medical care, work on sewage treatment plant, work on the ship’s air conditioning and water systems, swimming pools and spas, waste disposal and food processing or carriage of animals as cargo;
- (c) exposure which does not arise out of the work activity itself, for example where a worker catches an infection from someone who he/she happens to come into contact with through work.

The Biological Agents Regulations effectively only apply to groups (a) and (b) above, because they only apply where risks of exposure are directly work related. Where “group c” applies under the Biological Agents Regulations safety measures may still be appropriate under a general duty of care. For example, employers are required to ensure that workers employed by them have the necessary vaccinations to protect them against infections with which they may come into contact because of the area where the ship operates (see MGN 399(M)).

2.5 Exposure to biological agents can arise from a variety of sources and the provisions of the Regulations will affect vessels to a different extent depending upon the type of vessel, the cargo being carried, the area of operation and the type of work being undertaken. For example, the Biological Agents Regulations will apply to a small commercial vessel on which workers are employed. However if that vessel operates sight-seeing trips, the workers on board may never carry out work activities on board that could potentially expose workers to biological agents. At the other end of the scale there will be ships where the activities carried out on board inevitably involve risks of exposure to biological agents e.g. medical care on board; work with air conditioning and water supply systems; work with food production; and, work involving waste disposal and sewage plant.

3. MEANING OF “WORKER” (Regulation 3)

3.1 The Biological Agents Regulations, like the General Duties Regulations and other Health and Safety Regulations currently in force, apply to all persons employed on board any vessel, including employed trainees or apprentices, irrespective of whether or not the vessel goes to sea or only operates on inland waters. However like those

previous Regulations, the provisions of the Biological Agents Regulations are disapplied in respect of persons who are onboard sailing vessels, operating under an MCA Code of Practice, solely for the purpose of receiving instruction in the principles of responsibility, resourcefulness, loyalty and team endeavour and to advance education in the art of seamanship or for the purpose of receiving instruction in navigation and seamanship for yachtsmen. The reasoning behind this is that such persons are clearly not workers for the purposes of the Directive as they are not employed and do not receive a wage for the time spent on the vessel. However notwithstanding this, there is a general obligation placed on employers by regulation 5(1) of the General Duties Regulations to ensure the health and safety of all persons on board, so far as is reasonably practicable, irrespective of whether or not they are workers.

4. APPLICATION (Regulation 4)

- 4.1 As with the General Duties Regulations, and previous health and safety regulations, the Biological Agents Regulations apply to all activities of workers on UK registered vessels and Government ships (other than Royal Navy vessels) wherever they are in the world and certain provisions also apply to non-UK ships in UK waters. The Regulations apply to all types of commercially operated vessels, including yachts, fishing vessels and vessels operating only on inland waters, on which workers are employed.
- 4.2 Like other Health and Safety Regulations, regulation 4(2) provides for a limited derogation from the requirements of the Biological Agents Regulations in respect of vessels undertaking public service or civil protection activities where because of characteristics peculiar to the activity being undertaken, full compliance with the requirement of the Biological Agents Regulations is not possible. This derogation is aimed at activities such as rescue or enforcement but only applies in this context to the specific provision(s) of the Biological Agents Regulations with which compliance is not possible and then only for the length of time compliance is not possible. Even then the health and safety of those on board who are affected as a result of the application of the derogation must be safeguarded as far as is reasonably practicable. All remaining provisions of the Biological Agents Regulations, with which compliance remains possible, will continue to apply in full and full compliance with all the requirements of the Regulations will be required to be re-established as soon as the activity concerned is no longer being undertaken. In this context “activity” is considered to refer to specific occasions on which an activity is undertaken and not to an ongoing period during which such activities might periodically occur.
- 4.3 For the purposes of the derogation referred to in paragraph 4.2 above, “Public service activities” covers the activities of the armed forces, HM Coastguard, HM Revenue and Customs, immigration officers, police, prison officers, the security and intelligence services and similar organisations. **NOTE - Ferries, whether operated by a public body or not, are not covered by the “Public service activities” derogation** because there is no reason why activities carried out by such vessels should inevitably conflict with the regulations. “Civil protection services” covers the fire and rescue; ambulance; and search and rescue services such as those provided by the RNLI, independent lifeboats etc. This derogation also applies to any vessel engaged in search and rescue activities when answering a distress call or when requested to do so by HM Coastguard or the appropriate authority of another state.
- 4.4. There is an additional derogation contained in the Regulations, which comes from Article 4 of the Directive, whereby the preventive, precautionary and record keeping requirements contained in regulations 8 to 20 of the Biological Agents Regulations do not have to be complied with in respect of a group 1 biological agent when the risk assessment shows there to be no identifiable health risk to workers. However there remains a duty on employers and workers when working with such agents to observe good occupational safety and hygiene procedures. For ease of reference a “NOTE”

drawing attention to this derogation has been placed at the beginning of each of the sections below which provide guidance on the requirements of Regulations 8 to 20. This should be read prior to undertaking any of the measures contained in the remainder of each of the sections.

- 4.5 A further derogation, from the requirement to comply with the provisions of Regulations 8, 10, 11 and 13 to 20 is also included in respect of the activities listed in Annex I of this MGN where the risk assessment shows that the activity does not involve a deliberate intention to work with or use a biological agent but may result in workers being exposed and the result of the risk assessment shows the requirements in those regulations to be unnecessary. Here again for ease of reference this is covered in a "NOTE" at the beginning of each of the sections below which provide guidance on the Regulations concerned. However where the risk assessment establishes that compliance with the requirements of those regulations is necessary, employers must ensure that they are fully complied with.

5. APPLICATION OF RELATED LEGISLATION (Regulation 5)

- 5.1 The provisions of the General Duties Regulations remain fully in force and apply to all work involving potential exposure to Biological Agents except where the Biological Agents Regulations have introduced more stringent requirements. In such circumstances the more stringent requirements of the Biological Agents Regulations will apply.
- 5.2 Regulation 5(2) provides that the provisions of the Biological Agents Regulations will apply to genetically modified organisms except where more stringent provisions are contained in Directive 90/219/EEC on the contained use of genetically modified micro-organisms and Directive 2001/18/EC on the deliberate release into the environment of genetically modified organisms. Both of these Directives have been implemented by means of separate non merchant shipping legislation but are considered unlikely to be relevant to normal maritime operations. It is however necessary to include reference to them in order to fully implement the provisions of the Biological Agents Directive.
- 5.3 In line with previous maritime health and safety regulations, the provisions of the Biological Agents Regulations do not apply to land-based workers (e.g. contractors, stevedores and other port workers) to whom HSE's Control of Substances Hazardous to Health Regulations 2002 (as amended) or HSE (Northern Ireland)'s Control of Substances Hazardous to Health Regulations (Northern Ireland) 2003 (as amended) apply. However the HSE Regulations only apply within UK waters or to UK offshore installations. Should a land-based worker be on a vessel when it goes outside UK limits, the HSE Regulations will cease to apply and the maritime Regulations will then apply to that worker.
- 5.4 In so far as ships, fishing vessels and other vessels are concerned, it should be noted that the HSE Control of Substances Hazardous to Health Regulations (COSHH) are only disapplied to the master or crew of a ship or to the employer of such persons in respect of the normal shipboard activities of a ship's crew which:-
- (a) are carried out solely under the direction of the master; and
 - (b) are not liable to expose persons other than the master and crew to a risk to their health and safety.

In the light of this there is potential for ships and their crew to fall under HSE's COSHH Regulations in certain circumstances when in UK ports and many employers already comply with HSE's COSHH Regulations. Such compliance is also likely to fully meet the requirements of the maritime Biological Agents Regulations. Those employers who

do not meet the COSHH requirements but who believe there might be circumstances in which COSHH could apply to them, may wish to comply with COSHH and as a result comply also with these Regulations.

6. ASSESSMENT OF HEALTH RISKS (Regulation 6)

6.1 Regulation 7 of the General Duties Regulations requires employers to undertake a general assessment of the risks to their workers arising from the work they are undertaking. This general requirement has subsequently been added to by subsequent sets of Health and Safety Regulations which have been introduced to implement “daughter Directives” of the Framework Directive. The purpose of these daughter Directives, and the regulations implementing them, is to introduce more specific requirements in respects of substances or work practices that are considered to pose particular risks to the health and safety of workers. This is the case with the Biological Agents Directive and the Biological Agents Regulations therefore build on the requirements of the General Duties Regulations by requiring that employers’ risk assessments establish whether the possibility of exposure to biological agents exists and, if so, what category such agents fall into, who is at risk from them, and what the potential exposure to such agents is likely to be.

6.2 Whilst unlikely, it is possible that work involving the use of biological agents (as opposed to exposure to such agents) may take place on UK ships or could do so in the future. This is however a very specialised area and it is considered inappropriate to cover such work in this MGN, other than in a very general way. From a more general point of view the most likely risk sources on ships and fishing vessels would seem to be work involving food preparation, contact with animals and/or products of animal origin, health care, work with air conditioning and water supply systems or, work involving waste disposal and sewage plant. Further comments on each of these are given below:-

Food preparation - Potential for exposure as a result of incorrect storage, handling and preparation of food, as well as failure to take necessary hygiene measures.

Contact with animals and/or products of animal origin - “Contact with animals” is relatively easy to define as basically it can only be construed as contact with live animals being transported, which would include pets travelling with their owners. However in the absence of a definition in the Directive, it is not clear what is meant by “... *contact withproducts of animal origin*”. In the absence of a definition, this could be construed as covering meat products or the waste products of animals being transported. It might potentially also cover disposal of droppings etc from any vermin which may have got on board, such as rats, or souvenirs etc bought by crew members, or by passengers on cruise ships, which are made from skins or other parts of animals which could potentially have been diseased or which have been washed in water containing biological agents.

Health care - The most likely route of exposure is infection resulting from contact with a person already suffering from a biological infection or who is a “carrier”. This could potentially occur by a variety of means e.g. direct contact, or handling or laundering of used bed linen where a person infected with a biological agent is being treated on board. Special precautions may need to be taken where a ship is trading to areas where diseases listed as hazardous biological agents are prevalent and it is not clear what illness the person concerned is suffering from. Guidance on general nursing is contained in chapter 3 of the Ship Captains’ Medical Guide.

Where treatment given to a person on a ship includes the giving of an injection, there is a potential risk of a “needle stick injury” when the person responsible for giving the injection pricks themselves with the needle of the syringe after using it. Where the person being injected is a sufferer or carrier of a biological infection, this could result in the transmission of that biological agent to the carer even where the injection was given for an unconnected reason.

Work with air conditioning and water supply systems - Legionnaire’s Disease is probably one of the most well known biological agents occurring on ships and can be found in tiny droplets of water (aerosols) or in droplet nuclei (the particles left after the water has evaporated). A review by the World Health Organisation in 2000 also identified a wide range of other agents which had affected passengers and crew during gastrointestinal disease outbreaks. Factors contributing to outbreaks included inter alia contaminated bunkered water, inadequate disinfection of potable water, potable water contaminated by sewage on ship, and poor design and construction of potable water storage tanks. Whilst harmful biological agents are unlikely to be present on every ship they do serve to illustrate what agents persons working on water supply and air conditioning systems, or indeed the crew in general, could potentially be exposed to.

Work involving waste disposal and sewage plant - It is difficult to specify which biological agents are likely to be encountered in work relating to waste disposal or sewage plant as much will depend upon what agents are present, or potentially present, on board. In the case of refuse disposal consideration should be given to the disposal of clinical waste especially or waste products from the patient themselves where the presence of any category 3 or 4 biological agent is known or suspected. So far as sewage is concerned, the excrement in raw sewage is understood to be a potential major source of harmful micro-organisms, including bacteria, viruses and parasites.

In addition to the guidance contained in this Marine Guidance Note, further guidance on “Contamination of Ships’ Air Conditioning Systems by Legionella Bacteria” can be found in Marine Guidance Note MGN 38 (M+F) and guidance on “Prevention of Infectious Disease at Sea by Immunisation and Anti-Malaria Medication (prophylaxis)” can be found in Marine Guidance Note MGN 399(M).

- 6.3 Employers will generally already have in place the necessary precautionary measures either as a result of the requirements of the General Duties Regulations, MCA or industry guidance or arising from experience in such matters over the years. However where any operator/employer is new to shipping or is proposing to operate new routes an initial or replacement detailed assessment of the risks to workers arising from the presence or potential presence of biological agents on ships operated by them should be undertaken as part of the general risk assessment required under the General Duties Regulations. New risk assessments should also be undertaken whenever there are changes in cargo carried; working practices etc. General guidance on the process of risk assessment is contained in Marine Guidance Note MGN 20 (M+F) and Chapter 1 of the Code of Safe Working Practices for Merchant Seamen. In addition “The Approved List of Biological Agents” referred to in paragraph 2.3. above is a useful source of information on particular agents and their categories. Information on how to obtain copies of these publications and other useful publications is given in Annex 6 to this MGN.

7. CLASSIFICATION OF BIOLOGICAL AGENTS (Regulation 7)

- 7.1 Regulation 7 of the Biological Agents Regulations contains provisions relating to the classification, by employers, of biological agents of groups 2, 3 or 4 that do not appear

in HSE's Approved List of biological agents. These provisions, referred to in paragraphs 7.2 and 7.3 below are however considered unlikely to apply to the majority of, if not all, employers in the maritime and fishing sectors unless they are directly involved with the production or classification of biological agents on their ships. It is however necessary to include these provisions in the Regulation in order to meet the requirement that every provision of an EC Directive is fully implemented by means of legislation. In the unlikely event that an employer is involved with production or classification, the following requirements will however apply.

- 7.2 Under Regulation 7 of the Biological Agents Regulations an employer is required to provisionally classify any agent of groups 2, 3 or 4 that does not appear in HSE's Approved List of biological agents as a group 2, group 3 or group 4 biological agent according to its level of risk of infection. Where there is any doubt about the group to which it is to be assigned, it is to be assigned to the highest appropriate group. Following the assigning of any such provisional classification, the employer is to inform in writing Seafarer Safety and Health Branch of the Maritime and Coastguard Agency, on behalf of the Secretary of State, of any such provisional classifications. The address of Seafarer Safety and Health Branch is given in section 22 - More information - below. In addition written notification shall be provided to the Health and Safety Executive's Policy Advisor on Biological Agents
- 7.3 Where any biological agent appearing in HSE's Approved List of Biological Agents has been assigned a classification as a group 2, group 3 or group 4 biological agent which is higher than its classification in Annex III to the Directive, the higher classification applied by HSE will apply.

8. REPLACEMENT OF HARMFUL BIOLOGICAL AGENTS (Regulation 8)

- 8.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section. In addition, in the shipping context the provisions of Regulation 8 are considered likely to be relevant only to ships where actual "use of", or "work with", biological agents is undertaken. This seems unlikely to occur under normal circumstances.
- 8.2 Where the derogations referred to in paragraph 8.1 do not apply and the risk assessment identifies a potential risk arising from work with or use of biological agents, the employer should endeavour to remove that risk completely by discontinuing use of the biological agent(s) concerned. However where that is not possible, because of the nature of the work activity being undertaken, the employer should endeavour to replace the biological agent concerned with another biological agent or other substance which when used in that work activity is either not dangerous or is less dangerous to the health of workers who might be exposed to it. In this context "less dangerous" should be taken to mean the least dangerous alternative available.

9. REDUCTION OF RISKS (Regulation 9)

- 9.1 **NOTE** - The derogation referred to in paragraph 4.4 of this MGN is relevant to this section.
- 9.2 Where the derogation referred to in paragraph 9.1 above does not apply, and the employer's risk assessment indicates that risks to workers' health and safety remain despite any measures taken in accordance with paragraph 8.2 above, the employer is required to prevent such risks as far as is reasonably practicable. Where it does not prove reasonably practicable to prevent a risk of exposure to biological agents, the employer shall reduce the potential risk of exposure to as low a level as possible by taking appropriate measures including the following:-

- (a) keeping the number of workers exposed or likely to be exposed as low as possible;
- (b) where appropriate, designing any work processes and engineering control measures to avoid or minimise the release of biological agents in the ship;
- (c) implementing collective protection measures. Where these measures do not fully prevent exposure, individual protection measures such as the provision of appropriate Personal Protective Equipment may need to be put in place. Further information on the provision of Personal Protection Equipment is contained in the Merchant Shipping and Fishing Vessels (Personal Protective Equipment) Regulations 1999 (SI 1999/2205) and Merchant Shipping Notice MSN 1731;
- (d) taking appropriate hygiene measures, such as those referred to in paragraphs 11.2 and 11.3 below, as are compatible with the aim of the prevention or reduction of the accidental transfer or release of a biological agent from the ship;
- (e) using the biohazard sign depicted in Annex 5 to this MGN and other relevant warning signs. Further information on the provision and use of Safety Signs and Signals is contained in the Merchant Shipping and Fishing Vessels (Safety Signs and Signals) Regulations 2001 (SI 2001/3444) and Merchant Shipping Notice MSN 1763;
- (f) ensuring that appropriate plans are drawn up and put in place to deal with any accidents which might occur and could potentially involve biological agents;
- (g) testing, where it is necessary and technically possible, for the presence, outside the primary physical confinement, of biological agents used at work;
- (h) providing where appropriate means for safe collection, storage and disposal of waste by workers including the use of secure and identifiable containers, after suitable treatment; and
- (i) introducing arrangements for the safe handling and transport of biological agents within the ship.

The majority of these measures do however appear directed towards the actual use of, or work with, biological agents which, as previously stated, is considered unlikely to occur on the majority of vessels. Nevertheless the precautions set out in sub-paragraphs (a), (c), (d), (e) and (h) may be of relevance to the provision of medical care on board when it is known, or suspected, that the person being treated is infected with a category 3 or 4 biological agent. In addition sub-paragraph (a) may however also be appropriate for certain category 2 biological agents (for example rubella or mumps) when there are workers on board who could be susceptible to them.

10. INFORMATION FOR THE SECRETARY OF STATE (Regulation 10)

- 10.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section.
- 10.2 Where the derogations referred to in paragraph 10.1 do not apply and the employer's risk assessment has revealed a risk to workers' health and safety, the Maritime and Coastguard Agency, on behalf of the Secretary of State, may request the employer to provide information covering, for example, the results of that assessment, the activities in which workers have been exposed or may have been exposed and the number of workers who have been exposed. However given the provisions of paragraph 10.1

such requests are considered unlikely to occur as a result of normal operations other than perhaps where outbreaks of Norovirus, Legionella or other infectious diseases have occurred.

11. HYGIENE AND INDIVIDUAL PROTECTION (Regulation 11)

11.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section.

11.2 Where the derogations referred to in paragraph 11.1 do not apply and there is a risk of exposure to biological agents, employers are required to put hygiene and individual protection measures in place. These measures including ensuring that:-

- (a) eating, drinking or smoking in areas where there is a risk of contamination by biological agents is prohibited;
- (b) workers are provided with protective or special clothing appropriate to the biological agent(s) which the risk assessment has identified as potentially putting them at risk;
- (c) appropriate and adequate washing and toilet facilities, including eye washes and skin antiseptics, is provided for workers at risk;
- (d) protective equipment is properly stored in a well defined place and is checked and whenever possible cleaned before, and in any case after, each use; and
- (e) defective equipment is properly repaired or replaced before further use; and,
- (f) procedures are in place covering the taking, handling and processing of samples of human or animal origin.

11.3 Measures are also required to be put in place to ensure that any working clothes, protective equipment and protective or special clothing which are, or may have been, contaminated by biological agents are—

- (a) removed on leaving any working area within the ship where activities involving biological agents takes place;
- (b) decontaminated and cleaned or, if necessary, destroyed; and
- (c) kept separate from other clothing pending the taking of the steps described in paragraph (b).

11.4 Whilst the measures set out in paragraphs 11.2 and 11.3 appear primarily to cover work with, or use of, biological agents, depending on the outcome of the employer's risk assessment certain of those measures may also be relevant to work with ships' waste, including sewage, or to the provision of medical care.

12. INFORMATION AND TRAINING FOR WORKERS (Regulation 12)

12.1 **NOTE** - The derogation referred to in paragraph 4.4 of this MGN is relevant to this section.

12.2. Where the derogation referred to in paragraph 12.1 does not apply, employers are required to provide workers and/or their representatives with sufficient, relevant and appropriate information and training on:-

- (a) potential risks to the health of workers as a result of exposure to biological agents ;

- (b) precautions that have been, or are to be, taken to prevent the exposure of workers to any biological agents that are, or could potentially be, present;
- (c) hygiene requirement as set out in section 11 above;
- (d) the wearing and use of protective equipment and clothing; and
- (e) the measures to be taken by workers both to prevent incidents which could potentially result in exposure to biological agents as well as when an incident actually occurs.

12.3 Training under paragraph 12.2 is to be

- (a) given prior to any worker(s) commencing any work involving contact, or potential contact, with biological agents;
- (b) adapted to take account of new or changed risks - for example when quantities or types of Biological Agents change ; and
- (c) repeated periodically where necessary - for example when new workers commence work with biological agents or will be, or could potentially be, exposed to such agents

12.4 Whilst the provisions of paragraphs 12.2 and 12.3 may, at first sight, appear to only apply to actual work with, or use of, biological agents, this is not the case as there is no derogation applicable to these provisions in respect of activities listed in Annex I to this MGN. It is therefore necessary to comply with these requirements whenever a risk of exposure, or potential exposure, to biological agents of groups 2 - 4 has been identified by the employer's risk assessment. This could include the provision of medical care on board or work with sewage systems and these provisions would therefore seem likely to be applicable to most vessels undergoing voyages where there is potential for medical care to be required or sewage systems to be maintained. In the case of work with sewage systems for example information should normally include advice on any immunisations might need. In such circumstances the employer should make available a copy of Marine Guidance Note MGN 399(M).

13. WORKER INFORMATION IN PARTICULAR CASES (Regulation 13)

13.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section

13.2 Where the derogations referred to in paragraph 13.1 are not applicable, employers must provide workers with written instructions and, where appropriate, arrange for notices to be displayed, setting out the procedure to be followed in the case of—

- (a) a serious accident or incident involving the handling of a biological agent; and
- (b) the handling of any group 4 biological agent.

However this is most likely to apply only to ships with laboratories on board that handle biological agents or to ships carrying hazardous cargoes containing biological agents or to livestock carriers where there is a possibility that the livestock concerned might be infected with a biological agent. In such circumstances employers may need to take specialist advice in order to be able to provide appropriate information to workers, where such advice is not available "in house".

14 LIST OF EXPOSED WORKERS (Regulation 14)

- 14.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section
- 14.2 Where the derogations referred to in paragraph 14.1 are not applicable, for example in the case of provision of medical care on board or work with sewage plant, employers are required to keep a list of workers exposed to group 3 or group 4 biological agents indicating the type of work done and, whenever possible, the biological agent to which they have been exposed as well as records of exposures, accidents and incidents as appropriate. For some types of work, such as normal patient management when providing medical care, the risk may not be significant and so a list may not be needed. However where a patient is suspected of being infected with a group 3 or 4 agent, additional control and containment measures may be required. As this risk is significant workers involved should be listed as being potentially exposed. Similar considerations may arise where sewage plant maintenance is undertaken, or waste management is undertaken, if it is known or suspected that anyone on board might be infected with a group 3 or 4 biological agent or that exposure to a group 3 or 4 biological agent might arise for any other reason.
- 14.3 The list required by regulation 14 is not the same as a health surveillance record kept in accordance with regulation 17. The decision whether to keep a list will rest with the employer and will depend upon the results of the risk assessment however it should be noted that such a list will be required where there is a likelihood of exposure not just when there has been an incident or accident. In line with the approach adopted by the Health and Safety Executive in their Approved Code of Practice for the Control of Substances Hazardous to Health Regulations, the list should be kept in whatever format is considered most appropriate by the employer. Any health or medical surveillance records kept are however likely to be subject to the requirements of the Data Protection Act 1998

15. CONSULTATION WITH WORKERS (Regulation 15)

- 15.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section
- 15.2. Where the derogations referred to in paragraph 15.1 above are not applicable, employers must consult workers and their representatives on matters covered by the Biological Agents Regulations in accordance with the requirements of Regulation 20 of the General Duties Regulations which will include matters such as the findings of the risk assessment in relation to exposure or potential exposure of workers to biological agents and arrangements for health and safety training related to biological agents.

16. NOTIFICATION TO THE SECRETARY OF STATE (Regulation 16)

- 16.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section
- 16.2 Where the derogations referred to in paragraph 16.1 do not apply, Seafarer Safety and Health Branch of the Maritime and Coastguard Agency, on behalf of the Secretary of State, is to be notified at least 30 days in advance before use is made for the first time of any group 2, 3 or 4 biological agent. In practical terms it is however unlikely that most seafarers will actually use biological agents (micro-organisms) as part of their work although this might possibly apply in certain circumstances where, for example, a research vessel has a specialised laboratory on board.

17. HEALTH SURVEILLANCE (Regulation 17)

- 17.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section.
- 17.2 Where the derogations referred to in paragraph 17.1 above are not applicable, Regulation 17 introduces specific requirements for the health surveillance of workers for whom the employer's risk assessment has revealed a risk to their health and safety arising from exposure, or potential exposure, to biological agents. These requirements build on the general requirements for health surveillance introduced by the General Duties Regulations and require the employer to ensure that arrangements are in place to ensure that such workers are kept under appropriate health surveillance by a doctor or other appropriately qualified and competent person or body. In addition the employer shall ensure that, in accordance with Annex 4 of this MGN, effective vaccines are made available to any worker not already immune to the biological agent to which he/she is exposed or is likely to be exposed
- 17.3 The arrangements referred to in paragraph 17.2 are for the employer to arrange but must be such as to permit a worker to undergo such health surveillance as is considered appropriate both before exposure and at regular intervals thereafter. If, as a result of such health surveillance, a worker is found to be suffering from an infection or illness which is suspected to be the result of exposure to biological agents, the doctor or body responsible for the health surveillance must offer health surveillance to other workers on that ship who have been similarly exposed. In addition the employer must undertake a further risk assessment to ascertain the cause of the infection or illness and take the measures, provided for in this MGN, to remove the risk to workers.
- 17.4 In providing health surveillance of workers the doctor or body responsible for the health surveillance of workers on a ship shall have regard to the practical recommendations for the health surveillance of workers in Annex 2 to this MGN and shall, in any case, ensure that individual medical records are kept; and propose appropriate protective or preventive measures to be taken in respect of any individual worker. In addition the doctor or body concerned shall provide each worker on request with access to the results of health surveillance which concern that worker as well as with appropriate information and advice in respect of any health surveillance which they may need to undergo following the end of exposure.
- 17.5 Where the doctor or body responsible for health surveillance receives a request from a worker or employer for a review of the results of health surveillance, he/they shall undertake that review with a view to determining whether the health surveillance currently provided is adequate to address the risks to which workers are potentially exposed.
- 17.6 Where a worker catches a disease, or dies, as a result of exposure to a biological agent, the doctor or body responsible for the health surveillance of that worker shall notify the Secretary of State (in practice Seafarer Safety and Health Branch of the Maritime and Coastguard Agency) of such disease or death. The contact details are set out at the end of this MGN.
- 17.7 Further guidance is set out in Annex 2 of this MGN, which replicates the wording of Annex IV of the Directive, as well as in MGN 20 and the Code of Safe Working Practices for Merchant Seamen. More specialist health surveillance may be necessary in certain circumstances and employers may need to seek specialist occupational health advice in such an eventuality.

18. RECORD KEEPING (Regulation 18)

- 18.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section.
- 18.2. Where the derogations referred to in paragraph 18.1 do not apply, the list referred to in paragraph 14 above, as well as individual medical records arising from the carrying out of any health surveillance, are required to be kept for at least 10 years following the end of exposure. In cases where the effect of a disease may be long-term, records may require to be kept for 40 years. Medical advice from the health surveillance provider should be sought on the appropriate retention period
- 18.3 Should the employer cease trading the records are to be made available to the Secretary of State for Transport (in practice the Seafarer Safety and Health Branch of the Maritime and Coastguard Agency)

19 HEALTH AND VETERINARY CARE FACILITIES (Regulation 19)

- 19.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section. These provisions also do not apply to any vessel which does not have any health or veterinary care facilities on board. It should however be noted that in this context "health care facility" may include a "ship's hospital" or similar facility where one is required to be provided on board.
- 19.2 Where the derogations referred to in paragraph 19.1 do not apply, and any health or veterinary care facilities exist on board a ship, which could include the ship's hospital, the employer will need to take particular account of the risks of infection from human patients or animals and the materials and specimens taken from them where it is known or suspected that they might be suffering from a category 3 or 4 biological infection or in certain circumstances a category 2 infection. In such circumstances, the employer should give consideration to the need to specify appropriate decontamination and disinfection procedures. In order to minimise the risk of infection in isolation facilities where there are human patients or animals that are, or are suspected of being, infected with group 3 or group 4 biological agents, the employer should seek to apply, as far as is reasonably practicably, the appropriate containment measures set out in Annex 3 of this MGN.
- 19.3 Further advice can be found in the Ship Captain's Medical Guide.

20. SPECIAL MEASURES FOR INDUSTRIAL PROCESSES, LABORATORIES AND ANIMAL ROOMS (Regulation 20)

- 20.1 **NOTE** - The derogations referred to in paragraphs 4.4 and 4.5 of this MGN are relevant to this section. However the provisions contained in Regulation 20 only apply to vessels which undertake industrial processes using biological agents or which have laboratories or animal rooms on board and MCA is not aware of any vessels where this applies. In these circumstances it is not therefore considered necessary to include any guidance on the requirements of regulation 20.
- 20.2 In the unlikely event that any vessel, either now or in the future, does come within the scope of regulation 20, details of the requirements to be complied with can be found in Article 16 and Annexes V and VI of the Biological Agents Directive. A copy of the Biological Agents Directive can be found on the EC Website at:- <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:262:0021:0045:EN:PDF>

21. DUTIES OF OTHER PERSONS (Regulation 21)

- 21.1 In line with other health and safety Regulations, the Biological Agents Regulations contain a provision whereby any duty placed on the employer is extended to “any person who does have control of the matter to which the Regulation in question relates” in any circumstances where the employer concerned does not have responsibility for the operation of the vessel. This is in recognition of the situation on many ships that more than one employer can be responsible for the workers on board and effectively means that, whilst every employer is responsible for their own workers, an overall duty in respect of all workers on board, irrespective of who employs them, will be placed on the person(s) responsible for the actual operation of the vessel.
- 21.2 In addition to the duty referred to in paragraph 21.1 above, a duty is also placed on all workers requiring them to make full and proper use of all protective equipment provided by the employer, and to give effect to all instruction and training with which they have been provided.

22. OFFENCES, PENALTIES AND DETENTIONS (Regulations 22 - 29)

- 22.1. Regulations 22 to 29 are the enforcement provisions; any contravention of the Biological Agents Regulations is an offence and detention powers are available if conditions on board ship are clearly hazardous to health. In addition the Regulations specify maximum penalties, in line with other health and safety regulations, which may be imposed on individuals, companies etc for non compliance with the requirements of the Regulations.

23 PROHIBITION ON LEVY (Regulation 30)

- 23.1 In complying with the requirements of the Biological Agents Regulations, employers are not permitted to pass any charge, or permit any charge to be passed, on to any worker.

MORE INFORMATION

Seafarer Safety and Health Branch
Maritime and Coastguard Agency
Bay 1/29
Spring Place
105 Commercial Road
Southampton
SO15 1EG

Tel : +44 (0) 23 8032 9246
Fax : +44 (0) 23 8032 9251
e-mail: seafarer.s&h@mcga.gov.uk

General Inquiries: infoline@mcga.gov.uk

MCA Website Address: www.mcga.gov.uk

File Ref: MS 122/6/043

Published: March 2010
Please note that all addresses and
telephone numbers are correct at time of publishing



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*An executive agency of the
Department for
Transport*

When printed by the MCA the material used contains a minimum 75% post-consumer waste paper

INDICATIVE LIST OF ACTIVITIES

1. Work in food production plants.
 2. Work in agriculture.
 3. Work activities where there is contact with animals and/or products of animal origin.
 4. Work in health care, including isolation and post mortem units.
 5. Work in clinical, veterinary and diagnostic laboratories, excluding diagnostic microbiological laboratories.
 6. Work in refuse disposal plants.
 7. Work in sewage purification installations.
-

PRACTICAL RECOMMENDATIONS FOR THE HEALTH SURVEILLANCE OF WORKERS

1. The doctor and/or the authority responsible for the health surveillance of workers exposed to biological agents must be familiar with the exposure conditions or circumstances of each worker.
2. Health surveillance of workers must be carried out in accordance with the principles and practices of occupational medicine: it must include at least the following measures:
 - keeping records of a worker's medical and occupational history,
 - a personalised assessment of the worker's state of health.
 - where appropriate, biological monitoring, as well as detection of early and reversible effects.

Further tests may be decided on for each worker when he is the subject of health surveillance, in the light of the most recent knowledge available to occupational medicine.

INDICATIONS CONCERNING CONTAINMENT MEASURES AND CONTAINMENT LEVELS

Preliminary note

The measures contained in this Annex shall be applied according to the nature of the activities, the assessment of risk to workers and the nature of the biological agent concerned

A. Containment measures	B. Containment levels		
	2	3	4
1. The workplace is to be separated from any other activities in the same building	No	Recommended	Yes
2. Input air and extract air to the workplace are to be filtered using (HEPA) or likewise	No	Yes, on extract air	Yes, on input and extract air
3. Access is to be restricted to nominated workers only	Recommended	Yes	Yes, via airlock
4. The workplace is to be sealable to permit disinfection	No	Recommended	Yes
5. Specified disinfection procedures	Yes	Yes	Yes
6. The workplace is to be maintained at an air pressure negative to atmosphere	No	Recommended	Yes
7. Efficient vector control e.g. rodents and insects	Recommended	Yes	Yes
8. Surfaces impervious to water and easy to clean	Yes, for bench	Yes, for bench and floor	Yes, for bench, walls, floor and ceiling
9. Surfaces resistant to acids, alkalis, solvents, disinfectants	Recommended	Yes	Yes
10. Safe storage of a biological agent	Yes	Yes	Yes, secure storage
11. An observation window, or, alternative, is to be present, so that occupants can be seen	Recommended	Recommended	Yes
12. A laboratory is to contain own equipment	No	Recommended	Yes
13. Infected material including any animal is to be handled in a safety cabinet or isolator or other suitable containment	Where appropriate	Yes where infection is by airborne route	Yes
14. Incinerator for disposal of animal carcasses	Recommended	Yes (available)	Yes, on site

RECOMMENDED CODE OF PRACTICE ON VACCINATION

1. The doctor and/or the authority responsible for the health surveillance of workers exposed to biological agents must be familiar with the exposure conditions or circumstances of each worker.

2. Health surveillance of workers must be carried out in accordance with the principles and practices of occupational medicine; it must include at least the following measures:

- keeping records of a worker's medical and occupational history;
- a personalised assessment of the workers' state of health;
- where appropriate, biological monitoring, as well as detection of early and reversible effects.

Further tests may be decided upon for each worker when he is the subject of health surveillance, in the light of the most recent knowledge available to occupational medicine.

BIOHAZARD SIGN



USEFUL SOURCES OF INFORMATION**MCA PUBLICATIONS**

MCA Marine Guidance Note - MGN 20 (M+F) - Implementation of EC Directive 89/391: Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997

A copy can be found on the MCA Website at - <http://www.mcga.gov.uk/c4mca/mgn0020.pdf>

Marine Guidance Note - MGN 38 (M+F) - Contamination of Ships' Air Conditioning Systems by Legionella Bacteria

A copy can be found on the MCA Website at <http://www.mcga.gov.uk/c4mca/mgn0038.pdf>

MCA Marine Guidance Note - MGN 399(M) - Prevention of Infectious Disease at Sea by Immunisations and Anti-Malaria Medication (prophylaxis)

A copy can be found on the MCA Website at http://www.mcga.gov.uk/c4mca/mgn_399-2.pdf

Hard copies of these MGNs can be obtained from

M - Notices Subscriptions,
PO Box 362,
Europa Park,
Grays,
Essex
RM17 9AY

Tel: 01375 484 548;
Fax: 01375 484 556;
Email: mnotices@ecgroup.co.uk

Code of Safe Working Practices for Merchant Seafarers - copies of this document are required to be carried on board all UK registered ships except fishing vessels. A "read only" copy can be found on the MCA Website at <http://www.mcga.gov.uk/c4mca/coswp2009.pdf>

Ship Captain's Medical Guide - copies of this document are required to be carried on all seagoing or sea-fishing vessels with no limitation on length of trips and on seagoing or sea-fishing. A "downloadable" copy can be found on the MCA Website at http://www.mcga.gov.uk/c4mca/mcga07-home/workingatsea/mcga-medicalcertandadvice/mcga-dqs_st_shs_ships_capt_medical_guide.htm

Approved Doctor's Manual - A "read only" copy can be found on the MCA Website at

http://www.mcga.gov.uk/c4mca/mcga07-home/workingatsea/mcga-medicalcertandadvice/mcga-dqs-shs-seafarer_doc_inf/doctors-manual.htm

Hard copies of the Code, Ship Captain's Medical Guide and the Approved Doctor's Manual can also be purchased from The Stationery Office at the following address:-.

The Stationery Office
PO Box 29
Norwich
NR 3 1GN

Tel: 0870 600 5522
Fax: 0870 600 5533
E-mail: customer.services@tso.co.uk

HSE PUBLICATIONS

The Approved List of Biological Agents - an electronic only copy of which can be found on the HSE website at <http://www.hse.gov.uk/pubns/misc208.pdf>

Biological agents: Managing the risks in laboratories and healthcare premises - a copy of which can be found on the HSE website at <http://www.hse.gov.uk/biosafety/biologagents.pdf>

Information on **Infection at work** can also be found on HSE website at:-
<http://www.hse.gov.uk/biosafety/information.htm>

The above HSE documents, except the Approved List of Biological agents, can also be obtained thorough good booksellers or from:

HSE Books
PO Box 1999
Sudbury
Suffolk
CO10 2WA

Tel : 01787 881165
Fax: 01787 313995

Further information on HSE priced and free publications can be found on HSE Books website at "www.hsebooks.co.uk". Free leaflets can also be found and downloaded from HSE's main website at "www.hse.co.uk".

WORLD HEALTH ORGANIZATION PUBLICATIONS

World Health Organization Guide to Ship Sanitation – a revised version is understood to be due for issue in the first quarter of 2010.

Further information can be obtained from

World Health Organization
Avenue Appia 20
CH - 1211 Geneva 27
Switzerland

Tel.: +41 22 791 2111
Fax.: +41 22 791 3111

US CENTERS FOR DISEASE CONTROL AND PREVENTION

The Centers for Disease Control and Prevention, part of the US Department of Health and Human Services, has an extensive A-Z index on its website at <http://www.cdc.gov/> which provides information on many biological agents as well as other conditions. Alternatively they can be contacted at:-

Centers for Disease Control and Prevention,
1600 Clifton Rd,
Atlanta,
GA 30333,
U.S.A.

Tel - Public Inquiries: 1 800 232 4636
Email cdcinfo@cdc.gov

HEALTH PROTECTION AGENCY PUBLICATIONS

Guidance for the Management of Norovirus Infection in Cruise Ships - *a copy of this booklet can be found on the HPA Website at:-*

http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1206520183347

Copies should also be available from the Health Protection Agency at the following address:-

Health Protection Agency
Centre for Infections
61 Colindale Avenue
London
NW9 5EQ

Tel 020 8200 4400

Fax 020 8200 7868

email: infections@hpa.org.uk

Website: hpa.org.uk

Note also that the HPA website also contains an extensive section dealing with infectious diseases

NOTE - The above list is not exhaustive and further useful information may be obtainable from other sources.

OTHER SOURCES

The National Travel Health Network and Centre - <http://www.nathnac.org/index.htm> - local agents in countries overseas, embassies of foreign countries in the UK or the UK Foreign and Commonwealth Office may also be able to provide advice on biological agents (e.g malaria, lassa fever, rabies, typhoid etc) that might be encountered when visiting a particular overseas country and on appropriate preventive measures, including vaccination, that can be put in place.