



R209 - Biological Hazards in the Working Environment Recommendation, 2025 (No. 209)

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Preamble

The General Conference of the International Labour Organization,

Having been convened in Geneva by the Governing Body of the International Labour Office, and having met at its 113th Session on 2 June 2025,

Having decided upon the adoption of certain proposals with regard to protection against biological hazards in the working environment, which is the fourth item on the agenda of the session,

Having determined that these proposals shall take the form of a Recommendation supplementing the Biological Hazards in the Working Environment Convention, 2025,

adopts this 13 June 2025 the following Recommendation, which may be cited as the Biological Hazards in the Working Environment Recommendation, 2025:

1. The provisions of this Recommendation supplement those of the Biological Hazards in the Working Environment Convention, 2025 (“the Convention”), and should be considered in conjunction with them.

I. Definitions and scope

2. With reference to the definition contained in Article 1(a) of the Convention, biological hazards include:

- (a) pathogenic microorganisms and their associated toxins and allergens, including certain protozoa, bacteria, fungi, oomycetes and algae;
- (b) cells and cell cultures, including both primary cultures and immortalized cell lines, that may be contaminated with other biological hazards or carry inherent risks such as tumourinducing potential, toxins or allergens;
- (c) endoparasites, namely protozoa and helminths;
- (d) non-cellular microbiological entities, including viruses, prions and recombinant, genetically modified or synthetic DNA and RNA materials;
- (e) irritants, allergens and toxins of animal or plant origin, including any venom or allergencontaining secretions produced by animals or plants, with the exception of pollen, that may cause irritation, allergic reactions or systemic toxicity upon exposure via bites, stings or any other event resulting in the release or presence of these substances.

3. Harm to human health caused by exposure to biological hazards in the working environment includes:

- (a) infectious diseases such as brucellosis, viral hepatitis, human immunodeficiency virus disease, tetanus, tuberculosis, anthrax and leptospirosis, including health effects secondary to acute or chronic infection, such as liver disease secondary to viral hepatitis, and their sequelae;

- (b) non-infectious diseases such as toxic or inflammatory syndromes associated with bacterial or fungal allergens or toxins;
 - (c) death or any personal injury or disease resulting from an occupational accident involving exposure to a biological hazard in the working environment.
4. Health not only indicates the absence of disease or infirmity but also includes the physical and mental elements affecting health which are directly related to safety and health at work.
5. The modes of transmission mentioned in Article 1(b) of the Convention include:
- (a) transmission through the air, which involves the biological hazards travelling through or being suspended in the air;
 - (b) direct transmission, which involves living organisms, including humans and animals, that transmit a biological hazard through direct contact;
 - (c) indirect transmission, which occurs via vectors and other transmitters such as water, food, organic materials, bodily fluids or fomites.
6. The routes of exposure mentioned in Article 1(b) of the Convention include inhalation, ingestion, percutaneous injury and eye, skin and mucous membrane absorption or adsorption. These routes are usually dependent upon the characteristics of the biological hazard and the working environment.
7. To the greatest extent possible, the provisions of the Convention and this Recommendation should be applied to all branches of economic activity and to all categories of workers. Provision could be made for such measures as may be necessary and practicable to give self-employed persons protection analogous to that provided for in the Convention and this Recommendation.

II. Preventive and protective measures

8. Members should take measures, in accordance with national law and practice, with a view to ensuring that those who design, manufacture, import, provide or transfer biological substances, agents or products to which workers could be exposed in the course of their work:
- (a) satisfy themselves that, so far as is reasonably practicable, such substances, agents or products do not entail dangers for the safety and health of those using them correctly;
 - (b) make available information concerning the correct use and hazardous properties of such substances, agents or products, including in the form of safety and health information sheets if such are available, as well as instructions on preventing known risks;
 - (c) undertake studies and research or otherwise keep abreast of the scientific and technical knowledge necessary to comply with clauses (a) and (b);
 - (d) take into consideration the United Nations Recommendations on the Transport of Dangerous Goods, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, the International Health Regulations or any other relevant and applicable convention or instrument.
9. The national arrangements and guidelines referred to in Article 7(1) of the Convention should:
- (a) contain provisions on:
 - (i) carrying out a risk assessment and regularly reviewing it;
 - (ii) preventive and protective measures following the hierarchy of controls;
 - (iii) hygiene;
 - (iv) information and training of workers;
 - (v) consultation and participation of workers and their representatives for the matters under (i) to (iv);
 - (b) address, as appropriate, infection prevention and control measures, risk-based biosecurity and biosafety control measures such as levels of containment in laboratories, ventilation, vector control, decontamination and disinfection procedures, as well

as risk-based procedures for handling and disposing of hazardous waste;

(c) consider uncertainties regarding the presence of biological hazards in living organisms, vectors or other potential transmitters;

(d) be adequate and proportionate to the level of risk of exposure in each sector or occupation and to the hazards identified and risks assessed by the competent authorities.

10. The sectors and occupations referred to in Article 7(2)(c)(i) of the Convention to be included in an evaluation of risks could include, but not be limited to:

(a) the healthcare sector;

(b) food production and agricultural work, including in the animal, vegetable and grain sectors;

(c) the water and waste management sector;

(d) cleaning and maintenance work;

(e) humanitarian work;

(f) laboratory work;

(g) the biotechnology and pharmaceutical sectors;

(h) funeral services and mortuary work;

(i) the construction sector;

(j) the forestry sector;

(k) the transport sector;

(l) occupations that are critical to the functioning of society and its well-being during public health emergencies, as determined by an evaluation of biological risks by the competent authorities.

11. The workers referred to in Article 7(2)(c)(ii) of the Convention should include:

(a) pregnant and breastfeeding women;

(b) young workers;

(c) older workers;

(d) workers with disabilities;

(e) workers medically predisposed to infections or allergies, including immunocompromised workers;

(f) workers in need of protection due to their social situation and multiple disadvantages;

(g) migrant workers.

12. The preparedness and response measures, such as plans and procedures, to be established under Article 7(2)(d) of the Convention should include:

(a) the preparation or updating of regulations for the management of accidents and emergencies;

(b) detection and early warning systems;

(c) measures to be taken in the working environment in the event of outbreaks, epidemics or pandemics, including support for workers and employers in case of isolation and quarantine orders;

(d) coordination and information mechanisms with public health authorities;

(e) national and international collaboration on research;

(f) provision for appropriate emergency human resources, including surge capacity and flexible resource allocation;

(g) the effective operation of healthcare facilities and essential services;

(h) material preparedness;

- (i) collaboration between relevant national and international public health, water and waste management, environmental health, occupational health and veterinary health authorities, labour inspectorates and other relevant experts and partners;
- (j) rapid public health response systems and real-time communication of expert advice to prepare for and manage outbreaks;
- (k) training of occupational health service providers on potential biological hazards, supported by clinical or laboratory-based surveillance.

13. When developing arrangements and guidelines for the management of occupational safety and health regarding biological hazards in the working environment, Members should take due account of relevant internationally agreed technical and practical guidance developed by the International Labour Organization and other competent organizations and promote a management systems approach to occupational safety and health, such as the approach set out in the Guidelines on occupational safety and health management systems (ILO–OSH 2001).

14. Members may consider various approaches to specify appropriate and proportionate risk control measures, which may include regulations, policies or guidelines for work involving certain types of biological hazards and the classification of biological hazards into risk or hazard groups based on characteristics and epidemiological profiles.

15. Recognizing that many biological hazards create cross-border risks, Members should encourage both national and multinational employers to provide adequate occupational safety and health conditions and contribute to a preventive culture to eliminate hazards or minimize these risks.

III. Social and employment protection

16. In applying Article 12 of the Convention, Members should take due account, as appropriate, of the Social Security (Minimum Standards) Convention, 1952 (No. 102), the Employment Injury Benefits Convention, 1964 [Schedule I amended in 1980] (No. 121), the Employment Injury Benefits Recommendation, 1964 (No. 121), the List of Occupational Diseases Recommendation, 2002 (No. 194), other relevant instruments and subsequent amendments and revisions.

17. Members should, in accordance with national circumstances, endeavour to provide access to basic income security, as well as measures for business continuity, during periods of isolation or quarantine.

18. Members should endeavour to provide, as appropriate, protection from dismissal if, while complying with monitoring, travel restrictions, quarantine or isolation orders, or for related preventive or curative treatments, workers have to be absent from work.

IV. Compliance with laws and regulations

19. The system of inspection provided for in Article 13 of the Convention should be guided by the provisions of the Labour Inspection Convention, 1947 (No. 81), and the Labour Inspection (Agriculture) Convention, 1969 (No. 129), without prejudice to the obligations thereunder of Members which have ratified these instruments.

V. Duties and responsibilities of employers

20. In taking the preventive and protective measures that are their responsibility pursuant to Article 15 of the Convention, employers should take due account of relevant instruments, codes of practice and guidelines, including the Occupational Safety and Health Recommendation, 1981 (No. 164), the Promotional Framework for Occupational Safety and Health Recommendation, 2006 (No. 197), the Guidelines on occupational safety and health management systems (ILO–OSH 2001), the Technical guidelines on biological hazards in the working environment and other relevant subsequent guidance adopted by the International Labour Organization.

21. In applying the hierarchy of controls referred to in Article 16(b) of the Convention, employers should take into account the Technical guidelines on biological hazards in the working environment and other relevant subsequent guidance adopted by the International Labour Organization.

22. The preparedness and response plans and procedures referred to in Article 18 of the Convention should include:

- (a) the preparation or updating of workplace policies and guidelines on the management of emergencies related to biological hazards, taking into account possible public health impacts;

(b) the provision of appropriate and adequate preventive measures, in accordance with national law and practice and on the basis of a risk assessment, which could include the facilitation of vaccination, immunization, chemoprophylaxis and testing to all workers free of charge and on a voluntary basis.

VI. Effect on an earlier Recommendation

23. This Recommendation supersedes the Anthrax Prevention Recommendation, 1919 (No. 3).

Key Information

Recommendation concerning prevention and protection against biological hazards in the working environment
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Adoption: Geneva, 113rd ILC session (13 Jun 2025) Status: Up-to-date instrument.

See also

Submissions to competent authorities by country
