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If a whole or part of a paragraph has been amended, the date of the amending regulation appears in square brackets at the end of the paragraph. If a whole paragraph or sub-paragraph has been deleted, the date of the deletion appears in square brackets beside the deleted paragraph or sub-paragraph.

Republic of Latvia

Cabinet

Regulation No. 189

Adopted 21 May 2002

**Labour Protection Requirements when coming into Contact with Biological Substances**

*Issued pursuant to*

*Section 25, Clause 12 of the Labour Protection Law*

**I. General Provisions**

1. This Regulation prescribes requirements for the protection of employees against the risk to their safety and health (hereinafter – risk) which is caused or may be caused when coming into contact with biological substances in the workplace.

2. Biological substances are biological agents – micro-organisms (unicellular or non-cellular organisms capable of replication or of transferring genetic material), including genetically modified micro-organisms, cell cultures (cells grown in laboratory conditions originated from multi-cellular organism) and human endoparasites, which may be agents of an infectious disease or which may cause an infestation, allergy or toxicity (hereinafter – health impairment) or due to which a person may become a carrier of a disease causing agent (hereinafter – biological agents).

3. This Regulation shall not apply to the protection of employees against the risk that is caused or may be caused when coming into contact with ectoparasites, insects, biological material of animal origin, plant allergens and toxins.

4. Biological agents shall be classified into four risk groups taking into account their ability to cause health impairments:

4.1. group 1 biological agent – biological agent unlikely to cause health impairments and against the effect of which effective prophylactic measures and medical treatment are possible;

4.2. group 2 biological agent – biological agent, which may cause health impairments and may be dangerous to employees, but the possibility that it may present a threat to other people is small. Effective prophylactic measures and medical treatment are possible against the effect thereof;

4.3. group 3 biological agent – biological agent, which may cause severe health impairment (health impairment proceeding with explicit subjective deterioration of health and objectively determined explicit distortions of organism functions endangering life) and is dangerous to employees. There is a risk that it may present a threat to other people. Effective prophylactic measures and medical treatment are possible against the effect thereof;

4.4. group 4 biological agent – biological agent, which may cause a severe health impairment and is dangerous to employees. There is a high risk that it may present a threat to other people. Effective prophylactic measures and medical treatment are not possible.

5. If when classifying biological agents there are doubts in which risk group the biological agent is to be included, it shall be included in a group of the highest risk level.

6. If biological agents are not to be included in groups 2, 3 or 4 according to their classification (Annex 1), it shall not mean that they belong to group 1. Such biological agents shall be included in group 1 in case if there is evidence that a biological agent is unlikely to cause health impairments to a person and there are effective prophylactic measures and medical treatment against the effect thereof.

7. All viruses that have already been isolated in the human organism but have not been assessed and not referred to in Annex 1 of this Regulation shall be deemed to be at least group 2 biological agents, except cases where there is evidence that the relevant viruses are unlikely to cause impairments of human health.

8. The employer shall be responsible for compliance with this Regulation.

9. Compliance with this Regulation shall be controlled by the State Labour Inspectorate, but certain control functions shall be performed by the State Environmental Service and the Health Inspectorate (hereinafter – the supervisory and control authorities) in accordance with the by-laws thereof.

[*28 April 2008*]

**II. Risk Assessment**

10. In accordance with the procedures determined in laws and regulations, employers shall ensure risk assessment within the scope of internal supervision of the work environment and a risk assessment system of the work environment of an undertaking.

11. If in performing the inspection of workplaces it is determined that biological agents cause or may cause a risk, they shall be assessed determining the type, level and duration of exposure to biological agents.

12. If the work is connected with several biological agents, the risk shall be assessed considering all biological agents used at work.

13. Risk shall be assessed not less than once a year, as well as if changes in the work environment have occurred that may affect the safety and health of employees.

14. In performing risk assessment, the following shall be taken into account:

14.1. classification of biological agents;

14.2. recommendations of the supervisory and control authorities regarding the control of biological agents in order to ensure the health protection of an employee if the employee is or may be subject to exposure to biological agents during the work process;

14.3. information on diseases, which may be contracted by employees while performing work duties;

14.4. potential allergic and toxic effects, which may occur in performing work duties;

14.5. information on occupational diseases determined to employees and diseases related to work;

14.6. intensified biological agent impact on the employees whose susceptibility to diseases may be affected by a disease suffered earlier, use of medical products, immunosystem deficiency, pregnancy or breast-feeding, and similar.

15. Upon a request of the supervisory and control authorities employers shall provide information regarding risk assessment in the undertaking.

**III. Prevention and Reduction of Risk**

16. If possible, employers shall not utilise the biological agents referred to in Annex 1 of this Regulation in the work process, but they shall replace them with such biological agents as are not dangerous or, in accordance with scientific findings, are less dangerous to the health of employees.

17. On the basis of the results of the risk assessment and the information obtained during inspection of workplaces, an employer shall determine:

17.1. workplaces at which employees are or may be subject to the impact of biological agents;

17.2. employees who are or may be subject to the impact of biological agents;

17.3. measures performed to prevent or reduce the risk caused by biological agents.

18. If during risk assessment it is determined that there is a risk to the safety and health of employees, the employer has an obligation to eliminate it, but if it is not technically possible to do so taking account the specific nature of particular work, the employer shall reduce the risk to a minimum taking the following measures:

18.1. limiting the number of employees who are or may be subject to exposure to biological agents at their workplaces;

18.2. organising working procedures and control thereof so as to prevent or reduce to a minimum the release of biological agents into the work environment;

18.3. taking collective protection measures or if it is not possible to prevent the impact of biological agents on employees by utilising other means, providing employees with personal protective equipment;

18.4. ensuring compliance with the hygiene and epidemic safety regime at workplaces in order to prevent or reduce the possibility of accidental transmission or release of biological agents;

18.5. installing, in accordance with the requirements on the use of safety signs at workplaces determined in laws and regulations, biohazard signs and other safety signs at workplaces where coming into contact with biological agents is possible;

18.6. developing an evacuation plan and an action plan for employees in cases of unforeseen high pollution and other emergency situations related to exposure to biological agents;

18.7. if necessary and technically possible, utilising appropriate regular or continuous control methods for the detection of biological agents in the work environment in order to determine in sufficient time the release thereof (for example, release of biological agents into the environment, escape out of containers and technological equipment);

18.8. in accordance with the procedures determined in laws and regulations ensuring fast and safe collection, storage and disposal of waste containing biological agents using sealed, specially labelled containers made of appropriate material on which the contents thereof has been indicated;

18.9. ensuring safe storage, transport and reloading of biological agents at a workplace;

18.10. entering into a contract for taking, processing and testing of tissue samples of humans or animals with a testing laboratory which has been accredited in the Latvian National Accreditation Bureau of *sabiedrība ar ierobežotu atbildību “Standartizācijas, akreditācijas un metroloģijas centrs”* [the limited liability company Standardization, Accreditation and Metrology Centre] in accordance with the standard LVS EN ISO/IEC 17025:2005 “General requirements for the competence of testing and calibration laboratories”, and in respect of which the Ministry of Economics has published a notification in the official gazette *Latvijas Vēstnesis*.

[*28 April 2008*]

19. If employees work with biological agents which endanger the safety and health of employees at the workplace, the employer shall ensure the following:

19.1. employees shall not drink, eat and smoke in the risk area;

19.2. appropriate washing and toilet facilities equipped with eye washes and skin antiseptics;

19.3. provision of employees with protective clothing and other necessary individual protective equipment in accordance with the procedures determined in laws and regulations;

19.4. storage of work protective clothing separately from the personal clothing of employees and washing of work protective clothing in appropriate equipment separately from other clothing;

19.5. work protective clothing and other personal protective equipment shall not be taken out of the territory of the undertaking;

19.6. storage of individual protective equipment in a place particularly provided for this purpose, regular checking and cleaning thereof, timely repair or replacement with new devices of defective and worn devices.

20. Protective clothing and personal protective equipment, which may have come into with biological agents shall be stored separately from other clothing. The employer shall ensure the disinfection and cleaning or, if necessary, destruction of such clothing and protective equipment.

21. The employer shall cover expenditures related to the use of individual protective equipment including repair, checking, cleaning, disinfection and destruction of protective clothing.

**IV. List of Employees Subject to Exposure of Biological Agents**

22. The employer shall ensure:

22.1. preparation of a list of employees. Employees whose work is related to group 3 and 4 biological agents, as well as information (in writing or electronically) regarding the type of work performed, biological agents, type and duration of exposure thereof shall be indicated in the list;

22.2. registration of accidents in which the release of group 3 or group 4 biological agents occurred or may have occurred, which caused or may have caused the impairment of human health, as well as employees connected with the accident shall be indicated (information shall be recorded in writing or electronically).

23. Employers shall keep the documents referred to in Paragraph 22 of this Regulation for 10 years after the employees have finished the work with biological agents. Upon the expiry of the specified time period the documents shall be deposited in archives in accordance with the procedures specified in this Regulation, except in cases referred to in Paragraph 24 of this Regulation.

24. Employers shall keep the documents referred to in Paragraph 22 of this Regulation for 45 years following the last known exposure of biological agents and, upon the expiry of the specified time period, shall deposit the documents in archives in accordance with the procedures determined by law, if the exposure of biological agents may cause health impairments and:

24.1. the exposure is connected with biological agents known to be capable of causing persistent and latent infections;

24.2. the health impairment is undiagnosable prior to the appearance of symptoms thereof;

24.3. the biological agent has a long incubation period prior to the appearance of health impairment symptoms;

24.4. after appropriate medical treatment the health impairment recrudesces (repeats) over a long time after a specified or unspecified time period;

24.5. the exposure of biological agents may have long-term complications.

25. The documents referred to in Paragraph 22 of this Regulation shall be accessible to primary health care doctors, supervisory and control authorities, institutions competent in labour protection issues, labour protection specialists and trusted representatives of the employees.

26. Each employee has the right to receive the information referred to in Paragraph 22 of this Regulation, which relates directly to him or her.

27. If an undertaking is liquidated, the documents referred to in Paragraph 22 of this Regulation and medical records referred to in Chapter VIII of this Regulation shall be stored in accordance with the procedures specified in laws and regulations.

**Informing Supervisory and Control Authorities**

28. If an employer determines after the risk assessment that there is a risk to the safety and health of employees, upon a request of supervisory and control authorities the employer shall provide information on:

28.1. the results of the risk assessment;

28.2. the activities during which employees were or may have been subject to exposure to biological agents;

28.3. the list of employees subject to exposure to biological agents;

28.4. labour protection and preventative measures taken, information on work procedures and methods;

28.5. collective and personal protective equipment utilised in the undertaking;

28.6. the labour protection specialist and his or her powers;

28.7. the action plan in emergency situations in order to protect employees from exposure to group 3 or group 4 biological agents that may occur due to release of biological agents.

29. Employers shall submit to the supervisory and control authorities:

29.1. an initial notification at least 30 days prior to the commencement of work if he or she is preparing to work with group 2, 3 or 4 biological agents for the first time;

29.2. a re-notification if the information specified in the initial notification has changed or substantial changes have taken place in the work environment.

30. Laboratories shall submit to the supervisory and control authorities only an initial notification 30 days prior to the commencement of work if they:

30.1. provide diagnostic services related to group 4 biological agents;

30.2. prepare for the first time to work with any other group 4 biological agent and any other new group 3 biological agent, and the employer has classified such biological agents himself or herself in conformity with Annex 1 of this Regulation.

31. The employer shall provide the following information in the notifications referred to in Paragraphs 29 and 30 of this Regulation:

31.1. requisites of the employer (name, registration number and legal address);

31.2. the labour protection specialist and his or her powers;

31.3. the place where the work with biological agents is performed;

31.4. the results of risk assessment;

31.5. the species of the biological agent;

31.6. the provided for labour protection and preventative measures.

32. In accordance with the procedures specified in laws and regulations the employer shall, without delay, provide information to the relevant supervisory and control authority on all accidents, which may have caused the release of biological agents and which may cause a serious impairment of human health in conformity with exposure to group 3 or group 4 biological agents.

**VI. Labour Protection Requirements in Medical Treatment Institutions and Veterinary Care Institutions (except Diagnostic Laboratories)**

33. In assessing risk in medical treatment institutions and veterinary care institutions (except diagnostic laboratories), the employer shall in addition specify:

33.1. potential presence of biological agents in humans or animals, as well as in materials and samples taken therefrom;

33.2. threat presented by biological agents the presence of which in humans or animals, and materials and samples taken therefrom is known or there are suspicions of the presence thereof;

33.3. risk related to the nature of work.

34. In order to protect the safety and health of employees in medical treatment institutions and veterinary care institutions (except diagnostic laboratories), the employer shall take the following measures:

34.1. disinfection;

34.2. determine procedures by which waste containing biological agents shall be handled and shall perform the disposal thereof.

35. In order to minimise the risk of infection of other persons or animals, the containment measures appropriate to the situation shall be selected in accordance with Annex 2 of this Regulation in isolation facilities in which there are persons or animals who are infected or there is a possibility of becoming infected with group 3 or group 4 biological agents.

**VII. Special Measures in relation to Laboratories, Premises Intended for Animals and Industrial Processes**

36. The following measures shall be taken in laboratories, including diagnostic laboratories, and premises where laboratory animals, which are deliberately infected with group 2, 3, or 4 biological agents or which are carriers of such biological agents, or which are suspected to be carriers of such biological agents have been placed:

36.1. the containment level shall be determined in conformity with the risk level:

36.1.1. when working with group 2 biological agents at least containment level 2 shall be determined;

36.1.2. when working with group 3 biological agents at least containment level 3 shall be determined;

36.1.3. when working with group 4 biological agents at least containment level 4 shall be determined;

36.2. after the determination of the containment level provided for in Sub-paragraph 36.1 of this Regulation the necessary containment measures shall be taken in accordance with Annex 2 of this Regulation in order to minimise the risk of infection.

37. In laboratories the purpose of activities of which is not related to the cultivating or collection of biological agents, but where materials are handled that may possibly have biological agents, which may cause human health impairment, containment level 2 at least shall be ensured, but if it is known or indications exist that containment level 3 or 4 is required, containment level 3 or 4 shall be ensured.

37.1 Containment level 2 at least shall be ensured in a diagnostic laboratory also including diagnostic for SARS-CoV-2. If work in a laboratory is also related to the cultivation of SARS-CoV-2 virus, containment level 3 at least and air pressure lower than atmospheric pressure shall be ensured.

[*24 November 2020*]

38. If the strain of the biological agent is of low virulence or has lost the known virulence genes, the containment appropriate to the classification of the strain of origin thereof may be not applied. The required containment level shall be determined on the basis of the appropriate risk assessment at the workplace (for example, if it has been planned to utilise such strain as a product or a component of the product intended for prophylactic or therapeutic purposes).

39. In assessing group 3 biological agents which may cause only a minor risk of infection to employees (marked with two asterisks (\*\*) in Annex 1 of this Regulation), the applicable containment measures shall be selected taking into account the specific nature of relevant activities and the quantity of agent utilised therein in order to determine whether some of such measures may be dispensed with under specific circumstances.

40. Containment requirements in conformity with the classification of parasites shall be applied only to such stages of the life cycle of parasites in which they are capable to cause health impairments by exposure on employees at the workplace.

41. The following conditions shall be complied with in industrial processes in which group 2, 3 and 4 biological agents are utilised:

41.1. requirements referred to in Sub-paragraph 36.1 of this Regulation shall be also applied to industrial processes and containment measures referred to in Annex 3 shall be performed;

41.2. containment requirements conforming to various categories and referred to in Annex 3 of this Regulation shall be selected and combined, substantiating the selection by risk assessment of any specific process or part of the process;

41.3. in accordance with the risk assessment related to the utilisation of group 2, 3 and 4 biological agents, the supervisory and control authorities may take a decision on special measures applied to industrial utilisation of such biological agents.

42. If it is not possible to classify the biological agent and the utilisation thereof may present a risk, it is permitted to work with such biological agents only at workplaces where at least a containment level 3 has been ensured.

43. General labour protection principles shall be complied with when working with group 1 biological agents and life attenuated vaccines.

44. The employer shall ensure the conformity of safety measures to the requirements referred to in Paragraphs 36, 37, 38, 39, 40, 41 and 42 of this Regulation in industrial processes, laboratory demonstrations and in work with animals where there is exposure of group 3 or group 4 biological agents or where such exposure is possible.

**VIII. Health Surveillance of Employees**

45. If contact with biological agents is possible at the workplace, mandatory health examinations of employees shall be performed in accordance with the procedures specified in laws and regulations.

46. Medical treatment institutions shall provide information to employees and employers regarding health examinations, as well as necessary medical treatment and additional examinations of the state of health in accordance with the procedures specified in laws and regulations.

47. Based on the result of risk assessment, as well as taking into account the requirements specified in laws and regulations, the employer shall determine those employees who require special labour protection measures.

48. If employees do not have immunity against the biological agent to the exposure of which they are or may be subject, the employer shall provide the employees with an opportunity of vaccination in compliance with the following procedures:

48.1. if it is determined in the risk assessment that employees are subject to exposure to such biological agents due to which there is threat to safety and health of employees and if effective vaccines against such biological agents are available, the employer shall offer to employees an opportunity for vaccination;

48.2. vaccination shall be performed in accordance with laws and regulations;

48.3. an employer shall inform employees both on the positive and negative effects, which may arise when vaccinating and when not vaccinating;

48.4. the employer shall cover expenditures related to vaccination referred to in this Paragraph.

49. If health impairment of employees has been determined:

49.1. a doctor certified in occupational diseases or a medical treatment institution shall offer to perform additional health examinations to other employees who were subject to a similar exposure of biological agents;

49.2. employer shall perform a repeat risk assessment;

49.3. expenditures related to health examinations referred to in Sub-paragraph 49.1 of this Regulation shall be covered by the employer.

50. Health examination records shall be kept for at least 10 years following the end of biological agent exposure and after that deposited in archives in accordance with the procedures specified by law. In cases referred to in Paragraph 24 of this Regulation the results of individual health examinations shall be kept for 45 years after the last known case of biological agent exposure on employees and after that deposited in archives in accordance with the procedures specified by law.

51. A doctor certified in occupational diseases or an epidemiologist of the Centre for Disease Prevention and Control, where necessary, shall recommend to the employer appropriate labour protection and preventative measures to be taken in respect of each employee individually.

[*29 September 2009; 17 April 2012*]

52. The employer shall provide information and recommendations to each employee regarding health examinations, which may be performed also after the end of biological agent exposure.

53. Employees have the right to become acquainted with the results of examinations relating particularly to them.

54. The relevant employee and employer may request that a medical practitioner responsible for the health care of employees review the results of health examinations.

55. In performing the health surveillance of employees the following requirements shall be taken into account:

55.1. if an employee is or has been subject to the exposure of biological agents, a doctor certified in occupational diseases shall become acquainted with the conditions and circumstances of biological agent exposure;

55.2. the health care of employees shall be performed in accordance with the principles and practice of general medicine including the following measures:

55.2.1. summarising of information regarding the state of health and work of employees;

55.2.2. individual assessment of the state of health of each employee;

55.2.3. if necessary, regular control of presence of the biological agents in the organism of the employee, as well as the determination of early and reversible effects;

55.3. regular health examinations taking into account the latest scientific findings.

56. An employer shall notify the supervisory and control authorities in accordance with the procedures specified in laws and regulations on health impairments or cases of death caused by the exposure of biological agents at the workplace.

**IX. Informing, Training, Consultation and Participation of Employees**

57. If employees come into contact with biological agents during the work process, the employer shall ensure training of employees and representatives of employees in conformity with the specific nature of work (including practical training) and necessary information on the relevant labour protection measures. The employer shall inform the employees and representatives thereof regarding the following:

57.1. the potential threat to health;

57.2. the protection measures to be taken to prevent exposure to biological agents;

57.3. the hygiene requirements;

57.4. the use of protective equipment and protective clothing;

57.5. the actions of employees during accidents and actions to prevent them.

58. Employer shall ensure employees who are or may be in contact with biological agents with the following training:

58.1. initial – prior to the commencement of work;

58.2. periodic - not less frequently than once a year;

58.3. additional – if changes which may affect the safety and health of employees take place in the work environment.

59. The employer shall ensure that written instructions are provided at the workplace and notations are placed at a place accessible to everyone with information to employees regarding action if:

59.1. an accident has occurred while working with the biological agents;

59.2. employees work with group 4 biological agents.

60. Employees shall notify the employer, direct work supervisor and labour protection specialist without delay regarding all accidents at the workplace.

61. The employer shall provide, without delay, information to employees and their representatives regarding all accidents, if release of biological agents has occurred that may cause serious health impairment, causes thereof, as well as inform regarding the measures that have been or will be taken to prevent the impact of exposure of biological agents on employees.

62. The employer shall provide employees and their representatives with general information on the state in the undertaking in the field of work safety and health protection of employees.

63. The employer shall ensure the accessibility of the information referred to in Paragraph 22 of this Regulation to employees and their representatives.

64. Consultations and participation of employees and their representatives in solving the issues provided for in this Regulation shall take place in accordance with the Labour Protection Law.

**X. Application of Specific Paragraphs of this Regulation Based On Risk Assessment**

65. If it is determined in the risk assessment that employees are subject or may be subject to exposure to the group 1 biological agents (which are unlikely to cause health impairments), the requirements referred to in Chapters III, IV, V, VI and VIII, and Paragraphs 36, 37, 38, 39, 40, 41, 42, 44, 57, 58, 59, 60, 61, 62, and 63 of this Regulation shall not be applied, but Paragraph 43 shall be complied with.

66. If it is determined in the risk assessment that the provided for activity is not directly connected with the utilisation of biological agents, but a possibility exists that employees may be subject to exposure to biological agents and the exposure may cause a risk to the safety and health of employees, Paragraphs 15 and 16, and Sub-paragraph 18.10, as well as Paragraphs 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62 and 63 of this Regulation shall be applied. Provisions of this Paragraph shall apply to the following activities:

66.1. work in clinical, veterinary and diagnostic laboratories and scientific research laboratories (except microbiological diagnostic laboratories to which all Paragraphs of this Regulation shall be applied);

66.2. work in food production;

66.3. work in agriculture;

66.4. work with animals or products of animal origin;

66.5. work in medical treatment institutions, including pathologic anatomy departments and isolation facilities;

66.6. work with waste water treatment plants;

66.7. waste management.

66.1 If unforeseen exposure to biological agents is established in the risk assessment, the conditions referred to in Paragraph 66 of this Regulation shall also apply to the works which have not been referred to in Paragraph 66 of this Regulation.

[*24 November 2020*]

**XI. Closing Provision**

67. This Regulation shall come into force on 1 January 2003.

**Informative Reference to European Union Directives**

[*24 November 2020*]

This Regulation contains legal norms arising from:

1) Directive 2000/54/EC of the European Parliament and of the Council of 18 September 2000 on the protection of workers from risks related to exposure to biological agents at work (seventh individual directive within the meaning of Article 16(1) of Directive 89/391/EEC);

2) Commission Directive (EU) 2019/1833 of 24 October 2019 amending Annexes I, III, V and VI to Directive 2000/54/EC of the European Parliament and of the Council as regards purely technical adjustments;

3) Commission Directive (EU) 2020/739 of 3 June 2020 amending Annex III to Directive 2000/54/EC of the European Parliament and of the Council as regards the inclusion of SARS-CoV-2 in the list of biological agents known to infect humans and amending Commission Directive (EU) 2019/1833.

Prime Minister A. Bērziņš

Acting for the Minister for Welfare Minister for

Environmental Protection and Regional Development V. Makarovs

**Annex 1**

Cabinet Regulation No. 189

21 May 2002

**Classification of Groups 2, 3 and 4 Biological Agents**

[*24 November 2020*]

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Biological agent** | **Classification group** | **Notes** |
| 1. | *Actinomadura madurae* | 2 |  |
| 2. | *Actinomadura pelletieri* | 2 |  |
| 3. | *Actinomyces gerencseriae* | 2 |  |
| 4. | *Actinomyces israelii* | 2 |  |
| 5. | *Actinomyces* spp. | 2 |  |
| 6. | *Aggregatibacter actinomycetemcomitans (Actinobacillus actinomycetemcomitans)* | 2 |  |
| 7. | *Anaplasma*spp. | 2 |  |
| 8. | *Arcanobacterium haemolyticum (Corynebacterium haenolyticum)* | 2 |  |
| 9. | *Arcobacter butzleri* | 2 |  |
| 10. | *Bacillus anthracis* | 3 | T |
| 11. | *Bacteroides fragilis* | 2 |  |
| 12. | *Bacteroides*spp. | 2 |  |
| 13. | *Bartonella bacilliformis* | 2 |  |
| 14. | *Bartonella quintana (Rochalimaea quintana)* | 2 |  |
| 15. | *Bartonella (Rochalimaea)*spp. | 2 |  |
| 16. | *Bordetella bronchiseptica* | 2 |  |
| 17. | *Bordetella parapertussis* | 2 |  |
| 18. | *Bordetella pertussis* | 2 | T, V |
| 19. | *Bordetella*spp. | 2 |  |
| 20. | *Borrelia burgdorferi* | 2 |  |
| 21. | *Borrelia duttonii* | 2 |  |
| 22. | *Borrelia recurrentis* | 2 |  |
| 23. | *Borrelia*spp. | 2 |  |
| 24. | *Brachyspira*spp | 2 |  |
| 25. | *Brucella abortus* | 3 |  |
| 26. | *Brucella canis* | 3 |  |
| 27. | *Brucella inopinata* | 3 |  |
| 28. | *Brucella melitensis* | 3 |  |
| 29. | *Brucella suis* | 3 |  |
| 30. | *Burkholderia cepacia* | 2 |  |
| 31. | *Burkholderia mallei (Pseudomonas mallei)* | 3 |  |
| 32. | *Burkholderia pseudomallei (Pseudomonas pseudomallei)* | 3 | D |
| 33. | *Campylobacter fetus*subsp. *fetus* | 2 |  |
| 34. | *Campylobacter fetus*subsp. *venerealis* | 2 |  |
| 35. | *Campylobacter jejuni*subsp. *doylei* | 2 |  |
| 36. | *Campylobacter jejuni*subsp. *jejuni* | 2 |  |
| 37. | *Campylobacter*spp. | 2 |  |
| 38. | *Cardiobacterium hominis* | 2 |  |
| 39. | *Cardiobacterium valvarum* | 2 |  |
| 40. | *Chlamydia abortus (Chlamydophila abortus)* | 2 |  |
| 41. | *Chlamydia caviae (Chlamydophila caviae)* | 2 |  |
| 42. | *Chlamydia felis (Chlamydophila felis)* | 2 |  |
| 43. | *Chlamydia pneumoniae (Chlamydophila pneumoniae)* | 2 |  |
| 44. | *Chlamydia psittaci (Chlamydophila psittaci)*(avian strains) | 3 |  |
| 45. | *Chlamydia psittaci (Chlamydophila psittaci)*(other strains) | 2 |  |
| 46. | *Chlamydia trachomatis (Chlamydophila trachomatis)* | 2 |  |
| 47. | *Clostridium botulinum* | 2 | T |
| 48. | *Clostridium difficile* | 2 | T |
| 49. | *Clostridium perfringens* | 2 | T |
| 50. | *Clostridium tetani* | 2 | T, V |
| 51. | *Clostridium*spp. | 2 |  |
| 52. | *Corynebacterium diphtheriae* | 2 | T, V |
| 53. | *Corynebacterium minutissimum* | 2 |  |
| 54. | *Corynebacterium pseudotuberculosis* | 2 | T |
| 55. | *Corynebacterium ulcerans* | 2 | T |
| 56. | *Corynebacterium*spp. | 2 |  |
| 57. | *Coxiella burnetii* | 3 |  |
| 58. | *Edwardsiella tarda* | 2 |  |
| 59. | *Ehrlichia*spp. | 2 |  |
| 60. | *Eikenella corrodens* | 2 |  |
| 61. | *Elizabethkingia meningoseptica (Flavobacterium meningosepticum)* | 2 |  |
| 62. | *Enterobacter aerogenes (Klebsiella mobilis)* | 2 |  |
| 63. | *Enterobacter cloacae*subsp. *cloacae (Enterobacter cloacae)* | 2 |  |
| 64. | *Enterobacter*spp. | 2 |  |
| 65. | *Enterococcus*spp. | 2 |  |
| 66. | *Erysipelothrix rhusiopathiae* | 2 |  |
| 67. | *Escherichia coli* ((with the exception of non-pathogenic strains) | 2 |  |
| 68. | *Escherichia coli* (verocitotoxicogene strains, O157:H7 or O103) | 3 (\*\*) | T |
| 69. | *Fluoribacter bozemanae (Legionella)* | 2 |  |
| 70. | *Francisella hispaniensis* | 2 |  |
| 71. | *Francisella tularensis*subsp. *holarctica* | 2 |  |
| 72. | *Francisella tularensis*subsp. *mediasiatica* | 2 |  |
| 73. | *Francisella tularensis*subsp. *novicida* | 2 |  |
| 74. | *Francisella tularensis*subsp. *tularensis* | 3 |  |
| 75. | *Fusobacterium necrophorum*subsp. *funduliforme* | 2 |  |
| 76. | *Fusobacterium necrophorum*subsp. *necrophorum* | 2 |  |
| 77. | *Gardnerella vaginalis* | 2 |  |
| 78. | *Haemophilus ducreyi* | 2 |  |
| 79. | *Haemophilus influenzae* | 2 | V |
| 80. | *Haemophilus*spp. | 2 |  |
| 81. | *Helicobacter pylori* | 2 |  |
| 82. | *Helicobacter*spp. | 2 |  |
| 83. | *Klebsiella oxytoca* | 2 |  |
| 84. | *Klebsiella pneumoniae*subsp. *ozaenae* | 2 |  |
| 85. | *Klebsiella pneumoniae*subsp. *pneumoniae* | 2 |  |
| 86. | *Klebsiella pneumoniae*subsp. *rhinoscleromatis* | 2 |  |
| 87. | *Klebsiella*spp. | 2 |  |
| 88. | *Legionella pneumophila*subsp. *fraseri* | 2 |  |
| 89. | *Legionella pneumophila*subsp. *pascullei* | 2 |  |
| 90. | *Legionella pneumophila*subsp. *pneumophila* | 2 |  |
| 91. | *Legionella*spp. | 2 |  |
| 92. | *Leptospira interrogans* (all serological variants) | 2 |  |
| 93. | *Leptospira interrogans*spp. | 2 |  |
| 94. | *Listeria monocytogenes* | 2 |  |
| 95. | *Listeria ivanovii*subsp. *ivanovii* | 2 |  |
| 96. | *Listeria invanovii*subsp. *londoniensis* | 2 |  |
| 97. | *Morganella morganii*subsp. *morganii (Proteus morganii)* | 2 |  |
| 98. | *Morganella morganii*subsp. *sibonii* | 2 |  |
| 99. | *Mycobacterium abscessus*subsp. *abscessus* | 2 |  |
| 100. | *Mycobacterium africanum* | 3 | V |
| 101. | *Mycobacterium avium*subsp. *avium (Mycobacterium avium)* | 2 |  |
| 102. | *Mycobacterium avium*subsp. *paratuberculosis (Mycobacterium paratuberculosis)* | 2 |  |
| 103. | *Mycobacterium avium*subsp. *silvaticum* | 2 |  |
| 104. | *Mycobacterium bovis* | 3 | V |
| 105. | *Mycobacterium caprae (Mycobacterium tuberculosis*subsp. *caprae)* | 3 |  |
| 106. | *Mycobacterium chelonae* | 2 |  |
| 107. | *Mycobacterium chimaera* | 2 |  |
| 108. | *Mycobacterium fortuitum* | 2 |  |
| 109. | *Mycobacterium intracellulare* | 2 |  |
| 110. | *Mycobacterium kansasii* | 2 |  |
| 111. | *Mycobacterium leprae* | 3 |  |
| 112. | *Mycobacterium malmoense* | 2 |  |
| 113. | *Mycobacterium marinum* | 2 |  |
| 114. | *Mycobacterium microti* | 3(\*\*) |  |
| 115. | *Mycobacterium pinnipedii* | 3 |  |
| 116. | *Mycobacterium scrofulaceum* | 2 |  |
| 117. | *Mycobacterium simiae* | 2 |  |
| 118. | *Mycobacterium szulgai* | 2 |  |
| 119. | *Mycobacterium tuberculosis* | 3 | V |
| 120. | *Mycobacterium ulcerans* | 3(\*\*) |  |
| 121. | *Mycobacterium xenopi* | 2 |  |
| 122. | *Mycoplasma hominis* | 2 |  |
| 123. | *Mycoplasma pneumoniae* | 2 |  |
| 124. | *Mycoplasma*spp. | 2 |  |
| 125. | *Neisseria gonorrhoeae* | 2 |  |
| 126. | *Neisseria meningitidis* | 2 | V |
| 127. | *Neorickettsia sennetsu (Rickettsia sennetsu, Ehrlichia sennetsu)* | 2 |  |
| 128. | *Nocardia asteroides* | 2 |  |
| 129. | *Nocardia brasiliensis* | 2 |  |
| 130. | *Nocardia farcinica* | 2 |  |
| 131. | *Nocardia nova* | 2 |  |
| 132. | *Nocardia otitidiscaviarum* | 2 |  |
| 133. | *Nocardia*spp. | 2 |  |
| 134. | *Orientia tsutsugamushi (Rickettsia tsutsugamushi)* | 3 |  |
| 135. | *Pasteurella multocida*subsp. *gallicida (Pasteurella gallicida)* | 2 |  |
| 136. | *Pasteurella multocida*subsp. *multocida* | 2 |  |
| 137. | *Pasteurella multocida*subsp. *septica* | 2 |  |
| 138. | *Pasteurella*spp. | 2 |  |
| 139. | *Peptostreptococcus anaerobius* | 2 |  |
| 140. | *Plesiomonas shigelloides* | 2 |  |
| 141. | *Porphyromonas*spp. | 2 |  |
| 142. | *Prevotella*spp. | 2 |  |
| 143. | *Proteus mirabilis* | 2 |  |
| 144. | *Proteus penneri* | 2 |  |
| 145. | *Proteus vulgaris* | 2 |  |
| 146. | *Providencia alcalifaciens (Proteus inconstans)* | 2 |  |
| 147. | *Providencia rettgeri (Proteus rettgeri)* | 2 |  |
| 148. | *Providencia*spp. | 2 |  |
| 149. | *Pseudomonas aeruginosa* | 2 | T |
| 150. | *Rhodococcus hoagii (Corynebacterium equii)* | 2 |  |
| 151. | *Rickettsia africae* | 3 |  |
| 152. | *Rickettsia akari* | 3 (\*\*) |  |
| 153. | *Rickettsia australis* | 3 |  |
| 154. | *Rickettsia canadensis* | 2 |  |
| 155. | *Rickettsia conorii* | 3 |  |
| 156. | *Rickettsia heilongjiangensis* | 3 (\*\*) |  |
| 157. | *Rickettsia japonica* | 3 |  |
| 158. | *Rickettsia montanensis* | 2 |  |
| 159. | *Rickettsia typhi* | 3 |  |
| 160. | *Rickettsia prowazekii* | 3 |  |
| 161. | *Rickettsia rickettsii* | 3 |  |
| 162. | *Rickettsia sibirica* | 3 |  |
| 163. | *Rickettsia*spp. | 2 |  |
| 164. | *Salmonella enterica (choleraesuis)*subsp. *arizonae* | 2 |  |
| 165. | *Salmonella enteritidis* | 2 |  |
| 166. | *Salmonella paratyphi A, B, C* | 2 | V |
| 167. | *Salmonella typhi* | 3 (\*\*) | V |
| 168. | *Salmonella typhimurium* | 2 |  |
| 169. | *Salmonella* (other serovars) | 2 |  |
| 170. | *Shigella boydii* | 2 |  |
| 171. | *Shigella dysenteriae*(type 1) | 3 (\*\*) | T |
| 172. | *Shigella dysenteriae*, other than type 1 | 2 |  |
| 173. | *Shigella flexneri* | 2 |  |
| 174. | *Shigella sonnei* | 2 |  |
| 175. | *Staphylococcus aureus* | 2 | T |
| 176. | *Streptobacillus moniliformis* | 2 |  |
| 177. | *Streptococcus agalactiae* | 2 |  |
| 178. | *Streptococcus dysgalactiae*subsp. *equisimilis* | 2 |  |
| 179. | *Streptococcus pneumoniae* | 2 | T, V |
| 180. | *Streptococcus pyogenes* | 2 | T |
| 181. | *Streptococcus suis* | 2 |  |
| 182. | *Streptococcus*spp. | 2 |  |
| 183. | *Treponema carateum* | 2 |  |
| 184. | *Treponema pallidum* | 2 |  |
| 185. | *Treponema pertenue* | 2 |  |
| 186. | *Treponema*spp. | 2 |  |
| 187. | *Trueperella pyogenes* | 2 |  |
| 188. | *Ureaplasma parvum* | 2 |  |
| 189. | *Ureaplasma urealyticum* | 2 |  |
| 190. | *Vibrio cholerae* (including *El Tor*) | 2 | T, V |
| 191. | *Vibrio parahaemolyticus (Benecka parahaemolytica)* | 2 |  |
| 192. | *Vibrio*spp. | 2 |  |
| 193. | *Yersinia enterocolitica*subsp. *enterolitica* | 2 |  |
| 194. | *Yersinia enterocolitica*subsp. *palearctica* | 2 |  |
| 195. | *Yersinia pestis* | 3 |  |
| 196. | *Yersinia pseudotuberculosis* | 2 |  |
| 197. | *Yersinia*spp. | 2 |  |

**Viruses**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Biological agent****(virus species or the indicated taxonomic order)** | **Classification** | **Notes** |
| 198. | *Bunyavirales* |  |  |
| 199. | *Hantaviridae* family of viruses |  |  |
| 200. | Orthohantavirus genus |  |  |
| 200.1. | *Andes* orthohantavirus (a species of hantavirus which causes hantavirus pulmonary syndrome [HPS]) | 3 |  |
| 200.2. | *Bayou* ortohantavirus | 3 |  |
| 200.3. | Black Creek Canal orthohantavirus | 3 |  |
| 200.4. | *Cano Delgadito*orthohantavirus | 3 |  |
| 200.5. | Choclo orthohantavirus | 3 |  |
| 200.6. | Dobrava-Belgrade orthohantavirus (a species of hantavirus which causes hemorrhagic fever with renal syndrome [HFRS]) | 3 |  |
| 200.7. | El Moro Canyon orthohantavirus | 3 |  |
| 200.8. | Hantaan orthohantavirus (a species of hantavirus which causes hemorrhagic fever with renal syndrome [HFRS]) | 3 |  |
| 200.9. | Laguna Negra orthohantavirus | 3 |  |
| 200.10. | Prospect Hill orthohantavirus | 2 |  |
| 200.11. | Puumala orthohantavirus (a species of hantavirus which causes nephropathia epidemica [NE]) | 2 |  |
| 200.12. | Seoul orthohantavirus (a species of hantavirus which causes hemorrhagic fever with renal syndrome [HFRS]) | 3 |  |
| 200.13. | *Sin Nombre*  orthohantavirus(a species of hantavirus which causes hantavirus with pulmonary syndrome [HPS]) | 3 |  |
| 200.14. | Other hantaviruses known to be pathogens | 2 |  |
| 201. | *Nairoviridae genus* |  |  |
| 202. | Orthonairovirus genus |  |  |
| 202.1. | Crimean-Congo hemorrhagic fever virus | 4 |  |
| 202.2. | *Dugbe* orthonairovirus | 2 |  |
| 202.3. | *Hazara* orthonairovirus | 2 |  |
| 202.4. | Nairobi sheep disease, orthonairovirus | 2 |  |
| 202.5. | Other nairoviruses known to be pathogens | 2 |  |
| 203. | *Peribunyaviridae* family of viruses |  |  |
| 204. | Orthobunyavirus genus |  |  |
| 204.1. | *Bunyamwera* orthobunyavirus (*Germiston* virus) | 2 |  |
| 204.2. | California encephalitis orthobunyavirus | 2 |  |
| 204.3. | *Oropouche* orthobunyavirus | 3 |  |
| 204.4. | Other orthobunyaviruses known to be pathogens | 2 |  |
| 205. | *Phenuiviridae* family of viruses |  |  |
| 206. | Phlebovirus genus |  |  |
| 206.1. | *Bhanja* phlebovirus | 2 |  |
| 206.2. | *Punta Toro* phlebovirus | 2 |  |
| 206.3. | Rift Valley fever phlebovirus | 3 |  |
| 206.4. | Sandfly fever Naples phlebovirus (Toscana virus) | 2 |  |
| 206.5. | SFTS phlebovirus (severe fever with thrombocytopenia syndrome phlebovirus) | 3 |  |
| 206.6. | Other phleboviruses known to be pathogens | 2 |  |
| 207. | *Herpesvirales* order |  |  |
| 208. | *Herpesviridae* family of viruses |  |  |
| 209. | Cytomegalovirus genus |  |  |
| 209.1. | Human betaherpesvirus 5 (cytomegalovirus) | 2 |  |
| 210. | Lymphocryptovirus genus |  |  |
| 210.1. | Human gammaherpesvirus 4 (Epstein–Barr virus) | 2 |  |
| 211. | Rhadinovirus genus |  |  |
| 211.1. | Human gammaherpesvirus 8 | 2 | D |
| 212. | Roseolovirus genus |  |  |
| 212.1. | Human betaherpesvirus 6A (human B-lymphotrophic virus) | 2 |  |
| 212.2. | Human betaherpesvirus 6B | 2 |  |
| 212.3. | Human betaherpesvirus 7 | 2 |  |
| 213. | *Simplex* virus genus |  |  |
| 213.1. | Macacine alphaherpesvirus 1 (*Herpesvirus simiae*, Herpes virus B) | 3 |  |
| 213.2. | Human alphaherpesvirus 1 (Human herpesvirus 1, *herpes simplexvirus*, type 1) | 2 |  |
| 213.3. | Human alphaherpesvirus 2 (Human herpesvirus 2, *herpes simplexvirus*, type 2) | 2 |  |
| 214. | *Varicellovirus* genus |  |  |
| 214.1. | Human alphaherpesvirus 3 (*Varicella-zoster* herpesvirus) | 2 | V |
| 215. | *Mononegavirales* order |  |  |
| 216. | *Filoviridae* family of viruses |  |  |
| 217. | Ebolavirus genus | 4 |  |
| 218. | Marburg virus genus |  |  |
| 218.1. | *Marburg Marburgvirus* | 4 |  |
| 219. | *Paramyxoviridae* family of viruses |  |  |
| 220. | Avulavirus genus |  |  |
| 220.1. | Newcastle disease virus | 2 |  |
| 221. | Henipavirus genus |  |  |
| 221.1. | *Hendra*henipavirus | 4 |  |
| 221.2. | *Nipah*henipavirus | 4 |  |
| 222. | Morbilivirus genus |  |  |
| 222.1. | Measles morbillivirus | 2 | V |
| 223. | Respirovirus genus |  |  |
| 223.1. | Human respirovirus 1 (parainfluenza virus 1) | 2 |  |
| 223.2. | Human respirovirus 3 (parainfluenza virus 3) | 2 |  |
| 224. | Rubulavirus genus |  |  |
| 224.1. | Mumps rubulavirus | 2 | V |
| 224.2. | Human rubulavirus 2 (parainfluenza virus 2) | 2 |  |
| 224.3. | Human rubulavirus 4 (parainfluenza virus 4) | 2 |  |
| 225. | *Pneumoviridae* family of viruses |  |  |
| 226. | Metapneumovirus genus |  |  |
| 227. | Orthopneumovirus genus |  |  |
| 227.1. | Human orthopneumovirus (respiratory syncytial virus) | 2 |  |
| 228. | *Rhabdoviridae* family of viruses |  |  |
| 229. | Lyssavirus genus |  |  |
| 229.1. | Australian bat lyssavirus | 3(\*\*) | V |
| 229.2. | Duvenhage lyssavirus | 3(\*\*) | V |
| 229.3. | European bat lyssavirus 1 | 3(\*\*) | V |
| 229.4. | European bat lyssavirus 2 | 3(\*\*) | V |
| 229.5. | Lagos bat lyssavirus | 3(\*\*) |  |
| 229.6. | Mokola lyssavirus | 3 |  |
| 229.7. | Rabies lyssavirus | 3 (\*\*) | V |
| 230. | Vesiculovirus genus |  |  |
| 230.1. | Vesicular stomatitis virus, Alagoas vesiculovirus | 2 |  |
| 230.2. | Vesicular stomatitis virus, Indiana vesiculovirus | 2 |  |
| 230.3. | Vesicular stomatitis virus, New Jersey vesiculovirus | 2 |  |
| 230.4. | Piry vesiculovirus (Piry virus) | 2 |  |
| 231. | *Nidovirales* order |  |  |
| 232. | *Coronaviridae* family of viruses |  |  |
| 233. | *Betacoronovirus* genus |  |  |
| 233.1. | Severe acute respiratory syndrome-related coronavirus (SARS-virus) | 3 |  |
| 233.2. | Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) | 3 |  |
| 233.3. | Middle East respiratory syndrome coronavirus (MERS-virus) | 3 |  |
| 233.4. | Other *Coronaviridae* viruses known to be pathogens | 2 |  |
| 234. | *Picornavirales* order |  |  |
| 235. | *Picornaviridae* family of viruses |  |  |
| 236. | Cardiovirus genus |  |  |
| 236.1. | Saffold virus | 2 |  |
| 237. | Cosavirus genus |  |  |
| 237.1. | Cosavirus A | 2 |  |
| 238. | Enterovirus genus |  |  |
| 238.1. | Enterovirus A | 2 |  |
| 238.2. | Enterovirus B | 2 |  |
| 238.3. | Enterovirus C | 2 |  |
| 238.4. | Enterovirus D, Human enterovirus, type 70 (acute hemorrhagic conjunctivitis virus) | 2 |  |
| 238.5. | Rhinoviruses | 2 |  |
| 238.6. | Polioviruses, types 1 and 3 | 2 | V |
| 238.7. | Poliovirus-2(i) | 3 | V |
| 239. | Hepatitis  A virus genus |  |  |
| 239.1. | Hepatitis A virus (Hepatitis A virus, Human enterovirus, type 72) | 2 | V |
| 240. | Kobuvirus genus |  |  |
| 240.1. | Aichivirus A (Aichivirus 1) | 2 |  |
| 241. | Parechovirus genus |  |  |
| 241.1. | Parechoviruses A | 2 |  |
| 241.2. | Parechoviruses B (Ljungan virus) | 2 |  |
| 241.3. | Other viruses of *Picornaviridae* family known to be pathogens | 2 |  |
| 242. | Unclassified virus orders |  |  |
| 243. | *Adenoviridae* family of viruses | 2 |  |
| 244. | *Astroviridae* family of viruses | 2 |  |
| 245. | *Arenaviridae* family of viruses |  |  |
| 246. | Mammarenavirus genus |  |  |
| 246.1. | Brazilian mammarenavirus | 4 |  |
| 246.2. | Chapare mammarenavirus | 4 |  |
| 246.3. | Flexal mammarenavirus | 3 |  |
| 246.4. | Guanarito mammarenavirus | 4 |  |
| 246.5. | Junín mammarenavirus | 4 |  |
| 246.6. | Lassa mammarenavirus | 4 |  |
| 246.7. | Lujo mammarenavirus | 4 |  |
| 246.8. | Lymphocytic choriomeningitis mammarenavirus, neurotropic strains | 2 |  |
| 246.9. | Lymphocytic choriomeningitis mammarenavirus (other strains) | 2 |  |
| 246.10. | Machupo mammarenavirus | 4 |  |
| 246.11. | Mobala mammarenavirus | 2 |  |
| 246.12. | Mopeia mammarenavirus | 2 |  |
| 246.13. | Tacaribe mammarenavirus | 2 |  |
| 246.14. | Whitewater Arroyo mammarenavirus | 3 |  |
| 247. | *Caliciviridae* family of viruses |  |  |
| 248. | Norovirus genus |  |  |
| 248.1. | Norovirus (Norwalk virus) | 2 |  |
| 248.2. | Other viruses of *Caliciviridae* family known to be pathogens | 2 |  |
| 249. | *Hepadnaviridae* family of viruses |  |  |
| 250. | Orthohepadnavirus genus |  |  |
| 250.1. | Hepatitis B virus | 3 (\*\*) | V, D |
| 251. | *Hepeviridae* family of viruses |  |  |
| 252. | Orthohepevirus genus |  |  |
| 252.1. | Orthohepevirus A (Hepatitis E virus) | 2 |  |
| 253. | *Flaviviridae* family of viruses |  |  |
| 254. | Flavivirus genus |  |  |
| 254.1. | Dengue virus | 3 |  |
| 254.2. | Japanese encephalitis virus | 3 | V |
| 254.3. | Kyasanur Forest disease virus | 3 | V |
| 254.4. | Louping ill virus | 3 (\*\*) |  |
| 254.5. | Murray Valley encephalitis virus encephalitis virus (Australian encephalitis virus) | 3 |  |
| 254.6. | Omsk hemorrhagic fever virus | 3 |  |
| 254.7. | Powassan virus | 3 |  |
| 254.8. | Rocio virus | 3 |  |
| 254.9. | Saint Louis encephalitis virus | 3 |  |
| 254.10. | Tick-born encephalitis virus |  |  |
| 254.10.1. | *Absettarov* virus | 3 |  |
| 254.10.2. | *Hanzalova* virus | 3 |  |
| 254.10.3. | *Hypr* virus | 3 |  |
| 254.10.4. | *Kumlinge* virus | 3 |  |
| 254.10.5. | Negishi virus | 3 |  |
| 254.10.6. | Russian spring-summer encephalitis virus (a) | 3 | V |
| 254.10.7. | Central European tick-borne encephalitis virus | 3 (\*\*) | V |
| 254.10.8. | Far Eastern tick-borne encephalitis virus | 3 |  |
| 254.10.9. | Siberian tick-borne encephalitis virus | 3 | V |
| 254.11. | *Wesselsbron* virus | 3 (\*\*) |  |
| 254.12. | West Nile fever virus | 3 |  |
| 254.13. | Yellow fever virus | 3 | V |
| 254.14. | Zika virus | 2 |  |
| 254.15. | Other flaviviruses known to be pathogens | 2 |  |
| 255. | Hepacivirus genus |  |  |
| 255.1. | Hepacivirus C (hepatitis C virus) | 3 (\*\*) | D |
| 256. | *Orthomyxoviridae* family of viruses |  |  |
| 257. | Gammainfluenzavirus genus |  |  |
| 257.1. | Influenza C virus | 2 | V (c) |
| 258. | Influenza A virus genus |  |  |
| 258.1. | Highly pathogenic avian influenza viruses HPAIV (H5), for example, H5N1 | 3 |  |
| 258.2. | Highly pathogenic avian influenza viruses HPAIV (H7), for example, H7N7, H7N9 | 3 |  |
| 258.3. | Influenza A virus | 2 | V (c) |
| 258.4. | Influenza A virus A/New York/1/18 (H1N1) (Spanish flu 1918) | 3 |  |
| 258.5. | Influenza A virus A/Singapore/1/57 (H2N2) | 3 |  |
| 258.6. | Low pathogenic avian influenza virus (LPAI) H7N9 | 3 |  |
| 259. | Influenza B virus genus |  |  |
| 259.1. | Influenza B virus | 2 | V (c) |
| 260. | Thogotovirus genus |  |  |
| 260.1. | Dhorivirus (tick-borne *orthomyxoviridae*: Dhori) | 2 |  |
| 260.2. | Thogotovirus (tick-borne *orthomyxoviridae*: Thogoto) | 2 |  |
| 261. | *Papillomaviridae* family of viruses | 2 | D (d) |
| 262. | *Parvoviridae* family of viruses |  |  |
| 263. | Erythroparvovirus genus |  |  |
| 263.1. | Primate erythroparvovirus 1 (Human parvovirus, B 19 virus) | 2 |  |
| 264. | *Polyomaviridae* family of viruses |  |  |
| 265. | Betapolyomavirus genus |  |  |
| 265.1. | Human poliomavirus 1 (BK virus) | 2 | D (d) |
| 265.2. | Human poliomavirus 1 (BK virus) | 2 | D (d) |
| 266. | *Poxviridae* family of viruses |  |  |
| 267. | *Molluscipox*virus genus |  |  |
| 267.1. | *Molluscum contagiosum* virus | 2 |  |
| 268. | Ostopoxvirus genus |  |  |
| 268.1. | Cowpox virus | 2 |  |
| 268.2. | Monkeypox virus | 3 | V |
| 268.3. | Vaccinia virus (including Buffalopox virus (e), Elephant pox virus (f), Rabbitpox virus (g)) | 2 |  |
| 268.4. | *Variola* (major and minor) virus | 4 | V |
| 269. | Parapoxvirus genus |  |  |
| 269.1. | *Orf* virus | 2 |  |
| 269.2. | Pseudocowpox virus (Milker’s node virus, parapoxvirus bovis) | 2 |  |
| 270. | Yatapox virus genus |  |  |
| 270.1. | Tanapoxvirus | 2 |  |
| 270.2. | Yaba monkey tumor virus | 2 |  |
| 271. | *Reoviridae* family of viruses |  |  |
| 272. | Seadornavirus genus |  |  |
| 272.1. | Banna virus | 2 |  |
| 273. | Coltivirus genus | 2 |  |
| 274. | Rotavirus genus | 2 |  |
| 275. | Orbivirus genus | 2 |  |
| 276. | *Retroviridae* family of viruses |  |  |
| 277. | Deltaretrovirus genus |  |  |
| 277.1. | Primate T-lymphotropic virus 1 (human T-lymphotropic virus 1) | 3 (\*\*) | D |
| 277.2. | Primate T-lymphotropic virus 2 (human T-lymphotropic virus 2) | 3 (\*\*) | D |
| 278. | Lentiviru genus |  |  |
| 278.1. | Human immunodeficiency virus 1 | 3 (\*\*) | D |
| 278.2. | Human immunodeficiency virus 2 | 3 (\*\*) | D |
| 278.3. | Simian immunodeficiency virus (SIV) (h) | 2 |  |
| 279. | *Togaviridae* family of viruses |  |  |
| 280. | Alphavirus genus |  |  |
| 280.1. | Cabassou virus | 3 |  |
| 280.2. | Eastern equine encephalomyelitis virus | 3 | V |
| 280.3. | *Bebaru* virus | 2 |  |
| 280.4. | Chikungunya fever virus | 3 (\*\*) |  |
| 280.5. | *Everglades* virus | 3 (\*\*) |  |
| 280.6. | *Mayaro* virus | 3 |  |
| 280.7. | *Mucambo* virus | 3 (\*\*) |  |
| 280.8. | *Ndumu* virus | 3 (\*\*) |  |
| 280.9. | *O’nyong-nyong*virus | 2 |  |
| 280.10. | Ross River virus | 2 |  |
| 280.11. | *Semliki Forest* virus | 2 |  |
| 280.12. | *Sindbis* virus | 2 |  |
| 280.13. | *Tonate* virus | 3 (\*\*) |  |
| 280.14. | Venezuelan equine encephalomyelitis virus | 3 | V |
| 280.15. | Western equine encephalomyelitis virus | 3 | V |
| 280.16. | Other alphaviruses known to be pathogens | 2 |  |
| 281. | Rubivirus genus |  |  |
| 281.1. | Rubella virus | 2 | V |
| 282. | *Family of unclassified viruses* |  |  |
| 283. | Delta virus genus |  |  |
| 283.1. | Hepatitis delta virus (b) | 2 | V, D |

**Agents of prion diseases**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Biological agent** | **Classification** | **Notes** |
| 284. | Agent of Creutzfeldt-Jakob disease | 3 (\*\*) | D (d) |
| 285. | Variant Creutzfeldt-Jakob disease | 3 (\*\*) | D (d) |
| 286. | Agent of the bovine spongiform encephalopathy (BSE) and other related animal TSEs | 3 (\*\*) | D (d) |
| 287. | Agent of Gerstmann--Sträussler-Scheinker syndrome | 3 (\*\*) | D (d) |
| 288. | Agent of Kuru | 3 (\*\*) | D (d) |
| 289. | Agent of Scrapie disease | 2 |  |

**Parasites**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Biological agent** | **Classification** | **Notes** |
| 290. | *Acanthamoeba castellani* | 2 |  |
| 291. | *Ancylostoma duodenale* | 2 |  |
| 292. | *Angiostrongylus cantonensis* | 2 |  |
| 293. | *Angiostrongylus costaricensis* | 2 |  |
| 294. | *Anisakis simplex* | 2 | A |
| 295. | *Ascaris lumbricoides* | 2 | A |
| 296. | *Ascaris suum* | 2 | A |
| 297. | *Babesia divergens* | 2 |  |
| 298. | *Babesia microti* | 2 |  |
| 299. | *Balamuthia mandrillaris* | 3 |  |
| 300. | *Balantidium coli* | 2 |  |
| 301. | *Brugia malayi* | 2 |  |
| 302. | *Brugia pahangi* | 2 |  |
| 303. | *Brugia timori* | 2 |  |
| 304. | *Capillaria philippinensis* | 2 |  |
| 305. | *Capillaria*spp. | 2 |  |
| 306. | *Clonorchis sinensis (Opisthorchis sinensis)* | 2 |  |
| 307. | *Clonorchis viverrini (Opisthirchis viverrini)* | 2 |  |
| 308. | *Cryptosporidium hominis* | 2 |  |
| 309. | *Cryptosporidium parvum* | 2 |  |
| 310. | *Cyclospora cayetanensis* | 2 |  |
| 311. | *Dicrocoelium dentriticum* | 2 |  |
| 312. | *Dipetalonema streptocerca* | 2 |  |
| 313. | *Diphyllobothrium latum* | 2 |  |
| 314. | *Dracunculus medinensis* | 2 |  |
| 315. | *Echinococcus granulosus* | 3 (\*\*) |  |
| 316. | *Echinococcus multilocularis* | 3 (\*\*) |  |
| 317. | *Echinococcus oligarthrus* | 3 (\*\*) |  |
| 318. | *Echinococcus vogeli* | 3 (\*\*) |  |
| 319. | *Entamoeba histolytica* | 2 |  |
| 320. | *Enterobius vermicularis* | 2 |  |
| 321. | *Enterocytozoon bieneusi* | 2 |  |
| 322. | *Fasciola gigantica* | 2 |  |
| 323. | *Fasciola hepatica* | 2 |  |
| 324. | *Fasciolopsis buski* | 2 |  |
| 325. | *Giardia lamblia (Giardia duodenalis, Giardia intestinalis)* | 2 |  |
| 326. | *Heterophyes*spp. | 2 |  |
| 327. | *Hymenolepis diminuta* | 2 |  |
| 328. | *Hymenolepis nana* | 2 |  |
| 329. | *Leishmania aethiopica* | 2 |  |
| 330. | *Leishmania braziliensis* | 3 (\*\*) |  |
| 331. | *Leishmania donovani* | 3 (\*\*) |  |
| 332. | *Leishmania guyanensis (Viannia guyanensis)* | 3 (\*\*) |  |
| 333. | *Leishmania infantum (Leishmania chagasi)* | 3 (\*\*) |  |
| 334. | *Leishmania major* | 2 |  |
| 335. | *Leishmania mexicana* | 2 |  |
| 336. | *Leishmania panamensis (Viannia panamensis)* | 3 (\*\*) |  |
| 337. | *Leishmania peruviana* | 2 |  |
| 338. | *Leishmania tropica* | 2 |  |
| 339. | *Leishmania*spp. | 2 |  |
| 340. | *Loa loa* | 2 |  |
| 341. | *Mansonella ozzardi* | 2 |  |
| 342. | *Mansonella perstans* | 2 |  |
| 343. | *Mansonella streptocerca* | 2 |  |
| 344. | *Metagonimus*spp. | 2 |  |
| 345. | *Naegleria fowleri* | 3 |  |
| 346. | *Necator americanus* | 2 |  |
| 347. | *Onchocerca volvulus* | 2 |  |
| 348. | *Opisthorchis felineus* | 2 |  |
| 349. | *Opisthorchis*spp. | 2 |  |
| 350. | *Paragonimus westermani* | 2 |  |
| 351. | *Paragonimus*spp. | 2 |  |
| 352. | *Plasmodium falciparum* | 3 (\*\*) |  |
| 353. | *Plasmodium knowlesi* | 3 (\*\*) |  |
| 354. | *Plasmodium* spp. (human and simian) | 2 |  |
| 355. | *Sarcocystis suihominis* | 2 |  |
| 356. | *Schistosoma haematobium* | 2 |  |
| 357. | *Schistosoma intercalatum* | 2 |  |
| 358. | *Schistosoma japonicum* | 2 |  |
| 359. | *Schistosoma mansoni* | 2 |  |
| 360. | *Schistosoma mekongi* | 2 |  |
| 361. | *Strongyloides stercoralis* | 2 |  |
| 362. | *Strongyloides*spp. | 2 |  |
| 363. | *Taenia saginata* | 2 |  |
| 364. | *Taenia solium* | 3 (\*\*) |  |
| 365. | *Toxocara canis* | 2 |  |
| 366. | *Toxocara cati* | 2 |  |
| 367. | *Toxoplasma gondii* | 2 |  |
| 368. | *Trichinella nativa* | 2 |  |
| 369. | *Trichinella nelsoni* | 2 |  |
| 370. | *Trichinella pseudospiralis* | 2 |  |
| 371. | *Trichinella spiralis* | 2 |  |
| 372. | *Trichomonas vaginalis* | 2 |  |
| 373. | *Trichostrongylus orientalis* | 2 |  |
| 374. | *Trichostrongylus*spp. | 2 |  |
| 375. | *Trichuris trichiura* | 2 |  |
| 376. | *Trypanosoma brucei brucei* | 2 |  |
| 377. | *Trypanosoma brucei gambiense* | 2 |  |
| 378. | *Trypanosoma brucei rhodesiense* | 3 (\*\*) |  |
| 379. | *Trypanosoma cruzi* | 3 (\*\*) |  |
| 380. | *Wuchereria bancrofti* | 2 |  |

**Fungi**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Biological agent** | **Classification** | **Notes** |
| 381. | *Aspergillus flavus* | 2 | A |
| 382. | *Aspergillus fumigatus* | 2 | A |
| 383. | *Aspergillus*spp. | 2 |  |
| 384. | *Blastomyces dermatitidis (Ajellomyces dermatitidis)* | 3 |  |
| 385. | *Blastomyces gilchristii* | 3 |  |
| 386. | *Candida albicans* | 2 | A |
| 387. | *Candida dubliniensis* | 2 |  |
| 388. | *Candida glabrata* | 2 |  |
| 389. | *Candida parapsilosis* | 2 |  |
| 390. | *Candida tropicalis* | 2 |  |
| 391. | *Cladophialophora bantiana (Xylohypha bantiana, Cladosporium bantianum, trichoides)* | 3 |  |
| 392. | *Cladophialophora modesta* | 3 |  |
| 393. | *Cladophialophora*spp. | 2 |  |
| 394. | *Coccidioides immitis* | 3 | A |
| 395. | *Coccidioides posadasii* | 3 | A |
| 396. | *Cryptococcus gattii (Filobasidiella neoformans var. bacillispora)* | 2 | A |
| 397. | *Cryptococcus neoformans (Filobasidiella neoformans var. neoformans)* | 2 | A |
| 398. | *Emmonsia parva*var*. parva* | 2 |  |
| 399. | *Emmonsia parva*var*. crescens* | 2 |  |
| 400. | *Epidermophyton floccosum* | 2 | A |
| 401. | *Epidermophyton*spp. | 2 |  |
| 402. | *Fonsecaea pedrosoi* | 2 |  |
| 403. | *Histoplasma capsulatum* | 3 |  |
| 404. | *Histoplasma capsulatum var. farciminosum* | 3 |  |
| 405. | *Histoplasma duboisii* | 3 |  |
| 406. | *Madurella grisea* | 2 |  |
| 407. | *Madurella mycetomatis* | 2 |  |
| 408. | *Microsporum*spp. | 2 | A |
| 409. | *Nannizzia*spp. | 2 |  |
| 410. | *Neotestudina rosatii* | 2 |  |
| 411. | *Paracoccidioides brasiliensis* | 3 | A |
| 412. | *Paracoccidioides lutzii* | 3 |  |
| 413. | *Paraphyton*spp. | 2 |  |
| 414. | *Rhinocladiella mackenziei* | 3 |  |
| 415. | *Scedosporium apiospermum* | 2 |  |
| 416. | *Scedosporium prolificans (inflatum)* | 2 |  |
| 417. | *Sporothrix schenckii* | 2 |  |
| 418. | *Talaromyces marneffei (Penicillium marneffei)* | 2 | A |
| 419. | *Trichophyton rubrum* | 2 | A |
| 420. | *Trichophyton tonsurans* | 2 | A |
| 421. | *Trichophyton*spp. | 2 |  |

Notes and designations.

1. Classification includes biological agents which may cause health impairment to a human, and possible toxicity and allergenic effect thereof, availability of an effective vaccine have been indicated, and also the agents after exposure to which the list of employees subject to exposure thereof is to be kept for 10 years by designating them by letters have been specified:

A – allergy possible;

D – the list of such employees who have been subject to the exposure of such biological agent. The list shall be kept for 10 years after the end of the last known exposure;

T – production of toxins;

V – effective vaccine is available and registered.

2. If several species of the biological agent are known which are pathogenic to humans, the classification includes the species that cause health impairments most frequently and a general reference indicating the capability of other representatives of species of the same genus to affect the state of health. If the whole genus has been referred to in the list of biological agents, it means that species and strains known not to cause health impairments are not meant.

3. Such animal and plant disease-causing agents, which are known as not affecting humans have not been included in the classification, as well as genetically modified micro-organisms have not been considered.

4. Biological agents have been classified in compliance with the taxonomy and nomenclature laid down in the latest international agreements in force at the time of the preparation of this list.

5. Group 3 biological agents marked with two asterisks (\*\*) in the list may only cause a minor risk of infection to employees because usually it is not possible to become infected with them by inhalation.

6. The indication “spp.” on the biological agents referred to in this list means other species which belong to the same genus and have not been included in this list separately but are known to cause diseases in humans.

7. Indications on the biological agent mean:

a tick-borne encephalitis;

 bhepatitis D virus is pathogenic only to such employees who have become infected simultaneously or secondary with hepatitis B virus. Therefore the vaccination against hepatitis B virus will also protect employees not infected with this virus against the hepatitis D (Delta) virus;

c for types A and B only;

d recommended for work, which includes direct contact with these agents;

e two viruses have been determined: one of them is the buffalopox type virus and the other –Vaccinia virus variety;

f cowpox virus variety;

g Vaccinia virus variety;

h currently there is no evidence on human health impairments caused by retroviruses of monkey strains. It is recommended to apply the containment level 3 as a precaution measure when working with these viruses;

i classification in accordance with the WHO Global Action Plan to minimize poliovirus facility-associated risk after type-specific eradication of wild polioviruses and sequential cessation of oral polio vaccine use.

**Annex 2**

Cabinet Regulation No. 189

21 May 2002

**Containment Measures and Containment Levels for the Protection of Employees against Risk Arising from Contact with Biological Agents**

[*24 November 2020*]

|  |  |  |
| --- | --- | --- |
| **No.** | **A. Containment measures1** | **B. Containment levels** |
| **2** | **3** | **4** |
| I. Workplace |
| 1. | The workplace shall be separated from the rest of the environment in the same building | no | recommended2 | yes |
| 2. | It shall be ensured that the workplace is sealable to permit fumigation | no | recommended | yes |
| II. Facilities |
| 3. | Infected material, including all animals, shall be treated in a safety chamber or an isolation facility, or another appropriate contained room | where appropriate | yes, if infected by inhalation | yes |
| III. Equipment |
| 4. | Input and extract air to the workplace shall be filtered using HEPA3 filters or similar filters | no | yes, extract air | yes, input and extract air |
| 5. | The workplace is to be maintained at an air pressure negative to atmosphere | no | recommended | yes |
| 6. | Waterproof and easy to clean surfaces | yes, work surfaces and floors | yes, work surfaces, floors, and other surfaces specified in the risk assessment | yes, work surfaces, walls, floors and ceilings |
| 7. | Surfaces resistant to acids, alkalis, solvents, disinfectants | recommended | yes | yes |
| IV. Organisation of work |
| 8. | Access shall be restricted to specifically nominated employees only | recommended | yes | yes, via airlock4 |
| 9. | Efficient vector control, for example in respect of rodents and insects | recommended | yes | yes |
| 10. | Specific disinfection procedures | yes | yes | yes |
| 11. | Safe storage of a biological agent | yes | yes | yes, protected storage facility |
| 12. | Personnel shall shower before leaving the controlled facilities | no | recommended | recommended |
| V. Waste |
| 13. | Approved inactivation process for safe disposal of animal carcasses | recommended | yes, in the territory or outside | yes, in the territory |
| VI. Other measures |
| 14. | Laboratory shall only use its own equipment | no | recommended | yes |
| 15. | An observation window or alternative device shall be installed so that employees can be seen | recommended | recommended | yes |

Notes.

1 Containment measures shall be applied according to the nature of activities, risk assessment and characteristics of the relevant biological agent.

2 Indication “recommended” means that measures should be applied, unless results of the risk assessment indicate otherwise.

3 HEPA – high efficiency particulate air standard.

4 Entry shall be ensured via an airlock which is a chamber isolated from the laboratory. The clean side of the airlock shall be separated from the side of restricted access by changing or showering facilities and preferably by interlocking doors.

**Annex 3**

Cabinet Regulation No. 189

21 May 2002

**Containment Measures and Containment Levels for the Protection of Employees against Risk Arising from Contact with Biological Agents in Industrial Processes**

[*24 November 2020*]

|  |  |
| --- | --- |
| **A. Containment measures** | **B. Containment levels** |
| **2** | **3** | **4** |
| I. General information |
| 1. | Viable organisms shall be handled in the environment that physically separates the process from the rest of the environment | yes | yes | yes |
| 2. | Exhaust gases from the closed system1 shall be treated to: | minimise release | prevent release | prevent release |
| 3. | Sample collection, addition of materials to the closed system or transfer of viable organisms to another closed system shall be performed to: | minimise release | prevent release | prevent release |
| 4. | Bulk culture fluids may not be removed from the closed system, unless viable organisms have been subject to: | inactivation by using validated physical or chemical means | inactivation by using validated physical or chemical means | inactivation by using validated physical or chemical means |
| 5. | Seals shall be designed so as to: | minimise release | prevent release | prevent release |
| 6. | Controlled facilities shall be designed to contain spillage of the entire contents of the closed system | no | recommended2 | yes |
| 7. | Controlled facilities shall be sealable to permit fumigation | no | recommended | yes |
| II. Facilities |  |
| 8. | Personnel shall be provided with decontamination and washing facilities | yes | yes | yes |
| III. Equipment |
| 9. | Input air and extract air to the controlled facilities shall be HEPA3 filtered | no | recommended | yes |
| 10. | Air pressure lower than atmospheric pressure shall be maintained in the controlled facilities | no | recommended | yes |
| 11. | Adequate ventilation shall be ensured in the controlled facilities to minimise air contamination | recommended | recommended | yes |
| IV. Organisation of work |
| 12. | Closed systems shall be located within the controlled facilities | recommended | recommended | yes, also those built specifically |
| 13. | Biohazard signs shall be posted | recommended | yes | yes |
| 14. | Access shall be restricted to specifically nominated personnel only | recommended | yes | yes, via an airlock4 |
| 15. | Personnel shall shower prior to leaving the controlled premises | no | recommended | yes |
| 16. | Personnel shall wear protective clothing | yes, work clothing | yes | a complete change |
| V. Waste |
| 17. | Effluent from sinks and showers shall be collected and inactivated before release | no | recommended | yes |
| 18. | Effluent treatment before final discharge | inactivation by using validated physical or chemical means | inactivation by using validated physical or chemical means | inactivation by using validated physical or chemical means |

Notes.

1 Closed system – a system separating physically a process from the rest of the environment (for example, a tank of incubator, receptacle etc.)

2 Indication “recommended” means that measures should be applied, unless results of the risk assessment indicate otherwise.

3 HEPA – high efficiency particulate air standard.

4 Entry shall be ensured via an airlock which is a chamber isolated from the laboratory. The clean side of the airlock shall be separated from the side of restricted access by changing or showering facilities and preferably by interlocking doors.