



## Advisory Committee on Dangerous Pathogens

# The Approved List of Biological Agents

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The categorisation of biological agents in this publication has a special legal status as it is approved by the Health and Safety Executive. The Biological Agents and Genetically Modified Organisms (Contained Use) Regulations 2011 and the Control of Substances Hazardous to Health Regulations 2002 (as amended) impose requirements by reference to this categorisation that are legally binding. Thus, if the categorisation applies to your work activities, health and safety inspectors will expect you to be complying with these requirements, and will take appropriate enforcement action, if necessary.

This publication is prepared by the Advisory Committee on Dangerous Pathogens (ACDP) in consultation with the Health and Safety Executive. It provides guidance that represents what is considered to be good practice by members of the Committee. It has been agreed by the Executive and by Health Ministers. Following the guidance is not compulsory and you are free to take other action, but if you do follow it you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance as illustrating good practice.

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## NOTICE OF APPROVAL

The Health and Safety Executive has on **dd mm 2011** approved the publication of this document, *The Approved List of Biological Agents*, for the purposes of the Biological Agents and Genetically Modified Organisms (Contained Use) Regulations 2011 (SI **2011/xxxx**) and the Control of Substances Hazardous to Health Regulations 2002 (as amended) (SI 2002/2677).

This edition of the Approved List shall have effect from **dd mm 2011**. On that date the previous edition of the list (**ref to 2004 list**) approved by the Health and Safety Commission on the 2 March 2004 shall cease to have effect.

Signed

NAME

Secretary to the Health and Safety Executive

**dd mm 2011**

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## INTRODUCTION

1. The categorisation of biological agents in this document is an Approved List made under Section 15 of the Health and Safety at Work etc Act 1974. The Biological Agents and Genetically Modified Organisms (Contained Use) Regulations 2011 (CU2011) and the Control of Substances Hazardous to Health Regulations 2002 (as amended) (COSHH), by making reference to this list, impose requirements which are legally binding. The Notice of Approval signed by the Secretary to the Health and Safety Executive signals its legal status.
2. The list includes biological agents deemed to be human pathogens, thereby implementing the Community Classification of biological agents set out in European Community Directive 2000/54/EC. It also includes certain animal pathogens, but only those that can potentially harm relevant animals are listed and regulated by CU2011
3. Only agents in Groups 2, 3 and 4 are listed as Hazard Group 1 agents are not considered to pose a pathogenic hazard to humans or relevant animals. See Information Box below
4. Schedule 5 Part 2 of CU2011 specifies four containment levels (1 to 4) for activities which involve working with biological agents, and these correspond to the categorisation of biological agents into Hazard Groups 1 to 4, i.e., Hazard Group 2 biological agents should be handled at containment level 2, etc. CU2011 sets out a risk based approach for wild type biological agents that should be used to decide which control measures are required. European legislation does not allow human pathogens to be allocated to a risk class below that specified by their hazard group. However, for some human pathogens and for all animal pathogens on the list, it may not be necessary to use all the containment measures normally required at their specified containment level because of the nature of the agent and/or the nature of the work that is being carried out. The agents to which this applies are indicated in the Approved List. This derogation of containment is subject to assessment and approval by HSE. There is also specific HSE/ACDP guidance (Biosafety Guidelines) which should be consulted to assess containment requirements
5. Genetically modified biological agents do not appear in the Approved List although the wild type species from which many of them are derived will be listed. Guidance on aspects of work with genetically modified micro-organisms is given in *The SACGM Compendium of Guidance* <http://www.hse.gov.uk/biosafety/gmo/acgm/acgmcomp/index.htm>
6. Enquiries relating to the Approved List may be addressed to the ACDP Secretariat at HSE, Redgrave Court, Merton Road, Bootle, Merseyside L20 7HS or via email: [acdp.secretariat@hse.gsi.gov.uk](mailto:acdp.secretariat@hse.gsi.gov.uk).

## WHAT HAS CHANGED IN THIS EDITION?

7. This edition of the Approved List represents the fifth update of the official categorisation since it was first published in the *Categorisation of biological agents according to hazard and categories of containment* in 1995.
8. Changes to this edition include:
  - The term “categorisation” is used in place of the term “classification”. This is to avoid confusion with the classification of a contained use into a risk class described in CU2011.
  - The inclusion of animal pathogens to reflect the changes brought about by the introduction of CU2011. CU2011 regulates contained work previously done under the Specified Animal Pathogens Order regulated by Defra, the Scottish Executive and Welsh Assembly Government.
  - The introduction of a combined categorisation for human and animal pathogens. Agents are listed alphabetically with navigation links included when using this document on HSE’s web site.

9. From time to time ACDP, in consultation with other experts, are asked to review the list, in particular considering evidence for the addition of new agents and reviewing the evidence for the categorisation of agents already listed.

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### INFORMATION BOX: HAZARD GROUP DEFINITIONS

When categorising a biological agent it should be assigned to one of the following Groups according to its level of risk of infection to humans and according to its level of risk to relevant animals. Where the pathogen meets the definition in more than one group, the higher group should be assigned.

#### Group 1

- i) is unlikely to cause human disease; **and**
- ii) in relation to relevant animals is unlikely to produce disease or is enzootic and does not produce notifiable animal disease;

#### Group 2

- i) can cause human disease and may be a hazard to employees; it is unlikely to spread to the community and there is usually effective prophylaxis or treatment available; **or**
- ii) in relation to relevant animals is exotic, novel or produces notifiable diseases; and it has both of the following characteristics —
  - causes a low level of harm to relevant animals; **and**
  - has low likelihood of spread.

#### Group 3

- i) can cause severe human disease and may be a serious hazard to employees; it may spread to the community, but there is usually effective prophylaxis or treatment available; **or**
- ii) in relation to relevant animals is exotic, novel or produces notifiable disease and it has one or both of the following characteristics—
  - causes moderate or serious level of harm to relevant animals;
  - moderate likelihood of spread.

#### Group 4

- i) causes severe human disease and is a serious hazard to employees; it is likely to spread to the community and there is usually no effective prophylaxis or treatment available; **or**
- ii) in relation to relevant animals is exotic, novel or produces notifiable disease; and it has one or both of the following characteristics—
  - causes serious level of harm to relevant animals;
  - has a high likelihood of spread.

Relevant animals are any kind of mammal except man, any kind of four-footed beast which is not a mammal and any species of bird likely to be affected by the biological agent.

‘Novel’ means a new strain of biological agent not previously seen.

‘Harm’ means obvious disease, subclinical infections and/or increased susceptibility to disease.

‘Spread’ means the passing of the biological agent from one susceptible animal to another and assumes any necessary enzootic vector is present.

10. As a result of the most recent consultation, a number of specific changes have been made to the list as follows:

- Suid herpesvirus 1 (Aujeszky's disease virus) was changed from Hazard Group (HG) 2 to HG 3;
- *Mycoplasma mycoides* sub species *mycoides* SC variant was changed from HG2 to HG 3, with sub species *mycoides* LC remaining as HG2;

## NOTES TO THE APPROVED LIST

11. *The Approved List of Biological Agents* should be read in conjunction with the Biological Agents and Genetically Modified Organisms (Contained Use) Regulations 2011 (CU2011) and COSHH 2002 (as amended).

12. Agents appearing in the Approved List are categorised based on their ability to cause disease by infection or toxicity to humans, or harm to animals. Only agents in Groups 2, 3 and 4 are listed. Those not listed in these groups should not automatically be assumed to be categorised in Group 1.

13. In allocating human pathogens to a Hazard Group, no account is taken of particular effects on those whose susceptibility to infection may be affected, for example because of pre-existing disease, medication, compromised immunity, pregnancy or breast-feeding. Any additional risks to such employees should be considered as part of the general risk assessment required by COSHH 2002 (as amended). In the case of new or expectant mothers, the Management of Health and Safety at Work Regulations 1999 require assessment of infection risks.

14. If more than one species in any particular genus is known to be pathogenic to humans or relevant animals, the most prominent of these is generally named. There may also be a wider reference ('spp') indicating other species of the same genus may be hazardous. However, if a whole genus is indicated in this way, it is implicit that species and strains that are non-pathogenic to humans or relevant animals are excluded.

15. Where a biological agent that is a human pathogen has an approved categorisation but is considered to present a different risk of infection from the agent listed (for example because it has lost known virulence genes) then the agent can be recategorised in consultation with HSE in line with CU2011. Provided there is agreement from HSE to recategorise the agent, appropriate containment measures can be selected on the basis of the new categorisation and the assessment of the risks from the work that is to be undertaken.

16. All viruses which have been isolated from humans, but which do not have an approved categorisation, should be handled with caution, unless and until there is evidence that they are unlikely to cause disease in humans.

17. Biological agents that are animal or human pathogen cannot be reclassified. Where there is evidence that the categorisation of an animal or human pathogen is incorrect, this should be taken up with ACDP for consideration. ACDP alone has the power to recategorise an animal pathogen.

18. The containment measures required for work with parasites (protozoa and helminths) apply only to the stages in the life cycle of the parasite in which it is liable to be infectious for humans or relevant animals. Derogation based on the risks associated with other stages of the life cycle may be appropriate.

19. The Approved List also gives an indication in the 'Notes' column of which biological agents are capable of causing allergic or toxic reactions in humans or where there is an effective vaccine for humans available.

20. There is a requirement in COSHH (Schedule 3) to keep a list of employees exposed to Hazard Group 3 or Group 4 biological agents for at least 40 years after the last exposure paragraph 4. This requirement is extended to cover employees exposed to one Hazard Group 2 agent: Human herpes virus type 8.



## FURTHER INFORMATION

21. HSE and ACDP publications give advice on various aspects of work with biological agents. A full list of these publications can be accessed on the HSE web site at:

<http://www.hse.gov.uk/biosafety/information.htm>


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## THE APPROVED LIST OF BIOLOGICAL AGENTS

Quick link to biological agents listed alphabetically:

<a href="#">A</a>	<a href="#">B</a>	<a href="#">C</a>	<a href="#">D</a>	<a href="#">E</a>	<a href="#">F</a>	<a href="#">G</a>	<a href="#">H</a>	<a href="#">I</a>	<a href="#">J</a>	<a href="#">K</a>	<a href="#">L</a>	<a href="#">M</a>
<a href="#">N</a>	<a href="#">O</a>	<a href="#">P</a>	Q	<a href="#">R</a>	<a href="#">S</a>	<a href="#">T</a>	<a href="#">U</a>	<a href="#">V</a>	<a href="#">W</a>	<a href="#">X</a>	<a href="#">Y</a>	Z

### **BACTERIA**


 Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Actinobacillus actinomycetemcomitans</i>	2	2	
<i>Actinomadura madurae</i>	2	2	
<i>Actinomadura pelletieri</i>	2	2	
<i>Actinomyces gerencseriae</i>	2	2	
<i>Actinomyces israelii</i>	2	2	
<i>Actinomyces</i> spp	2	2	
<i>Alcaligenes</i> spp	2	2	
<i>Bacillus anthracis</i>	3	3	Vac avai
<i>Bacillus cereus</i>	2	2	
<i>Bacteroides fragilis</i>	2	2	
<i>Bacteroides</i> spp	2	2	
<i>Bartonella bacilliformis</i>	2	2	
<i>Bartonella quintana</i>	2	2	
<i>Bartonella</i> spp	2	2	
<i>Bordetella bronchiseptica</i>	2	2	
<i>Bordetella parapertussis</i>	2	2	
<i>Bordetella pertussis</i>	2	2	Vac avai
<i>Bordetella</i> spp	2	2	
<i>Borrelia burgdorferi</i>	2	2	
<i>Borrelia duttonii</i>	2	2	
<i>Borrelia recurrentis</i>	2	2	
<i>Borrelia</i> spp	2	2	
<i>Brachyspira</i> spp (formerly <i>Serpulina</i> spp)	2	2	
<i>Brucella abortus</i>	3	3	
<i>Brucella canis</i>	3	3	

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Brucella melitensis</i>	3	3	
<i>Brucella ovis</i>	3	-	Ani pathoge derog poss
<i>Brucella suis</i>	3	3	
<i>Burkholderia cepacia</i>	2	2	
<i>Burkholderia mallei</i> (formerly <i>Pseudomonas mallei</i> )	3	3	
<i>Burkholderia pseudomallei</i> (formerly <i>Pseudomonas pseudomallei</i> )	3	3	
<i>Campylobacter fetus</i>	2	2	
<i>Campylobacter jejuni</i>	2	2	
<i>Campylobacter</i> spp	2	2	
<i>Cardiobacterium hominis</i>	2	2	
<i>Chlamydia trachomatis</i>	2	2	
<i>Chlamydophila pneumoniae</i>	2	2	
<i>Chlamydophila psittaci</i> (avian strains)	3	3	
<i>Chlamydophila psittaci</i> (non-avian strains)	2	2	
<i>Clostridium botulinum</i>	2	2	Toxig Vac avai
<i>Clostridium perfringens</i>	2	2	Toxig Vac avai
<i>Clostridium tetani</i>	2	2	Toxig Vac avai
<i>Clostridium</i> spp	2	2	
<i>Corynebacterium diphtheriae</i>	2	2	Toxig Vac avai
<i>Corynebacterium haemolyticum</i>	2	2	
<i>Corynebacterium pseudotuberculosis</i>	2	2	
<i>Corynebacterium pyogenes</i>	2	2	
<i>Corynebacterium ulcerans</i>	2	2	
<i>Corynebacterium</i> spp	2	2	
<i>Coxiella burnetii</i>	3	3	
<i>Edwardsiella tarda</i>	2	2	
<i>Ehrlichia ruminantium</i>	2	-	Ani pathoge derog poss

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Ehrlichia sennetsu</i> ( <i>Rickettsia sennetsu</i> )	3	3	
<i>Ehrlichia</i> spp	2	2	
<i>Eikenella corrodens</i>	2	2	
<i>Enterobacter aerogenes/cloacae</i>	2	2	
<i>Elizabethkingia meningoseptica</i> (formerly <i>Flavobacterium meningosepticum</i> )	2	2	
<i>Enterobacter</i> spp	2	2	
<i>Enterococcus</i> spp	2	2	
<i>Erysipelothrix rhusiopathiae</i>	2	2	
<i>Escherichia coli</i> (with the exception of non-pathogenic strains)	2	2	
<i>Escherichia coli</i> , verocytotoxigenic strains (eg O157:H7 or O103)	3	3	Toxic Dero possib <a href="#">Ann</a>
<i>Flavobacterium meningosepticum</i> – see <i>Elizabethkingia meningoseptica</i>	2	2	
<i>Fluoribacter bozemanai</i> (see <i>Legionella</i> )	2	2	
<i>Francisella tularensis</i> (Type A)	3	3	Vac avai
<i>Francisella tularensis</i> (Type B)	2	2	
<i>Fusobacterium necrophorum</i>	2	2	
<i>Fusobacterium</i> spp	2	2	
<i>Gardnerella vaginalis</i>	2	2	
<i>Haemophilus ducreyi</i>	2	2	
<i>Haemophilus influenzae</i>	2	2	
<i>Haemophilus</i> spp	2	2	
<i>Helicobacter pylori</i>	2	2	
<i>Klebsiella oxytoca</i>	2	2	
<i>Klebsiella pneumoniae</i>	2	2	
<i>Klebsiella</i> spp	2	2	
<i>Legionella pneumophila</i>	2	2	
<i>Legionella</i> spp	2	2	
<i>Leptospira interrogans</i> (all serovars)	2	2	
<i>Listeria ivanovii</i>	2	2	
<i>Listeria monocytogenes</i>	2	2	
<i>Moraxella catarrhalis</i>	2	2	
<i>Morganella morganii</i>	2	2	
<i>Mycobacterium africanum</i>	3	3	Vac avai
<i>Mycobacterium avium/intracellulare</i>	2	2	
<i>Mycobacterium bovis</i>	3	3	Vac

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Mycobacterium bovis</i> (BCG strain)	2	2	avai
<i>Mycobacterium chelonae</i>	2	2	
<i>Mycobacterium fortuitum</i>	2	2	
<i>Mycobacterium kansasii</i>	2	2	
<i>Mycobacterium leprae</i>	3	3	Vac avai
<i>Mycobacterium malmoeense</i>	3	3	
<i>Mycobacterium marinum</i>	2	2	
<i>Mycobacterium microti</i>	3	3	Derog possib <a href="#">Ann</a>
<i>Mycobacterium paratuberculosis</i>	2	2	
<i>Mycobacterium scrofulaceum</i>	2	2	
<i>Mycobacterium simiae</i>	2	2	
<i>Mycobacterium szulgai</i>	3	3	
<i>Mycobacterium tuberculosis</i>	3	3	Vac avai
<i>Mycobacterium ulcerans</i>	3	3	Derog possib <a href="#">Ann</a>
<i>Mycobacterium xenopi</i>	2	2	
<i>Mycoplasma agalactiae</i>	2	-	Ani pathoge derog poss
<i>Mycoplasma capricolum</i> subspecies <i>capripneumoniae</i>	2	-	Ani pathoge derog poss
<i>Mycoplasma caviae</i>	2	2	
<i>Mycoplasma hominis</i>	2	2	
<i>Mycoplasma mycoides</i> subspecies <i>mycoides</i> , LC variant	2	-	Ani pathoge derog poss
<i>Mycoplasma mycoides</i> subspecies <i>mycoides</i> , SC variant	3	-	Ani pathoge derog poss
<i>Mycoplasma mycoides</i> var <i>capri</i>	2	-	Ani pathoge derog

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Mycoplasma pneumoniae</i>	2	2	poss
<i>Neisseria gonorrhoeae</i>	2	2	
<i>Neisseria meningitidis</i>	2	2	Vac availa so serog
<i>Nocardia asteroides</i>	2	2	
<i>Nocardia brasiliensis</i>	2	2	
<i>Nocardia farcinica</i>	2	2	
<i>Nocardia nova</i>	2	2	
<i>Nocardia otitidiscaviarum</i>	2	2	
<i>Pasteurella multocida</i>	2	2	
<i>Pasteurella</i> spp	2	2	
<i>Peptostreptococcus anaerobius</i>	2	2	
<i>Peptostreptococcus</i> spp	2	2	
<i>Plesiomonas shigelloides</i>	2	2	
<i>Porphyromonas</i> spp	2	2	
<i>Prevotella</i> spp	2	2	
<i>Proteus mirabilis</i>	2	2	
<i>Proteus penneri</i>	2	2	
<i>Proteus vulgaris</i>	2	2	
<i>Providencia alcalifaciens</i>	2	2	
<i>Providencia rettgeri</i>	2	2	
<i>Providencia</i> spp	2	2	
<i>Pseudallescheria boydii</i> – see <a href="#">Scedosporium apiospermum</a>			
<i>Pseudomonas aeruginosa</i>	2	2	
<i>Rhodococcus equi</i>	2	2	
<i>Rickettsia akari</i>	3	3	Dero possib <a href="#">Ann</a>
<i>Rickettsia canada</i>	3	3	Dero possib <a href="#">Ann</a>
<i>Rickettsia conorii</i>	3	3	
<i>Rickettsia montana</i>	3	3	Dero possib <a href="#">Ann</a>
<i>Rickettsia mooseri</i> – see <a href="#">Rickettsia typhi</a>			
<i>Rickettsia prowazekii</i>	3	3	
<i>Rickettsia rickettsii</i>	3	3	

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Rickettsia sennetsu</i> - see <a href="#">Ehrlichia sennetsu</a>	3	3	
<i>Rickettsia tsutsugamushi</i>	3	3	
<i>Rickettsia typhi</i> ( <i>Rickettsia mooseri</i> )	3	3	
<i>Rickettsia</i> spp	3	3	
<i>Salmonella arizonae</i>	2	2	
<i>Salmonella enterica</i> serovar <i>enteritidis</i>	2	2	
<i>Salmonella enterica</i> serovar <i>typhimurium</i> 2	2	2	
<i>Salmonella paratyphi</i> A	3	3	Dero possib <a href="#">Ann</a>
<i>Salmonella paratyphi</i> B/java	3	3	Dero possib <a href="#">Ann</a>
<i>Salmonella</i>  <i>atyphi</i> C/ Choleraesuis	3	3	Dero possib <a href="#">Ann</a>
<i>Salmonella typhi</i>	3	3	Vac avai Dero possib <a href="#">Ann</a>
<i>Salmonella</i> spp	2	2	<a href="#">Ann</a>
<i>Serpulina</i> spp – see <a href="#">Brachyspira spp</a>			
<i>Shigella boydii</i>	2	2	
<i>Shigella dysenteriae</i> (other than Type 1)	2	2	
<i>Shigella dysenteriae</i> (Type 1)	3	3	Toxi Dero possib <a href="#">Ann</a>
<i>Shigella flexneri</i>	2	2	
<i>Shigella sonnei</i>	2	2	
<i>Staphylococcus aureus</i>	2	2	Toxi
<i>Streptobacillus moniliformis</i>	2	2	
<i>Streptococcus agalactiae</i>	2	2	
<i>Streptococcus dysgalactiae equisimilis</i>	2	2	
<i>Streptococcus pneumoniae</i>	2	2	
<i>Streptococcus pyogenes</i>	2	2	
<i>Streptococcus suis</i>	2	2	
<i>Streptococcus</i> spp	2	2	
<i>Treponema carateum</i>	2	2	
<i>Treponema pallidum</i>	2	2	
<i>Treponema pertenue</i>	2	2	

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Treponema</i> spp	2	2	
<i>Ureaplasma parvum</i>	2	2	
<i>Ureaplasma urealyticum</i>	2	2	
<i>Vibrio cholerae</i> (including El Tor)	2	2	Toxic Vacc avail
<i>Vibrio parahaemolyticus</i>	2	2	
<i>Vibrio</i> spp	2	2	
<i>Yersinia enterocolitica</i>	2	2	
<i>Yersinia pestis</i>	3	3	Vacc avail
<i>Yersinia pseudotuberculosis</i>	2	2	
<i>Yersinia</i> spp	2	2	

## **FUNGI**

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Absidia corymbifera</i> - see <a href="#">Lichtheimia corymbifera</a>			
<i>Ajellomyces dermatitidis</i> - see <a href="#">Blastomyces dermatitidis</a>			
<i>Aspergillus fumigatus</i>	2	2	Alle
<i>Aspergillus</i> spp.	2	2	
<i>Blastomyces dermatitidis</i> ( <i>Ajellomyces dermatitidis</i> )	3	3	
<i>Candida albicans</i>	2	2	
<i>Candida</i> spp.	2	2	
<i>Cladophialophora bantiana</i> (formerly <i>Xylohypha bantiana</i> , <i>Cladosporium bantianum</i> )	3	3	
<i>Cladophialophora devresii</i>	3	3	
<i>Cladosporium bantianum</i> (formerly <i>Xylohypha bantiana</i> )- see <a href="#">Cladophialophora bantiana</a>			
<i>Coccidioides immitis</i>	3	3	
<i>Coccidioides posadasii</i>	3	3	
<i>Cryptococcus neoformans</i> var. <i>gattii</i> ( <i>Filobasidiella bacillispora</i> )	2	2	
<i>Cryptococcus neoformans</i> var. <i>neoformans</i>	2	2	



Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Emmonsia cresens</i>	2	2	
<i>Emmonsia parva</i>	2	2	
<i>Epidermophyton floccosum</i>	2	2	
<i>Exophiala</i> spp.	2	2	
<i>Filobasidiella bacillispora</i> – see <a href="#">Cryptococcus neoformans var. gattii</a>			
<i>Filobasidiella neoformans</i> var. <i>neoformans</i> – sexual state of <a href="#">Cryptococcus neoformans var. neoformans</a>	3	3	
<i>Fonsecaea compacta</i>	2	2	
<i>Fonsecaea pedrosoi</i>	2	2	
<i>Fusarium</i> spp.	2	2	
<i>Geotrichum</i> spp.	2	2	
<i>Histoplasma capsulatum</i> var. <i>capsulatum</i> ( <i>Ajellomyces capsulatus</i> )	3	3	
<i>Histoplasma capsulatum</i> var. <i>duboisii</i>	3	3	
<i>Histoplasma capsulatum</i> var. <i>farcinimosum</i>	3	3	
<i>Lichtheimia corymbifera</i>	2	2	
<i>Madurella grisea</i>	2	2	
<i>Madurella mycetomatis</i>	2	2	
<i>Malassezia</i> spp.	2	2	
<i>Microsporum</i> spp	2	2	
<i>Neotestudina rosatii</i>	2	2	
<i>Paracoccidioides brasiliensis</i>	3	3	
<i>Penicillium marneffeii</i>	3	3	Alle
<i>Rhinochrysiella mackenziei</i> (formerly <i>Ramichloridium</i> )	3	3	
<i>Rhizomucor pusillus</i>	2	2	
<i>Rhizopus microspores</i>	2	2	
<i>Saksenaea vasiformis</i>	2	2	
<i>Scedosporium apiospermum</i> ( <i>Pseudallescheria boydii</i> )	2	2	
<i>Scedosporium proliferans</i> ( <i>inflatum</i> )	2	2	
<i>Scopulariopsis brevicaulis</i>	2	2	
<i>Sporothrix schenckii</i>	2	2	
<i>Trichophyton rubrum</i>	2	2	
<i>Trichophyton</i> spp.	2	2	
<i>Trichosporon</i> spp.	2	2	

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Xylohypha bantiana</i> – see <a href="#">Cladophialophora bantiana</a>			

**HELMINTHS**

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	No
<i>Ancylostoma duodenale</i>	2	2	
<i>Angiostrongylus cantonensis</i>	2	2	
<i>Angiostrongylus costaricensis</i>	2	2	
<i>Anisakis simplex</i>	2	2	
<i>Ascaris lumbricoides</i>	2	2	
<i>Ascaris suum</i>	2	2	
<i>Brugia malayi</i>	2	2	
<i>Brugia pahangi</i>	2	2	
<i>Brugia timori</i>	2	2	
<i>Capillaria philippinensis</i>	2	2	
<i>Capillaria</i> spp	2	2	
<i>Clonorchis</i> - see <a href="#">Opisthorchis</a>	2	2	
<i>Contracaecum osculatum</i>	2	2	
<i>Dicrocoelium dendriticum</i>	2	2	
<i>Dipetalonema</i> - see <a href="#">Mansonella</a>	2	2	
<i>Diphyllobothrium latum</i>	2	2	
<i>Dracunculus medinensis</i>	2	2	
<i>Echinococcus granulosus</i>	3	3	D po
<i>Echinococcus multilocularis</i>	3	3	D po
<i>Echinococcus vogeli</i>	3	3	D po
<i>Enterobius vermicularis</i>	2	2	
<i>Fasciola gigantica</i>	2	2	
<i>Fasciola hepatica</i>	2	2	
<i>Fasciolopsis buski</i>	2	2	
<i>Heterophyes</i> spp	2	2	
<i>Hymenolepis diminuta</i>	2	2	

Biological agent	Combined Hazard Group	Human pathogen Hazard Group
<i>Hymenolepis nana</i>	2	2
<i>Loa loa</i>	2	2
<i>Mansonella ozzardi</i>	2	2
<i>Mansonella perstans</i>	2	2
<i>Mansonella streptocerca</i>	2	2
<i>Metagonimus</i> spp	2	2
<i>Necator americanus</i>	2	2
<i>Onchocerca volvulus</i>	2	2
<i>Opisthorchis felineus</i>	2	2
<i>Opisthorchis sinensis</i> ( <i>Clonorchis sinensis</i> )	2	2
<i>Opisthorchis</i> spp	2	2
<i>Opisthorchis viverrini</i> ( <i>Clonorchis viverrini</i> )	2	2
<i>Paragonimus westermani</i>	2	2
<i>Paragonimus</i> spp	2	2
<i>Pseudoterranova decipiens</i>	2	2
<i>Schistosoma haematobium</i>	2	2
<i>Schistosoma intercalatum</i>	2	2
<i>Schistosoma japonicum</i>	2	2
<i>Schistosoma mansoni</i>	2	2
<i>Schistosoma mekongi</i>	2	2
<i>Schistosoma</i> spp	2	2
<i>Strongyloides</i> spp	2	2
<i>Strongyloides stercoralis</i>	2	2
<i>Taenia saginata</i>	2	2
<i>Taenia solium</i>	3	3
<i>Toxocara canis</i>	2	2
<i>Toxocara cati</i>	2	2
<i>Trichinella nativa</i>	2	2
<i>Trichinella nelsoni</i>	2	2
<i>Trichinella pseudospiralis</i>	2	2
<i>Trichinella spiralis</i>	2	2
<i>Trichostrongylus orientalis</i>	2	2
<i>Trichostrongylus</i> spp	2	2
<i>Trichuris trichiura</i>	2	2
<i>Wuchereria bancrofti</i>	2	2

**PROTOZOA**

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
<i>Acanthamoeba castellanii</i>	2	2	
<i>Acanthamoeba</i> spp	2	2	
<i>Babesia bigemina</i>	2	-	Anim only
<i>Babesia bovis</i>	2	-	Anim only
<i>Babesia caballi</i>	2	-	Anim only
<i>Babesia divergens</i>	2	2	
<i>Babesia microti</i>	2	2	
<i>Babesia</i> spp.	2	2	
<i>Balantidium coli</i>	2	2	
<i>Blastocystis hominis</i>	2	2	
<i>Cryptosporidium hominis</i>	2	2	
<i>Cryptosporidium parvum</i>	2	2	
<i>Cryptosporidium</i> spp	2	2	
<i>Cyclospora cayetanensis</i>	2	2	
<i>Cyclospora</i> spp	2	2	
<i>Dientamoeba fragilis</i>	2	2	
<i>Encephalitozoon cuniculi</i>	2	2	
<i>Encephalitozoon hellem</i>	2	2	
<i>Encephalitozoon intestinalis</i>	2	2	
<i>Entamoeba histolytica</i>	2	2	
<i>Enterocytozoon bieneusi</i>	2	2	
<i>Giardia lamblia</i> ( <i>Giardia intestinalis</i> )	2	2	
<i>Isopora belli</i>	2	2	
<i>Leishmania aethiopica</i>	2	2	
<i>Leishmania brasiliensis</i>	3	3	D possib
<i>Leishmania donovani</i>	3	3	D possib
<i>Leishmania major</i>	2	2	
<i>Leishmania mexicana</i>	2	2	
<i>Leishmania peruviana</i>	2	2	
<i>Leishmania</i> spp	2	2	
<i>Leishmania tropica</i>	2	2	
<i>Naegleria fowleri</i>	3	3	

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
<i>Plasmodium falciparum</i>	3	3	D possib
<i>Plasmodium</i> spp (human & simian)	2	2	
<i>Sarcocystis sui hominis</i>	2	2	
<i>Theileria annulata</i>	2	-	Anim only
<i>Theileria equi</i>	2	-	Anim only
<i>Theileria parva</i>	2	-	Anim only
<i>Toxoplasma gondii</i>	2	2	
<i>Trichomonas vaginalis</i>	2	2	
<i>Trypanosoma brucei brucei</i>	2	2	
<i>Trypanosoma brucei gambiense</i>	2	2	
<i>Trypanosoma brucei rhodesiense</i>	3	3	D possib
<i>Trypanosoma congolense</i>	2	-	Anim only
<i>Trypanosoma cruzi</i>	3	3	
<i>Trypanosoma equiperdum</i>	2	-	Anim only
<i>Trypanosoma evansi</i>	2	-	Anim only
<i>Trypanosoma simiae</i>	2	-	Anim only
<i>Trypanosoma vivax</i>	2	-	Anim only

**PRIONS - UNCONVENTIONAL AGENTS ASSOCIATED WITH TRANSMISSIBLE SPONGIFORM ENCEPHALOPATHIES**

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
<b>Human TSEs</b>			
<b>Sporadic forms of human TSE:</b>			
Sporadic Creutzfeldt-Jakob disease agent	3	3	Derogated see <a href="#">Annex 1</a>
Sporadic fatal insomnia agent	3	3	Derogated see <a href="#">Annex 1</a>
Variably protease resistant prionopathy agent	3	3	Derogated see <a href="#">Annex 1</a>
<b>Genetic forms of human TSE:</b>			
Familial Creutzfeldt-Jakob disease agent	3	3	Derogated see <a href="#">Annex 1</a>
Gerstmann - Straussler- Scheinker syndrome agent	3	3	Derogated see <a href="#">Annex 1</a>
Fatal familial insomnia agent	3	3	Derogated see <a href="#">Annex 1</a>
<b>Acquired forms of human TSE:</b>			
Variant Creutzfeldt-Jakob disease agent	3	3	Derogated see <a href="#">Annex 1</a>
Iatrogenic Creutzfeldt-Jakob disease agent	3	3	Derogated see <a href="#">Annex 1</a>
Kuru agent	3	3	Derogated see <a href="#">Annex 1</a>
<b>Animal TSEs</b>			
Bovine spongiform encephalopathy (BSE) agent	3	3	Derogated see <a href="#">Annex 1</a>
All strains related to or derived from BSE (including feline spongiform encephalopathy agent and spongiform encephalopathy agent in exotic ungulates)	3	3	Derogated see <a href="#">Annex 1</a>
H-type BSE agent	3	3	Derogated see <a href="#">Annex 1</a>
L-type BSE agent	3	3	Derogated see <a href="#">Annex 1</a>
Scrapie and scrapie related agents	2	2	
Atypical scrapie agent	2	2	
Chronic Wasting Disease agent	3	3	Derogated see <a href="#">Annex 1</a>
<b>Laboratory strains of TSEs</b>			
Any strain propagated in primates, mice expressing human PrP gene or mice	3	3	Derogated see <a href="#">Annex 1</a>

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
encoding human familial mutations in PrP			
Human strains propagated in any species	3	3	Derogated see <a href="#">Annex</a>

**VIRUSES**

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
<b><i>Adenoviridae</i></b>	2	2	
<b><i>Anelloviridae</i></b>			
Torque Teno virus (Transfusion transmitted virus)	2	2	
<b><i>Arenaviridae</i></b>			
<b>Old world arenaviruses:</b>			
Ippya virus	2	2	
Lassa fever virus	4	4	
Luján virus	4	4	
Lymphocytic (strains)	3	3	
Lymphocytic choriomeningitis virus (other strains)	3	3	Derogated Armstrong
Mobala virus	3	3	
Mopeia virus	3	3	
Other LCM-Lassa complex viruses	2	2	

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
<b>New world arenaviruses:</b>			
Amapari virus	2	2	
Flexal virus	3	3	
Guanarito virus	4	4	
Junin virus	4	4	
Latino virus	2	2	
Machupo virus	4	4	
Parana virus	2	2	
Pichinde virus	2	2	
Sabia virus	4	4	
Tamiami virus	2	2	
Whitewater Arroyo virus	2	2	
Other new world arenaviruses	2	2	
<b>Arteriviridae</b>			
Porcine Reproductive and Respiratory Syndrome virus Genotype 2 (PRRSv2)	3	-	Animal p - deroga possible
Equine arteritis virus	2	-	
<b>Asfarviridae</b>			
African swine fever virus	4	-	Animal p



Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
<b><i>Astroviridae</i></b>	2	2	
<b><i>Bornaviridae</i></b>			
Borna disease virus	3	3	
<b><i>Bunyaviridae</i></b>			
<b>Bunyaviruses:</b>			
Akabane virus	3	3	
Bhanja virus	3	3	
Germiston virus	3	3	
Oropouche virus	3	3	
Ngari virus	3	3	
<b>Hantaviruses:</b>			
Andes virus	3	3	
Belgrade (Dobrava) virus	3	3	
Hantaan virus (Korean haemorrhagic fever)	3	3	
Seoul virus	3	3	
Sin Nombre virus (formerly Muerto Canyon)	3	3	
<b>Nairoviruses:</b>			
Crimean/Congo haemorrhagic fever virus	4	4	
Ganjam virus	3	-	
Nairobi sheep disease	3	-	
<b>Phleboviruses:</b>			
Rift valley fever virus	3	3	Vaccine
Other <i>bunyaviridae</i> known to be pathogenic (e.g. Bunyamwera, California encephalitis, Prospect Hill, Puumala, other hantaviruses, Hazara, Sandfly fever, Toscana)	2	2	
<b><i>Caliciviridae</i></b>			

- derogate possible

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
Norovirus (formerly Norwalk virus)	2	2	
Sapo virus	2	2	
Other <i>caliciviridae</i>	2	2	
<b>Coronaviridae</b>			
29E virus	2	2	
OC43 virus	2	2	
SARS virus	3	3	
Other <i>coronaviridae</i>	2	2	
<b>Filoviridae</b>			
Ebola Cote d'Ivoire virus	4	4	
Ebola Reston virus	4	4	
Ebola Sudan virus	4	4	
Ebola Zaire virus	4	4	
Marburg virus	4	4	
<b>Flaviviridae</b>			
Absettarov virus	3	3	Vaccine
Central European tick-borne encephalitis virus	3	3	
Classical swine fever virus	3	-	Animal p - deroga possible
Dengue viruses types 1-4	3	3	
GB virus C (Hepatitis G virus)	3	3	Derogate see <a href="#">Ann</a>
Hanzalova virus	3	3	Vaccine
Hepatitis C virus	3	3	Derogate see <a href="#">Ann</a>
Hypr virus	3	3	Vaccine
Israel turkey meningitis virus	3	3	
Japanese encephalitis virus	3	3	Vaccine
Kumlinge virus	3	3	
Kyasanur forest disease virus	4	4	Vaccine

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
Louping ill virus	3	3	Vaccine Derogate see <a href="#">Annex</a>
Murray Valley encephalitis virus	3	3	
Negishi virus	3	3	
Omsk haemorrhagic fever virus	4	4	Vaccine
Powassan virus	3	3	
Rocio virus	3	3	
Russian spring summer encephalitis virus	4	4	Vaccine
Sal Vieja virus	3	3	
San Perlita virus	3	3	
Spondweni virus	3	3	
St Louis encephalitis virus	3	3	
Tick-borne encephalitis virus	3	3	
Wesselsbron virus	3	3	Derogate see <a href="#">Annex</a>
West Nile fever virus	3	3	
Yellow fever virus	3	3	Vaccine
Other flaviviruses known to be pathogenic	2	2	
<b><i>Hepadnaviridae</i></b>			
Hepatitis B virus	3	3	Vaccine Derogate see <a href="#">Annex</a>
Hepatitis D virus (delta)	3	3	Vaccine Derogate see <a href="#">Annex</a>
<b><i>Herpesviridae</i></b>			
B virus - see <a href="#">Herpesvirus simiae</a>			
Bovine malignant catarrhal fever virus	2	-	Animal pathogen - derogate

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
Cytomegalovirus	2	2	possible
Epstein-Barr virus	2	2	
Herpesvirus simiae (B virus)	4	4	
Herpes simplex virus types 1 and 2	2	2	
Human herpesvirus type 6 - HHV6	2	2	
Human herpesvirus type 7 - HHV7	2	2	
Human herpesvirus type 8 - HHV8 (Kaposi's sarcoma-associated herpesvirus)	2	2	
Suid herpesvirus 1 (Aujeszky's disease virus)	3	-	Animal p - deroga possible
Varicella-zoster virus	2	2	
<b>Orthomyxoviridae</b>			
Dhori virus	2	2	
Influenza virus types A*, B and C	2	2	Vaccine
Influenza viruses (pathogenic avian strains)	4	-	Animal p - deroga possible
Influenza viruses (uncharacterised avian strains)	4	-	Animal p - deroga possible
Thogoto virus	2	2	
<b>Papovaviridae</b>			
<b>Polyomaviruses:</b>			
BK virus	2	2	
JC virus	2	2	
KI virus	2	2	
Simian virus 40 (SV40)	2	2	
WU virus	2	2	
<b>Papillomaviruses:</b>			
Human papillomaviruses	2	2	
<b>Paramyxoviridae</b>			
Hendra virus (formerly equine morbillivirus)	4	4	
Human metapneumovirus	2	2	
Measles virus	2	2	Vaccine
Mumps virus	2	2	Vaccine
Newcastle disease virus	4	2	Both pat

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
			unchara Derogat for anim work.
Nipah virus	4	4	
Parainfluenza virus (Types 1 to 4)	2	2	
Peste des petits ruminants virus	4	-	Animal p - deroga possible
Respiratory syncytial virus (human)	2	2	
Rinderpest virus	4	-	Animal p - deroga possible
<b>Parvoviridae</b>			
Bocavirus genus	2	2	
Goose parvovirus (Derzsky's disease)	2	-	
Parvovirus B19	2	2	
Human parvovirus (Parv4/Parv5)	2	2	
<b>Picornaviridae</b>			
Acute haemorrhagic conjunctivitis virus (AHC)	2	2	
Coxsackieviruses	2	2	
Echoviruses	2	2	
Foot and mouth disease virus	4	-	Animal p - deroga possible
Hepatitis A virus (human enterovirus type 72)	2	2	Vaccine
Parechoviruses			
Polioviruses	2	2	Vaccine
Rhinoviruses	2	2	
Swine vesicular disease virus	4	-	Animal p - deroga possible
Teschen disease virus	4	-	Animal p - deroga possible
<b>Poxviridae</b>			
<b>Capripoxvirus:</b>			
Goat pox virus	3	-	Animal p - deroga possible
Lumpy skin disease virus	3	-	Animal p

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
Sheep pox virus	3	-	- deroga possible Animal p - deroga possible
<b>Molluscipox:</b>			
Molluscum contagiosum virus	2	2	
<b>Orthopox:</b>			
Buffalopox virus	2	2	
Cowpox virus	2	2	
Elephantpox virus	2	2	
Monkeypox virus	3	3	Vaccine
Rabbitpox virus	2	2	
Vaccinia virus	2	2	
Variola virus (major and minor)	4	4	Vaccine
Whitepox virus	4	4	
<b>Parapox:</b>			
Orf virus	2	2	
Pseudocowpox virus (Milker's nodes virus)	2	2	
<b>Yatapox:</b>			
Tana virus	2	2	
Yaba virus	2	2	
<b>Reoviridae</b>	2	2	
Bluetongue virus	3	-	Animal p - deroga possible
Coltivirus	2	2	
Epizootic haemorrhagic disease of deer	3	-	
Human rotaviruses	2	2	Vaccine
Ibaraki virus	3	-	
Orbiviruses	2	2	
Reoviruses	2	2	
<b>Retroviridae</b>			
African horse sickness virus	3	-	Animal p - deroga possible
Bovine leukosis virus	2	-	Animal p - deroga possible
Equine infectious anaemia virus	3	-	Animal p - deroga possible

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
Human immunodeficiency viruses	3	3	Derogate see <a href="#">Annex 1</a>
Human T-cell lymphotropic viruses (HTLV) types 1 and 2	3	3	Derogate see <a href="#">Annex 1</a>
Maedi-visna virus	2	-	
Simian immunodeficiency virus	3	3	Derogate see <a href="#">Annex 1</a>
Xenotropic murine leukemia virus-related virus	3	3	
<b>Rhabdoviridae</b>			
Australian bat lyssavirus	4	3	Vaccine Derogate see <a href="#">Annex 1</a>
Bovine ephemeral fever virus	3	-	
Duvenhage virus	4	3	Vaccine Derogate for animal work. Vaccine Derogate see <a href="#">Annex 1</a>
European bat lyssaviruses 1 and 2	4	3	Vaccine Derogate see <a href="#">Annex 1</a>
Lagos bat virus	4	3	Vaccine Derogate see <a href="#">Annex 1</a>
Mokola virus	4	3	Vaccine Derogate see <a href="#">Annex 1</a>
Piry virus	3	3	
Rabies virus	4	3	Vaccine Derogate see <a href="#">Annex 1</a>
Vesicular stomatitis virus	3	2	Derogate for use a
<b>Togaviridae</b>			
<b>Alphaviruses:</b>			
Bebaru virus	2	2	
Chikungunya virus	3	3	Derogate see <a href="#">Annex 1</a>
Eastern equine encephalitis virus	3	3	
Everglades virus	3	3	Derogate see <a href="#">Annex 1</a>
Getah virus	3	3	

Biological agent	Combined Hazard Group	Human pathogen Hazard Group	
Mayaro virus	3	3	
Middleburg virus	3	3	
Mucambo virus	3	3	Derogated see <a href="#">Annex</a>
Ndumu virus	3	3	
O'nyong-nyong virus	2	2	
Ross river virus	2	2	
Sagiyama virus	3	3	
Semliki forest virus	2	2	
Sindbis virus	2	2	Includes viruses like Fever, C Pogosta
Tonate virus	3	3	Derogated see <a href="#">Annex</a>
Venezuelan equine encephalitis virus	3	3	
Western equine encephalitis virus	3	3	Vaccine
Other known alphaviruses	2	2	
<b>Rubivirus:</b>			
Rubella virus	2	2	Vaccine
<b>Toroviridae</b>			
Berne virus	2	2	
Breda virus	2	2	
Porcine torovirus	2	2	
<i>No assigned family</i>			
<b>Hepevirus:</b>			
Hepatitis E virus	3	3	Derogated see <a href="#">Annex</a>



## ANNEX 1: DEROGATION: BIOLOGICAL AGENTS THAT ARE HUMAN PATHOGENS WHICH MAY BE USED AT LESS THAN THE MINIMUM CONTAINMENT CONDITIONS REQUIRED BY THE BIOLOGICAL AGENTS AND GENETICALLY MODIFIED ORGANISMS (CONTAINED USE) REGULATIONS 2011

22. The Biological Agents and Genetically Modified Organisms (Contained Use) Regulations 2011 set out the containment requirements for work with human and certain animal pathogens. However, it allows for a risk-based approach to **remove** those control measures that are not required provided that this is justified by the risk assessment and derogation is sought.
23. For most human pathogens, EU Directives require that all the minimum requirements for that containment level must be maintained. For the Hazard Group 3 human pathogens listed below, this risk-based approach allows for some containment measures to be dispensed with (**derogation**). For example, where a pathogen is not infectious via inhalation there may be no need for a safety cabinet. Furthermore, for work with organisms that are resistant to fumigation (e.g. TSEs) there may be no need for the contained area to be sealable to allow for fumigation.
24. This risk based approach to allow derogation from some containment measures applies to all animal pathogens on the approved list unless they are also human pathogens, i.e., they are zoonotic, and are not on the EU Directive list shown [below](#). The following decision tree summarises the process.
25. Derogation from containment measures is not an automatic right and any decision to change the containment conditions must only be taken after carrying out a local risk assessment and with approval from HSE.

DRAFT

## EU List of human pathogens to which derogation can be applied

### Bacteria

- 1 *Escherichia coli*, vero-cytotoxigenic strains (eg O157:H7 or O103)
- 2 *Mycobacterium microti*
- 3 *Mycobacterium ulcerans*
- 4 *Rickettsia akari*
- 5 *Rickettsia canada*
- 6 *Rickettsia montana*
- 7 *Salmonella typhi*
- 8 *Salmonella paratyphi*
- 9 *Shigella dysenteriae* (Type 1)

### Unconventional agents associated with TSEs

- 24 The agent of bovine spongiform encephalopathy (BSE) and other related animal TSEs
- 25 The agent of Creutzfeldt-Jakob disease
- 26 The agent of variant Creutzfeldt-Jakob disease
- 27 The agent of fatal familial insomnia
- 28 The agent of Gerstmann-Sträussler-Scheinker syndrome
- 29 The agent of Kuru

### Viruses

- 10 Chikungunya virus
- 11 Everglades virus
- 12 Hepatitis B virus
- 13 Hepatitis C virus
- 14 Hepatitis D virus
- 15 Hepatitis E virus
- 16 Hepatitis G virus
- 17 Human immunodeficiency viruses
- 18 Human T-cell lymphotropic viruses
- 19 Hepatitis viruses not yet identified
- 20 Louping ill virus
- 21 Mucambo virus
- 22 Rabies virus
- 23 Simian immunodeficiency virus
- 30 Tonate virus
- 31 Wesselsbron virus

### **Parasites**

- 32 *Echinococcus granulosus*
- 33 *Echinococcus multilocularis*
- 34 *Echinococcus vogeli*
- 35 *Leishmania braziliensis*
- 36 *Leishmania donovani*
- 37 *Plasmodium falciparum*
- 38 *Taenia solium*
- 39 *Trypanosoma brucei rhodesiense*

### **GUIDANCE THAT SHOULD BE CONSULTED, AS APPROPRIATE, WHEN DECIDING ON CONTAINMENT MEASURES**

A Guide to the Biological Agents and Genetically Modified Organisms (Contained Use) Regulations 2011 (HSE)

The Biological Agents and Genetically Modified Organisms (Contained Use) Regulations 2011: BioSafety Guidelines (ACDP)

Other sector specific guidance is available on HSE web site at:

<http://www.hse.gov.uk/biosafety/information.htm>