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# **Advisory Committee on Dangerous Pathogens**

## **The Approved List of biological agents**



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The classification of biological agents in this publication has a special legal status as it is approved by the Health and Safety Commission. The Control of Substances Hazardous to Health Regulations 2002 imposes requirements by reference to this classification which are therefore legally binding. Thus, if the classification applies to your work activities, health and safety inspectors will expect you to be complying with these requirements, and will, if necessary, take appropriate enforcement action.

The remainder of this publication is guidance prepared in consultation with the Health and Safety Executive, by the Advisory Committee on Dangerous Pathogens (ACDP), which was appointed by the Health and Safety Commission as part of its formal advisory structure and by Health Ministers. The guidance represents what is considered to be good practice by members of the Committee. It has been agreed by the Commission and 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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**APPROVED LIST OF BIOLOGICAL AGENTS**

**NOTICE OF APPROVAL**

The Health and Safety Commission has on 10 February 2004 approved the publication of this document, *The Approved List of biological agents*, for the purposes of the Control of Substances Hazardous to Health Regulations 2002 (SI 2002/2677).

This edition of the Approved List shall have effect from 30 April 2004.

On that date the previous edition of the list (contained in the second supplement to the Categorisation of biological agents according to hazard and categories of containment, 2000) approved by the Health and Safety Commission on the 7 December 1999 shall cease to have effect.

Signed



MARK DEMPSEY

Secretary to the Health and Safety Commission

2 March 2004

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## INTRODUCTION

1 The classification 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 Control of Substances Hazardous to Health Regulations 2002 (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 Commission signals its legal status. The list implements the Community Classification of biological agents set out in European Community Directive 2000/54/EC.<sup>1</sup>

2 COSHH, at Schedule 3 paragraph 3(4)(b), states that the minimum containment level for activities which involve working with a Group 3 biological agent is level 3. However, those intending to work with certain Group 3 agents may not necessarily need to use all the containment measures normally required at Containment Level 3, 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 shown in Annex 1 to the Approved List.

3 Appendix 2 to the General COSHH ACOP sets out the general approach that should be taken when deciding which measures may not be required, but there is also specific HSC/ACDP guidance on the agents in the Annex which should be consulted.

4 Genetically modified biological agents do not appear as such in the Approved List although the wild type species from which many of them are derived are listed, if they are capable of causing infection in otherwise healthy individuals. Guidance on aspects of work with genetically modified micro-organisms is given in *A guide to the Genetically Modified Organisms (Contained Use) Regulations 2000*.

5 Enquiries relating to the Approved List may be addressed to the ACDP Secretariat at HSE, Rose Court, 2 Southwark Bridge, London SE1 9HS or via email: [acdp.secretariat@hse.gsi.gov.uk](mailto:acdp.secretariat@hse.gsi.gov.uk).

## WHAT HAS CHANGED IN THIS EDITION?

6 This edition of the Approved List represents the fourth update of the official classification since it was first published in the *Categorisation of biological agents according to hazard and categories of containment* in 1995.

7 Changes to this edition include:

- A new title and a standalone publication - previous editions of the classification had the same title as the guidance published by the ACDP. The classification is now entitled *The Approved List of biological agents* and is a standalone publication that should be read in conjunction with COSHH and relevant ACDP guidance (see Further information).
- Reclassification, removal and addition of agents following a review by ACDP and external consultation (see paragraphs 8-9).

<sup>1</sup> OJ L 262 17 10 2000 p21

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- Removal of the exemption certificate following changes to the biological agents provisions of COSHH.
  - Removal of Appendix 24 – the advice on work with Hazard Group 3 enteric pathogens remains current but will appear in new ACDP guidance. In the interim, it will only be available on the HSE website.

## REVIEW OF LIST

8 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 classification of agents already listed.

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

- Duvenhage virus has been reclassified from a Hazard Group 2 to Hazard Group 3 agent based on its similarity to rabies virus.
- Mobala virus has been reclassified from a Hazard Group 2 to Hazard Group 3 agent because of its relationship to other HG3 and HG4 arenaviruses.
- Transfusion transmitted virus, *Mycobacterium avium/intracellulare*, *M. kansasii*, *M. scrofulaceum*, *M. simiae* and *M. xenopi* have been reclassified from Hazard Group 3 to Hazard Group 2 on the basis of current information about their infectivity.
- A number of Hazard Group 2 bacteria have been removed from the list on the basis that they are opportunist pathogens and are usually associated with illness in immunocompromised individuals. As such, this means that they do not strictly fit the definition of a Hazard Group 2 agent. However, removal from the list does not imply that the agents are without risk. Any work with these agents must be subject to risk assessment under COSHH, the same as work with any other biological agent, and appropriate containment and control measures put in place. In addition, the assessment would need to identify any individuals who may be more vulnerable to infection, for example because they are immunocompromised.
- Uukuviruses have been removed from the list as the agents have not been associated with human disease.
- *Trypanosoma rangeli* has been removed from the list as the agent does not cause human disease.
- A new agent, human metapneumonovirus, has been added in Hazard Group 2.
- A new agent, the causative agent of Severe Acute Respiratory Syndrome (SARS) has been added in Hazard Group 3.

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## THE APPROVED LIST

10 *The Approved List of biological agents* should be read in conjunction with COSHH 2002 and, in particular, Schedule 3 – Additional provisions relating to work with biological agents.

11 Agents appearing in the Approved List are classified on the basis of their ability to cause disease by infection. Only agents in Groups 2, 3 and 4 are listed. Those not listed in these groups are not implicitly classified in Group 1.

12 In allocating agents 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. In the case of new or expectant mothers, assessment of infection risks is required by the Management of Health and Safety at Work Regulations 1999.

13 If more than one species in any particular genus is known to be pathogenic to humans, the most prominent of these is generally named. There may also be a wider reference ('spp') which indicates that 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 are excluded.

14 Where a biological agent has an approved classification 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 should be reclassified and appropriate containment measures selected on the basis of the new classification and the assessment of the risks from the work that is to be undertaken with the agent. This reclassification must be done in consultation with HSE in line with COSHH, Schedule 3, paragraph 2(3).

15 All viruses which have been isolated from humans, but which do not have an approved classification, should be classified in Hazard Group 2 as a minimum, except where there is evidence that they are unlikely to cause disease in humans.

16 The containment measures required for work with parasites apply only to the stages in the life cycle of the parasite in which it is liable to be infectious for humans.

17 The Approved List also gives a separate indication of which biological agents are capable of causing allergic or toxic reactions or where there is an effective vaccine available. This is shown by the following notations:

A: possible allergic effects;

T: toxin production;

V: vaccine available.

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18 There is a requirement in COSHH 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 (Schedule 3, paragraph 4). This requirement is extended to cover employees exposed to one Hazard Group 2 agent: Human herpes virus type 8.

### **FURTHER INFORMATION**

The following HSE and ACDP publications give advice on various aspects of work with biological agents:

*A guide to the Genetically Modified Organisms (Contained Use) Regulations 2000* L29 ( Third edition) HSE Books 2000 ISBN 0 7176 1758 0

*BSE (Bovine Spongiform Encephalopathy): Background and general occupational guidance* Guidance HSE Books 1996 ISBN 0 7176 1212 0

*Control of substances hazardous to health. The Control of Substances Hazardous to Health Regulations 2002. Approved Code of Practice and guidance* L5 (Fourth edition) HSE Books 2002 ISBN 0 7176 2534 6

*The large-scale contained use of biological agents* Guidance HSE Books 1998 ISBN 0 7176 1544 8

*Management and control of viral haemorrhagic fevers* The Stationery Office 1997 ISBN 011321860 5

*The management, design and operation of microbiological containment laboratories* Guidance HSE Books 2001 ISBN 0 7176 2034 4

*Protection against blood-borne infections in the workplace: HIV and hepatitis* The Stationery Office 1995 ISBN 0 11321953 9

*Transmissible spongiform encephalopathies: Safe working and the prevention of infection* Internet only 2003 [www.advisorybodies.doh.gov.uk/acdp/tse/guidance/index.htm](http://www.advisorybodies.doh.gov.uk/acdp/tse/guidance/index.htm)

*Working safely with research animals: Management of infection risks* Guidance HSE Books 1997 ISBN 0 7176 1377 1



Biological agent	Classification	Notes
<b>BACTERIA</b>		
<i>Actinobacillus actinomycetemcomitans</i>	2	
<i>Actinomadura madurae</i>	2	
<i>Actinomadura pelletieri</i>	2	
<i>Actinomyces gerencseriae</i>	2	
<i>Actinomyces israelii</i>	2	
<i>Actinomyces pyogenes</i>	2	
<i>Actinomyces</i> spp	2	
<i>Alcaligenes</i> spp	2	
<i>Arcanobacterium haemolyticum</i> ( <i>Corynebacterium haemolyticum</i> )	2	
<i>Bacillus anthracis</i>	3	V
<i>Bacillus cereus</i>	2	
<i>Bacteroides fragilis</i>	2	
<i>Bacteroides</i> spp	2	
<i>Bartonella bacilliformis</i>	2	
<i>Bartonella quintana</i> ( <i>Rochalimaea quintana</i> )	2	
<i>Bartonella</i> spp ( <i>Rochalimaea</i> spp)	2	
<i>Bordetella bronchiseptica</i>	2	
<i>Bordetella parapertussis</i>	2	
<i>Bordetella pertussis</i>	2	V
<i>Borrelia burgdorferi</i>	2	
<i>Borrelia duttonii</i>	2	
<i>Borrelia recurrentis</i>	2	
<i>Borrelia</i> spp	2	
<i>Brucella abortus</i>	3	
<i>Brucella canis</i>	3	
<i>Brucella melitensis</i>	3	
<i>Brucella suis</i>	3	
<i>Burkholderia cepacia</i>	2	
<i>Burkholderia mallei</i> ( <i>Pseudomonas mallei</i> )	3	
<i>Burkholderia pseudomallei</i> ( <i>Pseudomonas pseudomallei</i> )	3	
<i>Campylobacter fetus</i>	2	
<i>Campylobacter jejuni</i>	2	
<i>Campylobacter</i> spp	2	
<i>Cardiobacterium hominis</i>	2	
<i>Chlamydia pneumoniae</i>	2	
<i>Chlamydia psittaci</i> (non avian strains)	2	
<i>Chlamydia psittaci</i> (avian strains)	3	
<i>Chlamydia trachomatis</i>	2	
<i>Clostridium botulinum</i>	2	T, V
<i>Clostridium perfringens</i>	2	
<i>Clostridium tetani</i>	2	T, V
<i>Clostridium</i> spp	2	
<i>Corynebacterium diphtheriae</i>	2	T, V
<i>Corynebacterium minutissimum</i>	2	
<i>Corynebacterium pseudotuberculosis</i>	2	

Biological agent	Classification	Notes
<i>Corynebacterium</i> spp	2	
<i>Coxiella burnetii</i>	3	
<i>Edwardsiella tarda</i>	2	
<i>Ehrlichia sennetsu</i> ( <i>Rickettsia sennetsu</i> )	3	
<i>Ehrlichia</i> spp	2	
<i>Eikenella corrodens</i>	2	
<i>Enterobacter aerogenes/cloacae</i>	2	
<i>Enterobacter</i> spp	2	
<i>Enterococcus</i> spp	2	
<i>Erysipelothrix rhusiopathiae</i>	2	
<i>Escherichia coli</i> (with the exception of non-pathogenic strains)	2	
<i>Escherichia coli</i> , verocytotoxigenic strains (eg O157:H7 or O103)	3	T
<i>Flavobacterium meningosepticum</i>	2	
<i>Fluoribacter bozemanai</i> (formerly Legionella)	2	
<i>Francisella tularensis</i> (Type A)	3	V
<i>Francisella tularensis</i> (Type B)	2	
<i>Fusobacterium necrophorum</i>	2	
<i>Fusobacterium</i> spp	2	
<i>Gardnerella vaginalis</i>	2	
<i>Haemophilus ducreyi</i>	2	
<i>Haemophilus influenzae</i>	2	
<i>Haemophilus</i> spp	2	
<i>Helicobacter pylori</i>	2	
<i>Klebsiella oxytoca</i>	2	
<i>Klebsiella pneumoniae</i>	2	
<i>Klebsiella</i> spp	2	
<i>Legionella pneumophila</i>	2	
<i>Legionella</i> spp	2	
<i>Leptospira interrogans</i> (all serovars)	2	
<i>Listeria ivanovii</i>	2	
<i>Listeria monocytogenes</i>	2	
<i>Moraxella catarrhalis</i>	2	
<i>Morganella morganii</i>	2	
<i>Mycobacterium africanum</i>	3	V
<i>Mycobacterium avium/intracellulare</i>	2	
<i>Mycobacterium bovis</i> (BCG strain)	2	
<i>Mycobacterium bovis</i>	3	V
<i>Mycobacterium chelonae</i>	2	
<i>Mycobacterium fortuitum</i>	2	
<i>Mycobacterium kansasii</i>	2	
<i>Mycobacterium leprae</i>	3	V
<i>Mycobacterium malmoense</i>	3	
<i>Mycobacterium marinum</i>	2	
<i>Mycobacterium microti</i>	3	
<i>Mycobacterium paratuberculosis</i>	2	
<i>Mycobacterium scrofulaceum</i>	2	
<i>Mycobacterium simiae</i>	2	

Biological agent	Classification	Notes
<i>Mycobacterium szulgai</i>	3	
<i>Mycobacterium tuberculosis</i>	3	V
<i>Mycobacterium ulcerans</i>	3	
<i>Mycobacterium xenopi</i>	2	
<i>Mycoplasma caviae</i>	2	
<i>Mycoplasma hominis</i>	2	
<i>Mycoplasma pneumoniae</i>	2	
<i>Neisseria gonorrhoeae</i>	2	
<i>Neisseria meningitidis</i>	2	V
<i>Nocardia asteroides</i>	2	
<i>Nocardia brasiliensis</i>	2	
<i>Nocardia farcinica</i>	2	
<i>Nocardia nova</i>	2	
<i>Nocardia otitidiscaviarum</i>	2	
<i>Pasteurella multocida</i>	2	
<i>Pasteurella</i> spp	2	
<i>Peptostreptococcus anaerobius</i>	2	
<i>Peptostreptococcus</i> spp	2	
<i>Plesiomonas shigelloides</i>	2	
<i>Porphyromonas</i> spp	2	
<i>Prevotella</i> spp	2	
<i>Proteus mirabilis</i>	2	
<i>Proteus penneri</i>	2	
<i>Proteus vulgaris</i>	2	
<i>Providencia alcalifaciens</i>	2	
<i>Providencia rettgeri</i>	2	
<i>Providencia</i> spp	2	
<i>Pseudomonas aeruginosa</i>	2	
<i>Pseudomonas mallei</i>		
- see <i>Burkholderia mallei</i>	3	
<i>Pseudomonas pseudomallei</i>		
- see <i>Burkholderia pseudomallei</i>	3	
<i>Rhodococcus equi</i>	2	
<i>Rickettsia akari</i>	3	
<i>Rickettsia canada</i>	3	
<i>Rickettsia conorii</i>	3	
<i>Rickettsia montana</i>	3	
<i>Rickettsia prowazekii</i>	3	
<i>Rickettsia rickettsii</i>	3	
<i>Rickettsia tsutsugamushi</i>	3	
<i>Rickettsia sennetsu</i>		
- see <i>Ehrlichia sennetsu</i>	3	
<i>Rickettsia typhi</i> ( <i>Rickettsia mooseri</i> )	3	
<i>Rickettsia</i> spp	3	
<i>Rochalimaea quintana</i>		
- see <i>Bartonella quintana</i>	2	
<i>Rochalimaea</i> spp	2	
<i>Salmonella arizonae</i>	2	
<i>Salmonella enteritidis</i>	2	

Biological agent	Classification	Notes
<i>Salmonella</i> (other serovars)	2	
<i>Salmonella paratyphi</i> A,B,C	3	
<i>Salmonella typhi</i>	3	V
<i>Salmonella typhimurium</i>	2	
<i>Serpulina</i> spp	2	
<i>Shigella boydii</i>	2	
<i>Shigella dysenteriae</i> (Type 1)	3	T
<i>Shigella dysenteriae</i> (other than Type 1)	2	
<i>Shigella flexneri</i>	2	
<i>Shigella sonnei</i>	2	
<i>Staphylococcus aureus</i>	2	T
<i>Streptobacillus moniliformis</i>	2	
<i>Streptococcus pneumoniae</i>	2	
<i>Streptococcus pyogenes</i>	2	
<i>Streptococcus suis</i>	2	
<i>Streptococcus</i> spp	2	
<i>Treponema carateum</i>	2	
<i>Treponema pallidum</i>	2	
<i>Treponema pertenue</i>	2	
<i>Treponema</i> spp	2	
<i>Ureaplasma urealyticum</i>	2	
<i>Vibrio cholerae</i> (including El Tor)	2	T, V
<i>Vibrio parahaemolyticus</i>	2	
<i>Vibrio</i> spp	2	
<i>Yersinia enterocolitica</i>	2	
<i>Yersinia pestis</i>	3	V
<i>Yersinia pseudotuberculosis</i>	2	
<i>Yersinia</i> spp	2	
<b>VIRUSES</b>		
ADENOVIRIDAE	2	
ARENAVIRIDAE		
LCM-Lassa-virus complex (Old World arenaviruses):		
lppy	2	
Lassa fever	4	
Lymphocytic choriomeningitis	3	
Mobala	3	
Mopeia	3	
Other LCM-Lassa complex viruses	2	
Tacaribe-virus-complex (New World arenaviruses):		
Amapari	2	
Flexal	3	
Guanarito	4	
Junin	4	
Latino	2	
Machupo	4	

Biological agent	Classification	Notes
Parana	2	
Pichinde	2	
Sabia	4	
Tamiami	2	
ASTROVIRIDAE	2	
BORNAVIRIDAE		
Borna disease virus	3	
BUNYAVIRIDAE		
Akabane	3	
Bunyamwera	2	
California encephalitis	2	
Germiston	3	
Oropouche	3	
Hantaviruses:		
Belgrade (Dobrava)	3	
Hantaan (Korean haemorrhagic fever)	3	
Prospect Hill	2	
Puumala	2	
Seoul	3	
Sin Nombre (formerly Muerto Canyon)	3	
Other Hantaviruses	2	
Nairoviruses:		
Bhanja	3	
Crimean/Congo haemorrhagic fever	4	
Hazara	2	
Phleboviruses:		
Rift valley fever	3	V
Sandfly fever	2	
Toscana	2	
Other Bunyaviridae known to be pathogenic	2	
CALICIVIRIDAE		
Hepatitis E	3	
Norwalk	2	
Other Caliciviridae	2	
CORONAVIRIDAE	2	
SARS	3	
FILOVIRIDAE		
Ebola Reston	4	
Ebola Siena	4	
Ebola Sudan	4	
Ebola Zaire	4	
Marburg	4	
FLAVIVIRIDAE		
Flaviviruses:		
Dengue viruses types 1-4	3	
Hepatitis G	3	
Israel turkey meningitis	3	
Japanese B encephalitis	3	V

<b>Biological agent</b>	<b>Classification</b>	<b>Notes</b>
Murray Valley encephalitis	3	
Rocio	3	
Sal Vieja	3	
San Perlita	3	
Spondweni	3	
St Louis encephalitis	3	
Wesselsbron	3	
West Nile fever	3	
Yellow fever	3	V
Tick-borne virus group:		
Absettarov	3	V
Hanzalova	3	V
Hypr	3	V
Kumlinge	3	
Kyasanur forest disease	4	V
Louping ill	3	V
Negishi	3	
Omsk	4	V
Powassan	3	
Russian spring summer encephalitis	4	V
Hepatitis C group viruses:		
Hepatitis C	3	
Other flaviviruses known to be pathogenic	2	
HEPADNAVIRIDAE		
Hepatitis B	3	V
Hepatitis D (delta)	3	V
HERPESVIRIDAE		
Cytomegalovirus	2	
Epstein-Barr virus	2	
Herpes simplex types 1 and 2	2	
Herpes virus varicella-zoster	2	
Herpesvirus simiae (B virus)	4	
Human herpesvirus type 6 - HHV6	2	
Human herpesvirus type 7 - HHV7	2	
Human herpesvirus type 8 - HHV8	2	
ORTHOMYXOVIRIDAE		
Influenza types A, B and C	2	V
Tick-borne orthomyxoviridae:		
Dhori and Thogoto	2	
PAPOVAVIRIDAE		
BK and JC viruses	2	
Human papillomaviruses	2	
Simian virus 40 (SV40)	2	
PARAMYXOVIRIDAE		
Hendra (formerly equine morbillivirus)	4	
Human metapneumonovirus	2	
Measles	2	V
Mumps	2	V
Newcastle disease	2	

Biological agent	Classification	Notes
Nipah	4	
Parainfluenza (Types 1 to 4)	2	
Respiratory syncytial virus	2	
PARVOVIRIDAE		
Human parvovirus (B19)	2	
PICORNAVIRIDAE		
Acute haemorrhagic conjunctivitis virus (AHC)	2	
Coxsackieviruses	2	
Echoviruses	2	
Polioviruses	2	V
Rhinoviruses	2	
Hepatoviruses:		
Hepatitis A (human enterovirus type 72)	2	V
POXVIRIDAE		
Buffalopox	2	
Cowpox <sup>2</sup>	2	
Milker's nodes	2	
Molluscum contagiosum	2	
Monkeypox	3	V
Orf	2	
Vaccinia <sup>3</sup>	2	
Variola (major and minor) <sup>4</sup>	4	V
Yatapox (Tana and Yaba)	2	
REOVIRIDAE		
Coltivirus	2	
Human rotaviruses	2	
Orbiviruses	2	
Reoviruses	2	
RETROVIRIDAE		
Human immunodeficiency viruses	3	
Human T-cell lymphotropic viruses (HTLV) types 1 and 2	3	
Simian immunodeficiency virus	3	
RHABDOVIRIDAE		
Duvenhage	3	V
Piry	3	
Rabies	3	V
Vesicular stomatitis	2	
TOGAVIRIDAE		
Alphaviruses:		
Bebaru	2	
Chikungunya	3	
Eastern equine encephalomyelitis	3	
Everglades	3	
Getah	3	

<sup>2</sup> Including strains isolated from domestic cats and captive exotic species, eg elephants, cheetahs.

<sup>3</sup> Including strains originally classified as rabbitpox.

<sup>4</sup> All strains including whitepox virus.

Biological agent	Classification	Notes
Mayaro	3	
Middleburg	3	
Mucambo	3	
Ndumu	3	
O'nyong-nyong	2	
Ross river	2	
Sagiyama	3	
Semliki forest	2	
Sindbis	2	
Tonate	3	
Venezuelan equine encephalomyelitis	3	
Western equine encephalomyelitis	3	V
Other known alphaviruses	2	
Rubiviruses:		
Rubella	2	V
TOROVIRIDAE	2	
UNCLASSIFIED VIRUSES		
Hepatitis viruses not yet identified	3	
Transfusion transmitted virus	2	
UNCONVENTIONAL AGENTS ASSOCIATED WITH THE TRANSMISSIBLE SPONGIFORM ENCEPHALOPATHIES (TSES):		
Bovine spongiform encephalopathy (BSE) and other related animal TSEs	3	
Creutzfeldt-Jakob disease	3	
Variant Creutzfeldt-Jakob disease	3	
Fatal familial insomnia	3	
Gerstmann-Sträussler-Scheinker syndrome	3	
Kuru	3	
<b>PARASITES</b>		
<i>Acanthamoeba castellanii</i>	2	
<i>Acanthamoeba</i> spp	2	
<i>Ancylostoma duodenale</i>	2	
<i>Angiostrongylus cantonensis</i>	2	
<i>Angiostrongylus costaricensis</i>	2	
<i>Anisakis simplex</i>	2	
<i>Ascaris lumbricoides</i>	2	A
<i>Ascaris suum</i>	2	A
<i>Babesia divergens</i>	2	
<i>Babesia microti</i>	2	
<i>Balantidium coli</i>	2	
<i>Blastocystis hominis</i>	2	
<i>Brugia malayi</i>	2	
<i>Brugia pahangi</i>	2	
<i>Brugia timori</i>	2	
<i>Capillaria philippinensis</i>	2	
<i>Capillaria</i> spp	2	



<b>Biological agent</b>	<b>Classification</b>	<b>Notes</b>
<i>Clonorchis</i> - see <i>Opisthorchis</i>		
<i>Contraecaecum osculatum</i>	2	
<i>Cryptosporidium parvum</i>	2	
<i>Cryptosporidium</i> spp	2	
<i>Cyclospora cayetanensis</i>	2	
<i>Cyclospora</i> spp	2	
<i>Dicrocoelium dendriticum</i>	2	
<i>Dientamoeba fragilis</i>	2	
<i>Dipetalonema</i> - see <i>Mansonella</i>	2	
<i>Diphyllobothrium latum</i>	2	
<i>Dracunculus medinensis</i>	2	
<i>Echinococcus granulosus</i>	3	
<i>Echinococcus multilocularis</i>	3	
<i>Echinococcus vogeli</i>	3	
<i>Entamoeba histolytica</i>	2	
<i>Enterobius vermicularis</i>	2	
<i>Enterocytozoon bieneusi</i>	2	
<i>Fasciola gigantica</i>	2	
<i>Fasciola hepatica</i>	2	
<i>Fasciolopsis buski</i>	2	
<i>Giardia lamblia</i> ( <i>Giardia intestinalis</i> )	2	
<i>Heterophyes</i> spp	2	
<i>Hymenolepis diminuta</i>	2	
<i>Hymenolepis nana</i>	2	
<i>Isopora belli</i>	2	
<i>Leishmania aethiopica</i>	2	
<i>Leishmania brasiliensis</i>	3	
<i>Leishmania donovani</i>	3	
<i>Leishmania mexicana</i>	2	
<i>Leishmania peruviana</i>	2	
<i>Leishmania major</i>	2	
<i>Leishmania tropica</i>	2	
<i>Leishmania</i> spp	2	
<i>Loa loa</i>	2	
<i>Mansonella ozzardi</i>	2	
<i>Mansonella perstans</i>	2	
<i>Mansonella streptocerca</i>	2	
<i>Metagonimus</i> spp	2	
<i>Naegleria fowleri</i>	3	
<i>Necator americanus</i>	2	
<i>Onchocerca volvulus</i>	2	
<i>Opisthorchis felineus</i>	2	
<i>Opisthorchis sinensis</i> ( <i>Clonorchis sinensis</i> )	2	
<i>Opisthorchis viverrini</i> ( <i>Clonorchis viverrini</i> )	2	
<i>Opisthorchis</i> spp	2	
<i>Paragonimus westermani</i>	2	
<i>Paragonimus</i> spp	2	
<i>Plasmodium falciparum</i>	3	
<i>Plasmodium</i> spp (human & simian)	2	

Biological agent	Classification	Notes
<i>Pseudoterranova decipiens</i>	2	
<i>Sarcocystis sui/hominis</i>	2	
<i>Schistosoma haematobium</i>	2	
<i>Schistosoma intercalatum</i>	2	
<i>Schistosoma japonicum</i>	2	
<i>Schistosoma mansoni</i>	2	
<i>Schistosoma mekongi</i>	2	
<i>Schistosoma</i> spp	2	
<i>Strongyloides stercoralis</i>	2	
<i>Strongyloides</i> spp	2	
<i>Taenia saginata</i>	2	
<i>Taenia solium</i>	3	
<i>Toxocara canis</i>	2	
<i>Toxocara cati</i>	2	
<i>Toxoplasma gondii</i>	2	
<i>Trichinella nativa</i>	2	
<i>Trichinella nelsoni</i>	2	
<i>Trichinella pseudospiralis</i>	2	
<i>Trichinella spiralis</i>	2	
<i>Trichomonas vaginalis</i>	2	
<i>Trichostrongylus orientalis</i>	2	
<i>Trichostrongylus</i> spp	2	
<i>Trichuris trichiura</i>	2	
<i>Trypanosoma brucei brucei</i>	2	
<i>Trypanosoma brucei gambiense</i>	2	
<i>Trypanosoma brucei rhodesiense</i>	3	
<i>Trypanosoma cruzi</i>	3	
<i>Wuchereria bancrofti</i>	2	
<b>FUNGI</b>		
<i>Aspergillus fumigatus</i>	2	A
<i>Blastomyces dermatitidis</i>		
( <i>Ajellomyces dermatitidis</i> )	3	
<i>Candida albicans</i>	2	A
<i>Candida tropicalis</i>	2	
<i>Candida</i> spp	2	
<i>Cladophialophora bantiana</i> (formerly <i>Xylohypha bantiana</i> , <i>Cladosporium bantianum</i> )	3	
<i>Coccidioides immitis</i>	3	A
<i>Cryptococcus neoformans</i> var <i>neoformans</i> ( <i>Filobasidiella neoformans</i> var <i>neoformans</i> )	2	A
<i>Cryptococcus neoformans</i> var <i>gattii</i> ( <i>Filobasidiella bacillispora</i> )	2	A
<i>Emmonsia parva</i> var <i>parva</i>	2	
<i>Emmonsia parva</i> var <i>crecens</i>	2	
<i>Epidermophyton floccosum</i>	2	A
<i>Fonsecaea compacta</i>	2	
<i>Fonsecaea pedrosoi</i>	2	

<b>Biological agent</b>	<b>Classification</b>	<b>Notes</b>
<i>Histoplasma capsulatum</i> var <i>capsulatum</i> ( <i>Ajellomyces capsulatus</i> )	3	
<i>Histoplasma capsulatum</i> var <i>duboisii</i>	3	
<i>Histoplasma capsulatum</i> var <i>farcinimosum</i>	3	
<i>Madurella grisea</i>	2	
<i>Madurella mycetomatis</i>	2	
<i>Microsporum</i> spp	2	A
<i>Neotestudina rosatii</i>	2	
<i>Paracoccidioides brasiliensis</i>	3	
<i>Penicillium marneffeii</i>	3	A
<i>Scedosporium apiospermum</i> ( <i>Pseudallescheria boydii</i> )	2	
<i>Scedosporium proliferans</i> ( <i>inflatum</i> )	2	
<i>Sporothrix schenckii</i>	2	
<i>Trichophyton rubrum</i>	2	
<i>Trichophyton</i> spp	2	

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## **ANNEX 1 BIOLOGICAL AGENTS WHICH MAY BE USED AT LESS THAN MINIMUM CONTAINMENT CONDITIONS REQUIRED BY COSHH**

Although COSHH sets out the minimum containment requirements that must be applied in particular circumstances (Schedule 3 4(a-f)), there are certain circumstances when not all the measures normally required at a particular containment level need be applied because of either:

- the nature of the work; or
- the nature of the biological agent.

This approach can be taken when working with the specified HG3 agents below. COSHH enables you to do this provided that you follow the guidance on selecting the most appropriate containment measures that is set out in the publications listed on page 17.

Dispensing with containment measures is not an automatic right and any decision to change the containment conditions should only be taken after carrying out a local risk assessment.

### **Bacteria**

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

### **Viruses**

- 7 Hepatitis B virus
- 8 Hepatitis C virus
- 9 Hepatitis D virus
- 10 Hepatitis E virus
- 11 Hepatitis G virus
- 12 Human immunodeficiency viruses
- 13 Human T-cell lymphotropic viruses
- 14 Hepatitis viruses not yet identified
- 15 The agent of bovine spongiform encephalopathy (BSE) and other related animal TSEs
- 16 The agent of Creutzfeldt-Jakob disease
- 17 The agent of variant Creutzfeldt-Jakob disease
- 18 The agent of fatal familial insomnia
- 19 The agent of Gerstmann-Sträussler-Scheinker syndrome
- 20 The agent of Kuru
- 21 Simian immunodeficiency virus

### **Parasites**

- 22 *Echinococcus granulosus*
- 23 *Echinococcus multilocularis*
- 24 *Echinococcus vogeli*
- 25 *Leishmania braziliensis*

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- 26 Leishmania donovani
  - 27 Plasmodium falciparum
  - 28 Taenia solium
  - 29 Trypanosoma brucei rhodesiense

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

Advisory Committee on Dangerous Pathogens *Transmissible spongiform encephalopathies: Safe working and the prevention of infection* Internet only 2003 [www.advisorybodies.doh.gov.uk/acdp/tseguidance/index.htm](http://www.advisorybodies.doh.gov.uk/acdp/tseguidance/index.htm)

*Protection against blood-borne infections in the workplace: HIV and hepatitis*  
The Stationery Office 1995 ISBN 0 11321953 9

*Advisory Committee on Dangerous Pathogens Guidance on work with Hazard Group 3 enteric pathogens* Internet only [www.hse.gov.uk/ecoli.htm](http://www.hse.gov.uk/ecoli.htm)

For technical advice on selecting the most appropriate containment measures contact HSE's Biological Agents Unit (Tel: 0151 951 4000)