

AGENTS

Biological agents

WHAT ARE BIOLOGICAL AGENTS?

- Microorganisms, including
 - bacteria (salmonellae, tuberculosis pathogen, etc.),
 - human endoparasites (malaria pathogen, tapeworms, etc.),
 - fungi (yeast, bread mold, etc.) or
 - viruses (rhinoviruses, hepatitis viruses, etc)
- Cell cultures (culturing/growing cells)
- Unconventional agents (e.g. pathogen causing BSE)

HOW DO THESE AGENTS ENTER THE BODY?

- respiratory system
- conjunctiva, mucosa
- skin ((injuries caused by sticks, cuts or bites)

WHAT ARE THE HEALTH RISKS INVOLVED?

- Allergies
- Infectious diseases
- Toxic effects

WHICH ASPECTS HAVE TO BE TAKEN INTO ACCOUNT WHEN IDENTIFYING AND ASSESSING HAZARDS?

- Risk groups (particularly in case of intended use) and potential health hazards caused by infections, allergies and/or toxic effects
- Possible ways of infection
- Type and frequency of activity
- Vulnerable groups, such as young persons or pregnant and breast-feeding women

WHICH BIOLOGICAL AGENTS ARE CONSIDERED HAZARDOUS?

Based on their level of infectiousness, biological agents are classified in 4 risk groups (RG).

Agents of RGs 2 to 4 are considered hazardous, agents of RG 1 are considered largely non-hazardous.

As this classification does not take the agents' potential allergenic and/or toxic effects into account, potential health hazards have to be examined when using agents of RG 1.

Examples:

- RG 1: methan bacteria, bifidobacteria (dairies)
- RG 2: whooping cough pathogen, measles virus, mumps virus
- RG 3: hepatitis B virus, human immunodeficiency virus (HIV), malaria pathogen, tuberculosis pathogen
- RG 4: Ebola virus, Lassa virus, Marburg virus

Some biological agents are listed in Annex 2 of the biological agents (Verordnung über biologische Arbeitsstoffe, VbA).

TYPES OF USE

Is the biological agent used within the scope of its intended purpose?

Intended use	Unintended use
e.g. <ul style="list-style-type: none"> ▪ biotechnology ▪ research laboratories ▪ diagnostic microbiology laboratories ▪ food industry 	e.g. <ul style="list-style-type: none"> ▪ waste management ▪ waste water treatment ▪ healthcare system ▪ processing of plant materials ▪ use of cooling lubricants ▪ leather processing ▪ maintenance and cleaning of ventilation and air conditioning systems ▪ handling animals and animal products

MEASURES FOR AVOIDING HAZARDS

Measure	Type of use	
	Intended	Unintended
Replacement/use has to take place within a closed system	Yes	No
Specific hygiene requirements	Yes	Yes
Specific disinfection and cleaning requirements	Yes	Yes
Protective clothes, working clothes	Yes	Yes
Offering immunisation	Yes	Yes
Additional safety precautions	Yes	No ¹
Designating areas as especially dangerous	Yes	No
Mandatory reporting	Yes	No
Specific training or instructions required	Yes	Yes
Written instructions	Yes ²	As needed
Offering medical examinations	Yes	Yes

¹ If identification and assessment show that not required, except for isolation wards and laboratories

² RG 2, if identification and assessment show that required

LEGAL FRAMEWORK

Health and Safety at Work Act
(ArbeitnehmerInnenschutzgesetz, ASchG),
Federal Law Gazette no. 450/1994
Regulation on biological agents (Verordnung
biologischer Arbeitsstoffe, VbA),
Federal Law Gazette II no. 237/1998
Regulation on health surveillance at work (Verordnung
über die Gesundheitsüberwachung am Arbeitsplatz, VGÜ),
Federal Law Gazette II no. 27/1997
Regulation on prohibitions and restrictions of

employment for young people (Verordnung über
Beschäftigungsverbote und –beschränkungen für
Jugendliche, KJBG-VO),
Federal Law Gazette no. 436/1998
Maternity Protection Act (Mutterschutzgesetz, MSchG)
Federal Law Gazette no. 221/1979

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The competent Labour Inspectorate will be happy to advise you

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