

OVERVIEW

TITLE: Biohazardous materials (agents)

Part 30, Laboratories
Section 30.26, Biohazardous materials

1. WHAT IS THE NATURE OF THE PROBLEM TO BE SOLVED?

Section 30.26 of the OHS Regulation (“OHSR”) covering “biohazardous materials” references an out-of-date edition of Health Canada’s *Laboratory Biosafety Guidelines*. The second edition dated 1996 has been superseded by the 2004 3rd edition. As well, section 30.26 refers to the term “biohazardous materials” which is not consistent with the recent amendments made to Parts 5 and 6 of the OHSR and the use of the term “biological agent”. This section is also inconsistent with new section 5.1.1 of the OHSR as it does not make reference to the World Health Organization and its assigned risk groups (Risk Groups 2, 3 and 4).

2. WHAT IS THE PURPOSE OF THE PROPOSED AMENDMENTS?

The purpose of the proposed amendments are to ensure that terminology used in section 30.26 is consistent with those of Parts 5 and 6 of the OHSR relating to biological agents and that the current edition of the *Laboratory Biosafety Guidelines* is properly referenced.

3. SOURCE OF REQUEST

WorkSafeBC Policy and Research Division

PART 5: CHEMICAL AGENTS AND BIOLOGICAL AGENTS

- Designation as hazardous substances** **5.1.1** For the purposes of sections 5.2 and 6.33 to 6.40, **5.2, 6.33 to 6.40, and Part 30**, the following biological agents are designated as hazardous substances:
- (a) a liquid or solid material that is contaminated with a prion, virus, bacterium, fungus or other biological agent that has a classification given by the World Health Organization or ~~Health Canada~~ **the Public Health Agency of Canada**, as amended from time to time, as a Risk Group 2, 3 or 4 human pathogen that causes an adverse health effect;
 - (b) a biological toxin that causes an adverse health effect.
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Explanatory Note:

The purpose of the proposed amendment to section 5.1.1 is to ensure consistency with the proposed revisions to Part 30. The current wording in section 5.1.1 designates certain biological agents as hazardous substances since not all biological agents are harmful to humans. Since the term “biological agent” will replace the term “biohazardous”, the amended sections must be cited in 5.1.1 for stakeholders to know which biological agents the regulation is intended for.

It is proposed that the reference to “Health Canada” be changed to “Public Health Agency of Canada”. The Public Health Agency of Canada (“PHAC”) is the agency responsible for the protection of public and worker health and safety related to infectious human pathogens. Through legislative changes made about 5 years ago, Health Canada has deferred all biosecurity and biosafety matters to PHAC.

PART 6: SUBSTANCE SPECIFIC REQUIREMENTS

BIOLOGICAL AGENTS

**Exposure
control plan**

- 6.34** (1) If a worker has or may have occupational exposure, the employer must develop and implement an exposure control plan, based on the precautionary principle, that meets the requirements of section 5.54 and that includes the following:
- (a) a risk assessment conducted by a qualified person to determine if there is a potential for occupational exposure by any route of transmission;
 - (b) a list of all work activities for which there is a potential for occupational exposure;
 - (c) engineering controls and administrative controls to eliminate or minimize the potential for occupational exposure;
 - (d) standard or routine infection control precautions and transmission-based precautions for all work activities that have been identified as having a potential for occupational exposure, including
 - (i) housekeeping practices designed to keep the workplace clean and free from spills, splashes or other accidental contamination,
 - (ii) work procedures to ensure that contaminated laundry is isolated, bagged and handled as little as possible, and
 - (iii) work procedures to ensure that laboratory or other samples containing a biological agent designated as a hazardous substance in section 5.1.1 are handled in accordance with the *Laboratory Biosafety Manual* issued by the World Health Organization, as amended from time to time, and the *Laboratory Biosafety Guidelines* issued by ~~Health Canada~~ **the Public Health Agency of Canada**, as amended from time to time;
 - (e) a description of personal protective equipment designed to eliminate or minimize occupational exposure;
 - (f) a program to inform workers about the contents of the exposure control plan and to provide them with adequate education, training and supervision to work safely with, and in proximity to, a biological agent designated as a hazardous substance in section 5.1.1;
 - (g) a record of all training and education provided to workers in the program described in paragraph (f);
 - (h) a record of all workers who have been exposed, while performing work activities, to a biological agent designated as a hazardous substance in section 5.1.1.

Explanatory Note:

The proposed amendment to section 6.34 (1)(d)(iii) is consequential to the proposed amendment to section 30.26. The Public Health Agency of Canada (“PHAC”) is the agency responsible for biosafety concerns in Canada, including protecting workers and the public from infectious diseases caused by biological agents. Through legislative changes made about 5 years ago, Health Canada has deferred all biosecurity and biosafety matters to PHAC.

PART 30: LABORATORIES

Interpretation	30.1	In this Part,
<i>“biological agent”</i>		means a biological agent designated as a hazardous substance under section 5.1.1.
Application	30.4 30.1.1	This Part applies to rooms, buildings or areas in buildings equipped with apparatus, equipment, chemicals or test animals and used for research, quality control, performance of tests, experiments or measurements, photographic development, or the preparation of drugs or other products in the natural sciences.

Explanatory Note:

In order to update the term “biohazardous” to “biological agent” in few sections of Part 30, a definition of biological agent was included in Part 30 to assist stakeholders understand which biological agent the regulation is referring to. Since the hazardous biological agents were designated in section 5.1.1, this section was cited in the definition.

PART 30: LABORATORIES

GENERAL REQUIREMENTS

Biological safety cabinets	30.12	(6)	Biological safety cabinets used for the handling of a biological agent that is designated as a hazardous substance in section 5.1.1 must be operated and ventilated in accordance with the <i>Laboratory Biosafety Manual</i> issued by the World Health Organization, as amended from time to time, and the <i>Laboratory Biosafety Guidelines</i> issued by Health Canada the Public Health Agency of Canada , as amended from time to time.
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Explanatory Note:

The proposed amendment to section 30.12 (6) is consequential to the proposed amendment to section 30.26. The Public Health Agency of Canada ("PHAC") is the agency responsible for biosecurity and biosafety concerns in Canada, including protecting workers and the public from infectious diseases caused by biological agents. Through legislative changes made about 5 years ago, Health Canada has deferred all biosecurity and biosafety matters to PHAC.

PART 30: LABORATORIES

Centrifuges	30.13	<p>(1) Centrifuge loads must be balanced by sample distribution.</p> <p>(2) Aerosol-proof safety heads or cups or other equally effective means to prevent exposure of workers must be used where biohazardous aerosols an aerosol containing a biological agent may be generated, where carcinogens are present or where radioactive samples pose a hazard to workers.</p> <p>(3) Unless exempted by <i>CSA Standard C22.2 No. 151-M1986 Laboratory Equipment</i>, or other standard acceptable to the Board, centrifuge doors must be interlocked to prevent workers accessing spinning rotors.</p> <p>(4) The interlock required by subsection (3) must prevent the door from opening while the rotor is spinning or cause the rotor to brake if the door is opened, or another equally effective means must be used to prevent a worker from accessing the spinning rotor.</p> <p>(5) Equipment purchased before April 15, 1998 is exempt from the application of subsection (3) until January 1, 2001.</p> <p>(6) Repealed. [B.C. Reg. 312/2003.]</p> <p>(7) Rotors must be stored in a manner which will prevent them from being damaged.</p>
Procedures	30.14	Written safe work procedures must be prepared for hazardous operations, including work methods involving hazardous chemicals, spill response, and handling of biohazardous materials a material that contains a biological agent , and workers must be adequately instructed in and follow the procedures.
Permitted quantities	30.15	<p>Only the minimum necessary amounts of combustible, flammable, corrosive, toxic, biohazardous or highly reactive substances may be kept in the working area of the laboratory.</p> <p>Only the minimum necessary amount of biological agents and substances that are combustible, flammable, corrosive, toxic, or highly reactive may be kept in the working area of the laboratory.</p>
Transport of containers	30.16	The transport of containers of flammable, corrosive, toxic, biohazardous or highly reactive substances or highly reactive substances or biological agents through a laboratory must be done in a manner that will not pose a danger of damage to the containers.
Personal protection	30.17	(1) Protective laboratory clothing used in laboratories where toxic, radioactive or biohazardous substances are a toxic or radioactive substance or a biological agent is handled must not be worn outside the work area and must not be stored in a manner or location whereby workers may be exposed to the hazardous substances.

Explanatory Note:

The amendments to sections 30.13 (2), 30.14, 30.15, 30.16, and 30.17 are proposed to update the term “biohazardous” to “biological agent”. The term was changed during the 2007 amendments to Parts 5 and 6, but these sections were not amended at the time.

PART 30: LABORATORIES

- Waste disposal** **30.19**
- (1) Laboratory waste must be disposed of in a manner which ensures that workers are protected from injury.
 - (2) Repealed. [B.C. Reg. 312/2003.]
 - (3) Before disposal, organic solvents and flammable wastes must be collected in separate, tightly covered containers or in an equally effective manner.
 - (4) Before disposal, water solutions containing azides must first be inactivated, and contact with heavy metals or other incompatible contaminants must be prevented.
 - (5) ~~Biohazardous waste material~~ **Waste material that contains a biological agent** must be collected in separate, tightly covered containers before disposal.
 - (6) Containers of segregated waste must be clearly identified as to their intended use.
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Explanatory Note:

The amendment to section 30.19 (5) is proposed to update the term “biohazardous” to “biological agent”. The term was changed during the 2007 amendments to Parts 5 and 6, but this section was not amended at the time.

PART 30: LABORATORIES

SPECIFIC SUBSTANCES AND PROCEDURES

- Biohazardous materials** 30.26 (1) Adequate facilities must be readily available for personal decontamination of workers who come in contact with ~~biohazardous materials~~ **a biological agent**.
- Biological agents and human pathogens**
- (2) Work procedures which may generate aerosols containing ~~biohazardous materials~~ **a biological agent** must be performed only under controlled conditions designed to minimize creation of the aerosols and prevent worker exposure to them.
- (3) For Risk Group 2 ~~micro-organisms~~ **human pathogens**, sealed centrifuge safety heads, rotors or trunnion cups must be opened within a fume hood or biological safety cabinet unless there is a means of visually determining, by use of clear safety caps or other effective means, that no breakage or leaking has occurred.
- (4) For Risk Group 3 ~~micro-organisms~~ **human pathogens**, sealed centrifuge safety heads, rotors or trunnion cups must be loaded and unloaded within a biological safety cabinet.
- (5) Work involving Risk Group 4 ~~micro-organisms~~ **human pathogens** must be done as required by ~~Health Canada Laboratory Biosafety Guidelines—2nd edition (1996)~~ **Laboratory Biosafety Guidelines issued by the Public Health Agency of Canada, as amended from time to time, and the Laboratory Biosafety Manual issued by the World Health Organization, as amended from time to time.**
- (6) In this section,**
- “Risk Group 2 human pathogens” mean the human pathogens that are classified by the World Health Organization and the Public Health Agency of Canada as Risk Group 2 human pathogens;**
- “Risk Group 3 human pathogens” mean the human pathogens that are classified by the World Health Organization and the Public Health Agency of Canada as Risk Group 3 human pathogens;**
- “Risk Group 4 human pathogens” mean the human pathogens that are classified by the World Health Organization and the Public Health Agency of Canada as Risk Group 4 human pathogens.**

Explanatory Note:

Section 30.26 of the Occupational Health and Safety Regulation (“OHSR”) covering “biohazardous materials” makes reference to an out-of-date edition of the Health Canada’s *Laboratory Biosafety Guidelines*. The second edition dated 1996 has been superseded by the 3rd edition published 2004. As well, various sections of Part 30 refer to the term “biohazardous materials or substances” which was replaced with the term “biological agents” during the 2007 amendments made to Parts 5 and 6.

The purpose of the proposed amendments is to ensure that terminology used in section 30.26 is consistent with those of Parts 5 and 6 relating to biological agents and that the current editions of the *Laboratory Biosafety Manual* published by the World Health Organization (“WHO”) and the

**PROPOSED AMENDMENTS FOR PART 30: LABORATORIES
IN THE OCCUPATIONAL HEALTH AND SAFETY REGULATION**

Laboratory Biosafety Guidelines published by the Public Health Agency of Canada – “PHAC” – (not Health Canada as currently indicated) are properly referenced.

It is proposed that section 30.26 be amended by replacing the term “biohazardous materials” with “biological agents” for consistency and clarity. Also, the proposed amendment to section 30.26 (5) now refers to the most current versions of the PHAC and WHO laboratory biosafety manuals. Sections 30.26 (3) to (6) refer to the risk groups given to human pathogens by WHO and PHAC so the term “micro-organisms” is proposed to be changed to “human pathogens” to keep consistency of terms used in the OHSR.

WorkSafeBC is aware of the federal *Human Pathogens and Toxins Act* that recently passed on June 23, 2009. The federal government has passed this Act in order to reduce the risks from accidental or deliberate release of human pathogens and to better protect the health and safety of the public. This Act contains prohibitions and requirements relating to the full range of laboratory activities that will likely affect the health and safety requirements in these laboratories. It will be premature to amend the sections on laboratory requirements in the OHSR until the new program and regulatory framework are developed. WorkSafeBC will keep apprised of the implementation of this Act and how it may affect the laboratory requirements in the current OHSR.

The word “biohazardous” used in other sections 30.13(2), 30.14, 30.15, 30.16, 30.17(1), and 30.19 (5) is proposed to be changed to “biological agents” for consistency of terms.