BLOS HazCom

**Bigelow Laboratory for Ocean Sciences**

**Biosafety Policy & Institutional Biosafety Committee**

**Version 3.0, Updated: May 20, 2020**

The primary responsibilities of the Institutional Biosafety Committee (IBC) are three-fold:

1) to provide general oversight of all research involving potential health and environmental hazards, and in particular those in NIH and CDC recognized BioSafety Level categories as defined in the table below; 2) to oversee the evaluation and approval process for proposals using recombinant DNA technologies on all organisms; and 3) to ensure researcher compliance with the Bigelow Laboratory Policies on Genetic Manipulation, Biosafety research and the CDC and NIH guidelines on this topic, in particular those related to the health and safety of the environment and surrounding community.

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| Biosafety Levels | Exempt BSL-1 | BSL-1 | BSL-2 | BSL-3 |
| Definitions | (NIH) These are well characterized agents **NOT KNOWN** to cause disease in healthy adult humans, and are of minimal potential environmental hazard. | (CDC) These are well characterized agents **NOT KNOWN** to cause disease in healthy adult humans, and are of minimal potential environmental hazard. (NIH) This category ALSO includes cells from any source that have **not** been exposed to any microbial agent, **but** **may** **have been** genetically modified using non-viral methods. | (CDC) These microbes pose **MODERATE** hazards to healthy humans and the environment. The microbes are typically indigenous and associated with diseases of varying severity.  (NIH) This category ALSO includes any cells that have been genetically modified using viral methods **OR** Cells exposed to microbial agents. | (CDC) These microbes pose **SERIOUS** hazards or potentially lethal disease through respiratory transmission. The microbes are either indigenous or exotic. (NIH) This category ALSO includes cells from any source exposed to microbial agents with moderate (or higher) increased health hazard **OR** cells that have been genetically modified using viral methods with inserts known to transfer a human health hazard. |
| Examples | Wild-type cells from any source, which have **not** been exposed to any microbial agent, **OR** have **not** been genetically modified, **OR** cell lines determined by the Bigelow-IBC to be approved as exempt. | For example, cells of a nonpathogenic strain of E. coli, **OR** cells determined by the IBC to be approved as non-exempt BSL-1. | For example, cell lines of Staphylococcus aureus **OR** cells determined by the IBC to be approved as BSL-2 based upon statements in the application. | For example, cell lines of Mycobacterium tuberculosis, the bacteria that causes tuberculosis. **OR** cells determined by the IBC to be approved as BSL-3 based upon statements in the application. |
| Personal Protective Gear | Work can be done on an open bench, PPG is lab coat, eyeglasses and gloves as needed. | Work can be done on an open bench, PPG is lab coat, eyeglasses and gloves as needed. | Appropriate personal protective equipment is worn, lab coats, gloves, eye protection.  All procedures that can cause infection from aerosols or splashes are performed within a biological safety cabinet. | As for BSL-2 but also including the following.  Researchers require immunization for agents they are working with. |

Bigelow laboratory, as of this version of this document, has five (5) Biosafety cabinets, all being rated at BSL-2 or higher. These hoods are inspected annually by a certified technician. These hoods can be found in the following places.

NCMA room A109

SCGC room A205

FACS/SCGC Cleanroom A205B

Beth Orcutt’s lab room A207

Jose-Antonio’s lab room B109 (two cabinets)

Before initiating any research in this area, Bigelow **requires** that staff involved in the analysis of these samples receive the proper training. We suggest the following two sources of appropriate biosafety training.

<http://www.safetyworksmaine.gov/>

<http://eduwhere.com/coursedescription.php?courseID=18>

Bigelow Laboratory for Ocean Sciences takes the issue of working with biosafety hazards of any kind very seriously. The IBC documents outline the procedures to be followed when working with any cells or higher organisms that are potential hazards, including but not limited to the application process of deciding whether to engage in a project that involves genetic modification or genetic engineering. These documents can be found on BLOS Storage\Resources\Safety\IBC or by contacting the chair of the IBC (see below). Please note, these documents may be updated as needed, so please check for the most recent version.

Bigelow Laboratory’s policy is that **all proposed research that uses cells or higher organisms with a potential biosafety hazard, with or without the use of recombinant and/or synthetic DNA methods, must first be reported to the IBC committee via the BioSafety Registration Form** (BLOS HazCom Appendix 18A and B, or Storage\Resources\Safety\IBC, or from the IBC chair).

Current IBC members:

Dr. Mike Lomas, SRS, chair

Dr. Peter Countway, SRS

Dr. David Emerson, SRS

Dr. Ramunas Stepanauskas, SRS

Jay Wheeler, Safety Officer

Tim Pinkham, Lab Manager

Dr. Sarah Foulger, Pastor, BBH Congregational Church

Lauren Graham, BRHS science teacher