



EHS-462, Laboratory Biosafety Guidelines for Working with SARS-CoV-2

INTRODUCTION

PURPOSE

In December 2024, the Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH) Office of Science Policy (OSP) revised the risk group classification of Severe Acute Respiratory Coronavirus-2 (SARS-CoV-2) from Risk Group 3 (RG3) to Risk Group 2 (RG2). The minimum containment and handling practices were changed from Biosafety Level 3 (BSL3) and Animal Biosafety Level 3 (ABSL3) to Biosafety Level 2 (BSL2) and Animal Biosafety Level 2 (ABSL2), respectively.

A comprehensive risk assessment remains essential for work involving SARS-CoV-2 especially when handling large volumes of the virus or performing procedures that could result in aerosol generation. Following a comprehensive risk assessment by the Emory Environmental Health and Safety Office (EHSO) Biosafety Office, the Emory Institutional Biosafety Committee (IBC) requires handling of SARS-CoV-2 at ABSL2 enhanced and BSL2 enhanced containment levels respectively.

Emory's institutional specific guidelines based on these changes are detailed in the section below titled: *Emory's Laboratory Biosafety Guidelines for Working with SARS-CoV-2*.

SCOPE

This guidance applies to Principal Investigators (PIs), laboratory personnel, animal facility personnel, clinical staff, and other stakeholders involved in activities requiring compliance with institutional biosafety policies. Relevant activities include research conducted with SARS-CoV-2 and handling or processing specimens associated with SARS-CoV-2.

RESPONSIBILITIES

ENVIRONMENTAL HEALTH AND SAFETY OFFICE

EHSO Biosafety Office conducts risk assessments for SARS-CoV-2 research and provides guidance to personnel regarding safe laboratory practices for handling SARS-CoV-2 and specimens.

PRINCIPAL INVESTIGATORS

Principal Investigators (PIs) are responsible for laboratory personnel. Their responsibilities include (but are not limited to):

- Providing the necessary training for individuals based on lab specific requirements of each research project or experiment involving SARS-CoV-2.



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- Ensuring that laboratory personnel complete all required safety training and remain current with refresher training requirements.
- Providing a copy and ensuring that laboratory personnel review and understand the Biological Agent Reference Sheet (BARS) for SARS-CoV-2.
- Ensuring all laboratory activities comply with Emory's biosafety guidelines for SARS-CoV-2.
- Principal Investigators must inform all personnel working in the laboratory about Emory University's guidelines for working with SARS-CoV-2. This must include all laboratory personnel even if they do not handle or anticipate handling SARS-CoV-2 or other specimens containing the virus.

STAFF, STUDENTS, AND REGISTERED NON-EMORY AFFILIATES

Individuals who participate in research activities are responsible for complying with the following recommendations:

- Completing all required safety training and remaining current with refresher training requirements.
- Reviewing and understanding the Biological Agent Reference Sheet (BARS) for SARS-CoV-2.
- Complying with Emory's biosafety guidelines for SARS-CoV-2.

EMORY'S LABORATORY BIOSAFETY GUIDELINES FOR WORKING WITH SARS-COV-2

CONTAINMENT REQUIREMENTS

- Laboratory/Animal containment level for viral or culture work: BSL2/ABSL2 with enhanced practices
- Occupational Health requirements: Annual COVID vaccination
- Engineering controls: work performed in a certified BSC, use centrifuge with safety cups
- Minimum PPE requirements:
 - Lab coat
 - Disposable fluid resistant gown
 - Double gloves
 - Safety glasses with side shields or goggles
 - N95
 - Face shield when procedures could result in splash or aerosolization



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- Additional site-specific PPE may be required

ENHANCED WORK PRACTICES

- Use a BSC dedicated for viral work, if available.
 - If a dedicated BSC is not available, post a sign on the BSC, or on the room door if the BSC is in a separate room from the main lab, identifying “SARS-CoV-2 Work is in Progress.”
- Use EPA approved disinfectants (e.g., Peroxigard, 10% bleach, 70% ethanol, etc.).
- All solid culture waste must be autoclaved and disposed of through Stericycle.
- Liquid waste must be decontaminated with appropriate disinfectant, ensuring appropriate concentration and contact time, prior to disposal.
- Minimize the use of sharps and glass as much as possible and immediately dispose of used sharps in a sharps container.
- If work with SARS-CoV-2 cultures needs to be performed in a BSL3 facility, all BSL3 practices and procedures must be followed.

All research activities with SARS-CoV-2 associated specimens (non-viral/non-culture work) will be performed at BSL2.

LIST OF ASSOCIATED DOCUMENTS

- [Biological Agent Reference Sheet \(BARS\) – Severe Acute Respiratory Syndrome Coronavirus 2 \(SARS-CoV-2\)](#)
- [EHS-402, Biosafety Manual](#)

REFERENCES

Laboratory Biosafety Guidelines for working with SARS-CoV-2, Centers for Disease Control and Prevention (CDC), December 20, 2024, <https://www.cdc.gov/covid/php/lab/index.html>

Biosafety Considerations for Research Involving SARS-CoV-2, National Institutes of Health (NIH) Office of Science Policy (OSP), December 2024 <https://osp.od.nih.gov/policies/biosafety-and-biosecurity-policy/biosafety-considerations-for-research-involving-sars-cov-2/>

World Health Organization Laboratory Guidance Related to SARS-CoV-2 (COVID-19): Interim Guidance, 11 March 24 <https://www.who.int/publications/i/item/who-whe-epp-2024.3>