**Biohazardous Agent Reference Document (BARD) and**

**Information for Healthcare Providers in the Event of an Exposure**

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| The BARD is an additional guidance tool. It is not a substitute for a risk assessment, biosafety training, lab-specific training, SOP as required by the IBC or a formal [IBC master protocol registration](https://www.uvm.edu/rpo/biosafety-oversight). This document must be readily available in the laboratory, and it is the responsibility of the Laboratory Supervisor or Principal Investigator to ensure that all personnel have read and understood the information. The BARD is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Please bring this IBC-approved BARD with you to the UVMMC Emergency Department if there has been an exposure and someone requires medical assistance.  INSTRUCTIONS for BARD Preparation   1. Complete the blue Information for Healthcare Providers section. 2. Review the standard information contained in the green section of this document. 3. Add/revise information that is specific to your work in the laboratory (such as strain-specific information). Please be sure that the track changes function is turned on to indicate any changes that you make. 4. Submit the BARD along with your IBC master protocol registration or amendment. 5. Once approved by the IBC, all personnel must review this BARD. The PI will attest during the submission of the registration or amendment to add new personnel that each lab member has read and understands the material. | |
| **Information for Healthcare Providers**  Dear Healthcare Provider,  This individual works in a UVM research laboratory and has been exposed to a pathogen or toxin. Information about the materials this person may have been exposed to is listed below. You may also find useful additional information in subsequent pages of this reference document. | |
| **Pathogen Name:** | Aspergillus fumigatus |
| **Pathogen/Toxin Classification:** |  |
| **List All Strains Used in the Laboratory:** |  |
| **List Resistant Genes Known to be Encoded:** |  |
| **Modes of Transmission *(mucous membranes, needle stick, inhalation)*:** | Aerosol inhalation |
| **Known Medical Precautions and Treatment** | |

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| **Prophylaxis** | Antifungals may be prescribed for high risk individuals (organ or stem cell transplant recipients) |
| **Vaccines** | None available |
| **Treatment and/or Post-exposure Intervention** | Invasive aspergillosis needs to be treated with prescription antifungal medication, usually voriconazole. |
| **Surveillance** | Monitor for symptoms and test using serology, PCR, or microbiological isolation |
| **Additional Medical Precautions (immunosuppression, pregnancy, allergies)** | A. fumigatus and A. flavus are both etiologic agents known for causing the human disease aspergillosis. A. fumigatus is the leading agent causing aspergillosis, with about 70% of cases; it can be abundant in soils and presumably in dust blowing off of agricultural fields. |

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| **Health Hazards** | |
| **Host Range** | Mammals including: humans, cows, dolphins, birds, horses, others; plants including: corn, peanuts, tree nuts, others. |
| **Signs and Symptoms** | Respiratory symptoms such as coughing, sneezing, sinusitis, headache, fever, or chest pain |
| **Infectious Dose** | Unknown |
| **Incubation Period** | May vary from 2 days to 3 months |
| **Exposure Procedures** | |
| **Mucous membranes** | Flush eyes, mouth or nose for 15 minutes at eyewash station. |
| **Other exposures** | Wash area with soap and water for 15 minutes. |
| **Medical Follow-Up** | Contact UVMMC Infectious Disease Dept. directly at **(802) 847-2700** for immediate assistance |
| **Reporting** | Report all exposures or near misses to:   1. Your immediate Supervisor 2. SOS at 802-656-2560 and ask to have the EH&S team paged 3. Risk Management: <https://www.uvm.edu/riskmanagement/incident-claim-reporting-procedures> |
| **Laboratory Hazards** | |
| **Laboratory Acquired Infections** | No data |
| **Sources** | Sputum, biopsy material, tracheal aspirates, or blood of infected animals or humans. Soil, infected plants, or laboratory cultures. |
| **Characteristics** | |
| **Morphology** | Filamentous fungi, consists of a smooth and colorless conidiophores and spores. |
| **Strain Specific Characteristics** | Aspergillus spp., including A. fumigatus and A. flavus, are ubiquitous worldwide in the environment including in soil, decomposing organic matter, household dust, building materials, plants, food and water. |
| **Containment Requirements** | |
| **BSL - 2** | Manipulation of known or potentially infected clinical samples and cultures of laboratory adapted strains (RG2) |
| **BSL - 3** |  |
| **ABSL - 2** | Work with animals infected with risk group 2 strains |
| **ABSL - 3** |  |
| **Aerosol generating activities** | Centrifugation, homogenizing, vortexing or stirring, changing of animal cages, animal surgeries, cell sorting, pipetting, pouring liquids, sonicating, loading syringes |
| **Primary containment device (BSC)** | Use for aerosol-generating activities, high concentrations, animal manipulations, or large volumes |
| **Personal Protective Equipment (PPE)** | |
| ***Minimum PPE Requirements*** | Nitrile gloves, lab coat, appropriate eye/face protection. Wash hands after removing gloves. |
| ***Additional Precautions***  ***(Risk assessment dependent)*** | Limit sharps use. |
| **Viability** | |
| **Disinfection** | 1:10 bleach dilution with 10-minute contact time |
| **Inactivation** | Inactivated by autoclaving, or by microwave irradiation at 800 watts for 90 seconds – 2 minutes. Heating to 60°C for 45 minutes does not completely inactive *A. fumigatus*. |
| **Survival Outside Host** | Conidia are generally heat-resistant; can survive in soil and decomposing vegetation. |
| **Spill Clean-Up Procedures** | |
| **Small Spill** | Notify others working in the lab. Allow aerosols to settle. Don appropriate PPE. Cover area of the spill with paper towels and apply approved disinfectant, working from the perimeter towards the center. Allow 30 minutes of contact time before clean up and disposal. Dispose in double biowaste bags and biobox. |
| **Large Spill** | **Inside of a lab:** Call UVM Service Operations at 656-2560 and ask to speak to a dispatcher. Ask them to page Risk Management and Safety.  **Outside of the lab:** Pull the nearest fire alarm and evacuate the building. Wait out front of the building for emergency responders to arrive. |
| **References** | |
| **Canadian PSDS** | <https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/aspergillus.html> |
| **BMBL** | <https://www.cdc.gov/biosafety/publications/bmbl5/> |
| **CDC Guidelines** | <https://www.cdc.gov/fungal/diseases/aspergillosis/index.htm> |
| **Infectious Disease Society of America** | <http://www.uphs.upenn.edu/bugdrug/antibiotic_manual/aspergillosis%20IDSA%20practice%20guidelines%202016.pdf> |