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| **CHARACTERISTICS** | |
| Morphology | Facultatively anaerobic, gram-positive, rod-shaped coccobacillus, typically measuring 0.5 to 2μm long and 0.5μm in diameter. |
| Disease | Listeriosis, meningitis, febrile gastroenteritis, can lead to fetal complications during pregnancy; and circling disease in animals. |
| Zoonosis | Yes, through consumption of contaminated animal and vegetable products, and direct contact of infected  animal tissues. |

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| **HEALTH HAZARDS** | |
| Host Range | Mammals, fish, birds, crustaceans, and insects. Pregnant women, the elderly, immunocompromised, fetuses, and neonates are the most at risk for listeriosis. |
| Modes of Transmission | Ingestion of contaminated food, direct contact with contaminated soil, and transmission from the mother to fetus during birth. Infected mothers may shed for 7- 10 days after delivery. |
| Signs and Symptoms | Fever, muscle ache, nausea, and diarrhea, spread to the nervous system causing meningitis. Endocarditis, septicemia, and disseminated granulomatous. Pregnant women may experience only a mild, flu-like illness. Infections during pregnancy can lead to abortion, stillbirth, premature delivery, or infection of the newborn. |
| Infectious Dose | Unknown. |
| Incubation Period | From 3-70 days. Median incubation period is 21 days. |

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| **MEDICAL PRECAUTIONS/TREATMENT** | |
| Prophylaxis | None. |
| Vaccines | None. |
| Treatment | Antibiotic therapy (penicillin or ampicillin alone or with aminoglycosides). Resistant to cephalosporins. |
| Surveillance | Monitor for symptoms. |
| MSU Requirements | Report any exposures. |

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| **LABORATORY HAZARDS** | |
| Laboratory Acquired Infections (LAIs) | There have only been 2 reported LAIs. Pregnant women should take special caution to avoid contact with infected material. |
| Sources | Cerebrospinal fluid, blood, placental/fetal tissue, genital track secretions, amniotic fluid, and infected animals. Cultures, frozen stocks, other samples described in IBC protocol. |

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| **RISK GROUP & CONTAINMENT REQUIREMENTS** | |
| Risk Group 2 | Agents that are associated with human disease which is rarely serious and for which preventive or therapeutic interventions are often available. |
| BSL2 | For all procedures involving suspected or known infectious specimen or cultures. |
| ABSL2 | For all procedures utilizing infected animals. |

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| **VIABILITY** | |
| Disinfection | Susceptible to 1:10 bleach:water, 70 % ethanol and glutaraldehyde. |
| Inactivation | Inactivated by moist heat (1 hour at 121oC) and dry heat (1 hour at 170oC), short wave UV, and gamma irradiation. |
| Survival Outside Host | Able to survive outside of hosts (water, soil, food, feces). Capable of growing at low temperatures (-4 to 0-0.1° C). |

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| **SUPPLEMENTAL REFERENCES** | |
| BMBL | <https://www.cdc.gov/labs/BMBL.html> |
| NIH Guidelines | <https://osp.od.nih.gov/wp-content/uploads/NIH_Guidelines.pdf> |
| CDC | <https://www.cdc.gov/listeria/> |
| Canada PSDS | <https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/listeria-monocytogenes.html> |

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| **SPILL PROCEDURES** | |
| Small | Notify others working in the lab. Remove PPE and don new PPE. Cover area of the spill with absorbent material and add fresh 1:10 bleach:water. Allow 20 minutes (or as directed) of contact time. After 20 minutes, cleanup and dispose of materials. |
| Large | * Immediately notify all personnel in the lab and clear all personnel from the area. Remove any contaminated PPE/clothing and leave the lab. * Secure the area by locking doors, posting signage and guarding the area to keep people out of the space.   For assistance, contact MSU's Biosafety Officer (406-994-6733) or Safety and Risk Management (406-994-2711). |

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| **EXPOSURE PROCEDURES** | |
| Mucous membrane | Flush eyes, mouth, or nose for 5 minutes at eyewash station. |
| Other Exposures | Wash area with soap and water for 5 minutes. |
| Reporting | Immediately report incident to supervisor, complete a [First Report of Injury](https://firstreportinjury.mus.edu/) form, and submit to Safety and Risk Management. |
| Medical Follow-up | **During business hours:**  Bridger Occupational Health 3400 Laramie Drive Weekdays 8am -6pm. Weekends 9am-5pm  406-577-7674  **After business hours:**  Bozeman Deaconess Hospital Emergency Room  915 Highland Blvd |

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| **PERSONAL PROTECTIVE EQUIPMENT (PPE)** | |
| Minimum PPE Requirements | Lab coat, disposable gloves, safety glasses, closed toed shoes, long pants |
| Additional Precautions | Additional PPE may be required depending on lab specific SOPs and IBC Protocol. |