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| **CHARACTERISTICS** |
| Morphology | Gram negative rod non-spore forming bacteria. |
| Disease | Human diarrhea caused by ETEC is the most common disease caused by pathogenic E. coli strains. It is estimated that there are more than 650 million cases of ETEC infection each year. ETEC is a disease of young children in developing nations. The percentage of ETEC in children with diarrhea varies from 10-30%. In endemic areas, 20–40% of diarrhea cases are due to ETEC. Several studies suggest that 20–60% of travelers from developed countries experience diarrhea when visiting the areas where ETEC infection is endemic. |
| Zoonosis | None reported. |

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| **HEALTH HAZARDS** |
| Host Range | Humans and animals. |
| Modes of Transmission | Fecal-oral route and are most common in developing countries that lack appropriate sanitation and drinking water treatment facilities. |
| Signs and Symptoms | Low grade fever with nausea, diarrhea, and vomiting may be present. Abrupt onset of watery diarrhea that does not contain blood, pus, or mucus. |
| Infectious Dose | Estimated to be around 100 million organisms. |
| Incubation Period | 14 to 30 hours. |

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| **MEDICAL PRECAUTIONS/TREATMENT** |
| Prophylaxis | None. |
| Vaccines | None. |
| Treatment | Electrolyte fluid therapy. Susceptible to carbapenem, fosfomycintrometanol, nitrofurantoin, and bovine apolactoferrin. |
| Surveillance | Monitor for symptoms. |
| MSU Requirements | Report any exposures. |

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| **LABORATORY HAZARDS** |
| Laboratory Acquired Infections (LAIs)  |  12 reported cases. |
| Sources | Contaminated food and feces. 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, accelerated hydrogen peroxide. |
| Inactivation | Inactivated by moist heat (1 hour at 121oC) and dry heat (1 hour at 160-170 C). |
| Survival Outside Host | Can survive for 1.5 hours to 16 months on dry inanimate surfaces. |

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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>  |
| Canada PSDS | <https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/escherichia-coli-enterotoxigenic.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-5pm406-577-7674**After business hours:**Bozeman Deaconess Hospital Emergency Room915 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. |