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| **CHARACTERISTICS** |
| Morphology | Icosahedral, non-enveloped, linear single-stranded positive-sense RNA viruses of the Picornaviridaefamily and *Enterovirus* genus. |
| Disease | Coxsackievirus group A associated conditions: hand-foot-and-mouth disease, herpangina, acute lymphatic or nodular pharyngitis, aseptic meningitis, paralysis, exanthema, pneumonitis of infants, "common cold", hepatitis, infantile diarrhea, acute hemorrhagic conjunctivitis. Coxsackievirus group B associated conditions: diabetes, pleurodynia, aseptic meningitis, paralysis, severe systemic infection in infants, meningoencephalitis, myocarditis, pericarditis, upper respiratory illness and pneumonia, rash, hepatitis, and pancreatitis. |
| Zoonosis | None. |

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| **HEALTH HAZARDS** |
| Host Range | Human, monkey, mouse. |
| Modes of Transmission | contact with infective secretions or excretions, and subsequent autoinoculation of mouth, nose, or eyes. Intranasal and aerosol transmission are possible for some variants. |
| Signs and Symptoms | Hand-foot-and-mouth disease: characterized by fever and vesicles on the mouth and extremities, sore throat, fever, and anorexia. Aseptic meningitis/meningoencephalitis: causes nonbacterial inflammation of the meninges associated with fever, headache, photophobia. |
| Infectious Dose | Unknown; however, 15-50 TCID50 has been shown to be infective in adult volunteers. |
| Incubation Period | Varies from days (eg. hand-foot-and-mouth disease) to years (eg. Myocarditis). |

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| **MEDICAL PRECAUTIONS/TREATMENT** |
| Prophylaxis | None. |
| Vaccines | None. |
| Treatment | No antiviral medications are currently approved. |
| Surveillance | Monitor for symptoms. |
| MSU Requirements | Report any exposures. |

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| **LABORATORY HAZARDS** |
| Laboratory Acquired Infections (LAIs)  | Responsible for 39 reported cases up to 2006. |
| Sources | Throat swabs, rectal swabs, stool samples, aseptic meningitis cerebrospinal fluids, 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 | formaldehyde, gluteraldehyde, strong acids, sodium hypochlorite (bleach), and free residual chlorine |
| Inactivation | Inactivated by moist heat (60 minutes at 121oC), dry heat (1 hour at 160-170oC), UV. |
| Survival Outside Host | Can survive for months under favourable conditions of neutral pH, moisture, and low temperature; enhanced by presence of organic matter. |

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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/coxsackievirus-pathogen-safety-data-sheet.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. |