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| **CHARACTERISTICS** |
| Morphology | Enveloped viruses 120- 160 nm in diameter, with a positive stranded, capped and polyadenylated RNA genome that is 27-32 kb in size. |
| Disease | Coronaviruses have a worldwide distribution, causing 10-15% of common cold cases. Infections show a seasonal pattern with most cases occurring in the winter months. |
| Zoonosis | None. |

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| **HEALTH HAZARDS** |
| Host Range | Humans. |
| Modes of Transmission | Infection can be transmitted through inhalation of respiratory droplet aerosols; virus can also be spread via the fecal-oral route, and through fomites. |
| Signs and Symptoms | Common cold, a self-limiting upper respiratory tract infection. Infection can lead to a number of illnesses such as bronchitis, gastroenteritis, progressive demyelinating encephalitis, diarrhea, peritonitis, nasal obstruction, rhinorrhea, sneezing, sore throat and cough. They can cause more severe lower respiratory tract infection, including pneumonia in infants, elderly and immunocompromised individuals. |
| Infectious Dose | Unknown. |
| Incubation Period | 2-4 days. |

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| **MEDICAL PRECAUTIONS/TREATMENT** |
| Prophylaxis | None. |
| Vaccines | None. |
| Treatment | No specific treatment available, treatment should be supportive. |
| Surveillance | Monitor for symptoms. |
| MSU Requirements | Report any exposures. |

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| **LABORATORY HAZARDS** |
| Laboratory Acquired Infections (LAIs)  | None reported. |
| Sources | Specimens from the upper or lower respiratory tract, stools. 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 0.1% sodium hypochlorite, 0.1% organochlorine, 10% iodophore, 70% ethanol and 2% glutaraldehyde. Resistant to 0.04% quaternary ammonium compound and phenolics. |
| Inactivation | Inactivated by moist heat (1 hour at 121oC). |
| Survival Outside Host | Survives up to six days in aqueous mediums and up to 3 hours 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/human-coronavirus.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. |