MONTANA STATE UNIVERSITY | Office of Research Compliance

# PATHOGEN SAFETY DATA SHEET

## Human Immunodeficiency Virus (HIV)

| CHARACTERISTICS | |
|---|---|
| Morphology | HIV is a member of the *Retroviridae* family, genus *Lentivirus*. Are double stranded DNA viruses enclosed within an icosahedral capsid. HIV is an icosahedral, enveloped virus, of approximately 100 to 110 nm in diameter, and has a single-stranded, linear, positive-sense RNA genome |
| Disease | HIV is the causative agent of AIDS. AIDS is characterized by symptoms and infections caused by the breakdown of the immune system due to HIV infection. Due to immunodeficiency, patients succumb to various fungi, parasites, bacteria, and/or viruses and are prone to certain tumors. |
| Zoonosis | none. |

| HEALTH HAZARDS | |
|---|---|
| Host Range | Humans |
| Modes of Transmission | Exposure of the virus to oral rectal, or vaginal mucosa during sexual activity. Transfusion of contaminated blood products, using contaminated equipment during injection drug use. Mother to infant during pregnancy. |
| Signs and Symptoms | AIDS is characterized by symptoms and infections caused by the breakdown of the immune system due to HIV infection. Due to immunodeficiency, patients succumb to various fungi, parasites, bacteria, and/or viruses and are prone to certain tumors. |
| Infectious Dose | unknown |
| Incubation Period | Ranges from less than 1 year to 15 years or longer. |

| MEDICAL PRECAUTIONS/TREATMENT | |
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| Prophylaxis | Antiretroviral agents: NRTIs, NtRTIs, NNRTIs, PIs and fusion inhibitors. |
| Vaccines | None available. |
| Treatment | Antiretroviral agents: NRTIs, NtRTIs, NNRTIs, PIs and fusion inhibitors |
| Surveillance | Monitor for symptoms |
| MSU Requirements | Report any exposures |

| LABORATORY HAZARDS | |
|---|---|
| Laboratory Acquired Infections (LAIs) | As of 2001, there have been a total of 57 cases of documented occupationally acquired HIV among U.S. health care workers. |
| Sources | Blood, semen, vaginal secretions, cerebrospinal fluid, synovial fluid, peritoneal fluid, pleural fluid, pericardial fluid, breast milk, and infected human tissues, other samples described in IBC protocol. |

| SUPPLEMENTAL REFERENCES | |
|---|---|
| Canadian MSDS: | http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/index-eng.php |
| BMBL | https://www.cdc.gov/labs/BMBL.html |
| CDC | https://www.cdc.gov/std/herpes/stdfact-herpes.htm |
| NIH Guidelines | https://osp.od.nih.gov/wp-content/uploads/NIH_Guidelines.pdf |

| RISK GROUP & CONTAINMENT REQUIREMENTS | |
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| 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 with BSL3 practices | For all procedures involving suspected or known infectious specimen or cultures. |
| ABSL2 | For all procedures utilizing infected animals. |

| SPILL PROCEDURES | |
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| 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.<br>• Secure the area by locking doors, posting signage and guarding the area to keep people out of the space.<br>For assistance, contact MSU's Biosafety Officer (406-994-6733) or Safety and Risk Management (406-994-2711). |

| EXPOSURE PROCEDURES | |
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| 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 form, and submit to Safety and Risk Management. |
| Medical Follow-up | **During business hours:**<br>Bridger Occupational Health 3406 Laramie Drive<br>Weekdays 8am -6pm. Weekends 9am-5pm<br><br>**After business hours:**<br>Bozeman Deaconess Hospital Emergency Room<br>915 Highland Blvd |

| VIABILITY | |
|---|---|
| Disinfection | Susceptible to 1:10 bleach:water, 70 % ethanol |
| Inactivation | Inactivated by moist heat (15 minutes at 121°C) and dry heat (1 hour at 170°C). |
| Survival Outside Host | unknown |

| 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. |