

## PATHOGEN SAFETY DATA SHEET

### Cryptosporidium parvum

CHARACTERISTICS	
Morphology	Is an intracellular protozoan parasite. It has a complex lifecycle with sexual and asexual cycles taking place in a single host. Oocysts are thick-walled and are the extracellular and environmental stage.
Disease	Cryptosporidiosis
Zoonosis	Oocysts. Acquired through contact with contaminated animal fecal matter, particularly diarrhea.

HEALTH HAZARDS	
Host Range	Humans and animals.
Modes of Transmission	Transmitted through the fecal-oral route, direct contact with infected humans or animals, contaminated food, water, and aerosols.
Signs and Symptoms	Acute gastroenteritis. Symptoms include diarrhea, abdominal pain, cramps, fever, vomiting, myalgia, nausea, anorexia, malaise, and fatigue.
Infectious Dose	As low as 1-5 oocysts.
Incubation Period	7 to 10 days.

MEDICAL PRECAUTIONS/TREATMENT	
Prophylaxis	None available.
Vaccines	None available.
Treatment	None.
Surveillance	Monitor for symptoms. Detection usually by direct microscopic observation of oocysts in stool specimens. Nucleic acid and antigen detection methods have also been developed
MSU Requirements	Report any exposures

LABORATORY HAZARDS	
Laboratory Acquired Infections (LAIs)	High risk of infection. At least 16 cases laboratory acquired infections have been reported.
Sources	Stool, intestinal biopsy specimens from humans or animals and environmental water. Cultures, frozen stocks, other samples described in IBC protocol.

SUPPLEMENTAL REFERENCES	
Canadian MSDS:	<a href="http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/index-eng.php">http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/index-eng.php</a>
BMBL	<a href="https://www.cdc.gov/labs/BMBL.html">https://www.cdc.gov/labs/BMBL.html</a>
CDC	<a href="https://www.cdc.gov/parasites/crypto/index.html">https://www.cdc.gov/parasites/crypto/index.html</a>
NIH Guidelines	<a href="https://osp.od.nih.gov/wp-content/uploads/NIH_Guidelines.pdf">https://osp.od.nih.gov/wp-content/uploads/NIH_Guidelines.pdf</a>

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.

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	<ul style="list-style-type: none"> <li>Immediately notify all personnel in the lab and clear all personnel from the area. Remove any contaminated PPE/clothing and leave the lab.</li> <li>Secure the area by locking doors, posting signage and guarding the area to keep people out of the space.</li> </ul> For assistance, contact MSU's Biosafety Officer (406-994-6733) or Safety and Risk Management (406-994-2711).

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 <a href="#">First Report of Injury</a> form, and submit to Safety and Risk Management.
Medical Follow-up	<b>During business hours:</b> Bridger Occupational Health 3406 Laramie Drive Weekdays 8am -6pm. Weekends 9am-5pm  <b>After business hours:</b> Bozeman Deaconess Hospital Emergency Room 915 Highland Blvd

VIABILITY	
Disinfection	1:2 bleach:water, accelerated hydrogen peroxide
Inactivation	Inactivated by moist heat (121°C for 30 minutes)
Survival Outside Host	Can survive for at least 6 months in the environment

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.