

PATHOGEN SAFETY DATA SHEET

Streptococcus pneumoniae

CHARACTERISTICS	
Morphology	Aerotolerant, gram positive diplococci, lancet-shaped, occur in pairs, or short, tight chains.
Disease	Pneumonia, otitis media, meningitis.
Zoonosis	Possible, by bite wound or exposure to infected animals.

HEALTH HAZARDS	
Host Range	Humans and Animals.
Modes of Transmission	Direct contact with aerosol droplets. Direct oral and mucous membrane contact. Indirectly through articles freshly soiled with respiratory discharges.
Signs and Symptoms	Shaking chills, chest pain, dyspnea, fever, productive cough, and sinusitis. Can cause middle ear infections. Can progress to pneumonia, bacteremia, meningitis.
Infectious Dose	Unknown
Incubation Period	Generally 1-3 days

MEDICAL PRECAUTIONS/TREATMENT	
Prophylaxis	Pneumococcal conjugate vaccine (PCV7) and pneumococcal polysaccharide vaccine (PPV23)
Vaccines	Pneumococcal conjugate vaccine (PCV13) and pneumococcal polysaccharide vaccine (PPV23). Vaccination is recommended for all children under 5 years of age, all adults over 65 years of age, and high risk individuals of any age, including individuals with underlying medical conditions such as HIV or sickle-cell disease.
Treatment	Variable susceptibility to: penicillin, tetracycline, cefotaxime, levofloxacin, erythromycin, and flouroquinolones, moxifloxacin and gatifloxacin, telithromycin, vancomycin, linezolid.
Surveillance	Monitor for symptoms of infection.
MSU Requirements	Report any exposures

LABORATORY HAZARDS	
Laboratory Acquired Infections (LAIs)	78 documented cases since 1999
Sources	Sputum, blood, respiratory secretions, throat swabs, parenteral inoculation. Cultures, frozen stocks, 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/pneumococcal/clinicians/streptococcus-pneumoniae.html
NIH Guidelines	https://osp.od.nih.gov/wp-content/uploads/NIH_Guidelines.pdf

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"> 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).

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

VIABILITY	
Disinfection	Susceptible to 1:10 bleach:water, 70 % ethanol and 2 % gluteraldehyde
Inactivation	Inactivated by moist heat (15 minutes at 121° C) and dry heat (1 hour at 160-170° C).
Survival Outside Host	Mouse carcasses – 180 to 270 days, sputum at room temperature survives 7 days, and gauze survives 2 to 15 days.

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.