



The University of Texas at Tyler
Environmental Health and Safety
BIOLOGICAL AGENT REFERENCE SHEET

Characteristics	
Risk Group	2 - Agents that are associated with human disease which is rarely serious and for which preventive or therapeutic interventions are often available.
Agent Type	Biohazard
Description	<p><i>Klebsiella oxytoca</i> are Gram-negative, nonmotile, rod-shaped bacteria. The bacterium is industrially important for nitrogen fixation in soil, biofuels and other chemicals. They can be opportunistic pathogens and are a concern for immunocompromised patients and neonates. In fact they are the second most pathogenic <i>Klebsiella</i> genus behind <i>K. pneumoniae</i>. They can cause community-acquired (hospital acquired) meningitis, urinary tract infections and brain abscesses. The bacterium can be found in tropical and subtropical environments. They are increasingly resistant to antibiotics some modern antibiotics.</p> <p>ref: https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/klebsiella.html; Genome Sequence of <i>Klebsiella oxytoca</i> M5a1, a Promising Strain for Nitrogen Fixation and Chemical Production. Genome Announce. 2013.</p>
Host Range	Humans; mammals and insects
Exposure route	Aerosol/inhalation; mucous membrane contact; fecal oral route; injection
Incubation period	unknown

Laboratory Hazards

High Energy	Centrifugation, sonication, vortexing
Sharps	Needles, broken glass
Aerosols	Shaking, liquid culturing, pipetting, coughing, sneezing
Equipment	
Exposed body	Oral and nasal respiratory tracts;
Notes	

Laboratory Handling Guidelines	
Biosafety Level	2 - refer to Biosafety Manual; contact EH&S for a copy
Training	EH&S Biosafety Training; Lab specific training
Engineering controls	use in BSL II only
PPE	Eye protection, gloves and lab coat
Waste	Biohazard - put in red biohazard bins

Agent Viability	
Disinfection	10% bleach; 70% ethanol
Survival outside host	Survive well within vegetation, sawdust and within infected individuals
Engineering controls	BSC; lids while working with high energy equipment
PPE	Eye protection, gloves, long sleeve or lab coat
Waste	Biohazard - put in red biohazard bins

Exposure and Spill procedures	
Mucous membranes	Flush eyes, nose, mouth/throat for 15 minutes
Skin contact	Wash with soap and water for a minimum of 30 second for bare skin contact; for broken skin wash with soap and water for 15 minutes
Minor (small) spills	Notify all persons present in the area. Allow aerosols to settle. While wearing protective clothing, gently cover the spill with absorbent paper towel and apply appropriate disinfectant, starting at perimeter and working towards the centre. Allow sufficient contact time before clean up.
Major (large) spills	Contact EH&S immediately; after-hours contact University Police

Waste	Decontaminate all wastes before disposal by incineration, chemical disinfection or steam sterilization
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References
https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/klebsiella.html