



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. These agents represent a moderate risk to an individual but a low risk to the community.
Agent Type	Biohazard
Description	<p>Serratia marcescens are Gram-negative, motile, rod-shaped facultative anaerobic bacteria. <i>S. marcescens</i> is an opportunistic human pathogen associated with community-acquired (hospital acquired) infections. The pathogen is associated with meningitis, endocarditis and pyelonephritis. Neonates and infants are at more risk than others. The organism is found ubiquitously in soil, water and plant surfaces. At least 5 cases of laboratory acquired infections have been reported.</p> <p>ref. Serratia marcescenes. NCBI. Genome; https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/serratia.html</p>
Host Range	Humans; plants and animals
Exposure route	Contact on broken skin or mucous membranes; ingestions
Incubation period	unknown

Laboratory Hazards	
High Energy	Centrifugation, sonication, vortexing
Sharps	Needles, broken glass
Aerosols	Shaking, liquid culturing, pipetting, coughing, sneezing
Equipment	Easily adhere to and stay on unsanitary equipment

Exposed body	skin, eyes, mucous membranes
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 2 required.
PPE	Eye protection, gloves and lab coat
Waste	Biohazard - put in red biohazard bins

Agent Viability	
Disinfection	10% bleach, 70% ethanol
Survival outside host	The bacterium can survive for several days to 2 months outside of soil, water and plant environments.
Engineering controls	BSC if working with liquids; 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

References	
https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/serratia.html	