



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>Staphylococcus aureus is a Gram-positive, cocci-shaped, non-spore-forming facultative anaerobic bacterium. They are found as part of normal human flora, in the nose and on skin. <i>S. aureus</i> is an opportunistic pathogen and a major cause of community-acquired (hospital acquired) infections. Chronically ill or immunocompromised persons are at a higher risk of infection. Antibiotic resistant strains are becoming wide-spread, commonly described as MRSA, MSSA, VISA, hVISA, VRSA. <i>S. aureus</i> produce the sterotixins and others causing staph infections and toxic shock syndrome. 29 laboratory acquired infections have been reported.</p> <p>ref. Staphylococcus aureus. NCBI. Genome; <a href="https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/staphylococcus-aureus.html">https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/staphylococcus-aureus.html</a></p>
Host Range	Humans and other animals
Exposure route	Inhalation, contact on broken skin or mucous membranes; ingestion; animal bites
Incubation period	30 minutes to 8 hours

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 50 days depending on the environment.
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

[assessment/staphylococcus-aureus.html](#); [https://sp.ehs.cornell.edu/lab-research-safety/bios/bars/Documents/BIO\\_BARS\\_Staphylococcus\\_aureus.pdf](https://sp.ehs.cornell.edu/lab-research-safety/bios/bars/Documents/BIO_BARS_Staphylococcus_aureus.pdf)