



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

Characteristics	
Risk Group	1 - Agents that are not associated with human disease.
Agent Type	Biohazard
Description	<p>Escherichia coli is an enterobacteriace that is commonly found in the intestines of human beings. This bacterium is a facultative anaerobe, gram negative, mobile and important for health. Strains are referenced as either aerobic or anaerobic. Some strains do have pathogenic cabaility, causing urinary tract infections, neonatal meningitis and intestinal diseases. Attenuated strains used for research may pose risk to immunocompromised people. However, many research strains are used for quality control, DNA and/or protein research.</p> <p>ref: E. coli. CDC; Eschericia coli. Genome. NCBI.</p>
Host Range	Mammals, fish and reptiles
Exposure route	Fecal to oral, mucous membranes or contact
Incubation period	varies with strain

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	Wash hands after handling

### Laboratory Handling Guidelines

Biosafety Level	1 - refer to Biosafety Manual; contact EH&S for a copy
Training	EH&S Biosafety Training; Lab specific training
Engineering controls	suggested use in biosafety cabinet
PPE	Eye protection, gloves and lab coat
Waste	Biohazard - put in red biohazard bins

### Agent Viability

Disinfection	10% bleach, 70% ethanol
Survival outside host	Undetectable after 6 weeks in fecal material; undetectable after 2 months in soil. Survives well in foods: up to 50 min in butter; 10 days in cream; survives well in hamburger meat;
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.

### References

<https://sp.ehs.cornell.edu/lab-research-safety/bios/bars/Pages/default.aspx>