



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

Characteristics	
Risk Group	1 - Agents that are not associated with disease in healthy adult humans. This group includes a list of animal viral etiologic agents in common use.
Agent Type	Biohazard
Description	<p><i>Clostridium beijerinckii</i> (formerly <i>Clostridium acetobutylicum</i>) is an anaerobic, rod shaped, spore-forming bacterium found ubiquitously in anoxic environments. This bacterium is important in industry as it produces solvents. It may also be an efficient H<sub>2</sub> producer.</p> <p>ref: <i>Clostridium beijerinckii</i>. NCBI. Genome.; An et. al. Characterization on hydrogen production performance of a newly isolated <i>Clostridium beijerinckii</i> YA001 using xylose. International Journal of Hydrogen Energy. December 2014.</p>
Host Range	Humans; animals
Exposure route	Aerosols, injection
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	1 - refer to Biosafety Manual; contact EH&S for a copy
Training	EH&S Biosafety Training; Lab specific training
Engineering controls	Recommended use in BSL-2
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 in anoxic conditions within soil, aquatic environments and intestinal tracts for long periods of time.
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

*Clostridium beijerinckii*. NCBI. Genome.