PSDS
PATHOGEN SAFETY DATA SHEET

Corynebacterium diphtheriae

CHARACTERISTICS

Synonym or Cross Reference	Diphtheria
Disease	Diphtheria, upper respiratory tract illness.
Morphology	Gram-positive, club shaped, small, pleomorphic, aerobic, non-spore forming bacilli. Nonmotile and catalase-positive. Produces Diphtheria toxin. DT inhibits protein synthesis by catalyzing ADP-ribosylation of eukaryotic aminoacyltransferase II. LD50: 0.1ug/kg body weight for humans.
Zoonosis	None

RISK GROUP & CONTAINMENT REQUIREMENTS

ABSL-2	For all procedures utilizing infected animals.
BSL-2/BSL-2+	For all procedures involving suspected or known infectious specimen or cultures, work in a BSC unless otherwise approved and stated in lab-specific manual.
Risk Group 2	Agents that are associated with human disease which is rarely serious and for which preventive or therapeutic interventions are often available.

LABORATORY HAZARDS

Primary Hazards	Inhalation, accidental parenteral inoculation, and ingestion
Sources	Cultures, frozen stocks, and other samples described in IBC protocol.
Lab Acquired Infections (LAIs)	Cases have been reported.

PERSONAL PROTECTIVE EQUIPMENT

Additional Precautions	Additional PPE may be required depending on lab-specific SOPs and IBC Protocol.
Minimum PPE Requirements	Lab coat, disposable gloves, safety glasses, closed toed shoes, long pants.

SPILL PROCEDURES

Large	Immediately notify all lab personnel and clear the area. Remove any contaminated PPE/clothing before exiting the lab. Lock all entry doors, post warning signage, and deny entry. Call DPS (213-740-4321) and ask to notify EH&S. Inform the PI and/or Lab Manager/Supervisor as soon as possible.
Small	Notify all lab personnel lab. Remove contaminated PPE and don new PPE. Cover spill area with absorbent material and add fresh 1:10 bleach:water. Allow 20 minutes (or as directed) contact time. After 20 minutes, clean up and dispose of materials.

VIABILITY

Disinfection	Use 10 % dilution of household bleach (minimum 0.3% sodium hypochlorite) for 20 to 30 minutes, or an acceptable time approved by IBC and EH&S.
Survival Outside Host	7 days to 6 months on dry surfaces. Survival of C. ulcerans and C. pseudotuberculosis is unknown.

HEALTH HAZARDS

Host Range	Humans. C. ulcerans and C. pseudotuberculosis are derived from animals but also cause disease in humans
Incubation Period	2-4 days
Infectious Dose	Unknown
Modes of Transmission	Exposure to wounds, exposure to contaminated fomites, inhalation, accidental parenteral inoculation, ingestion.
Signs and Symptoms	Lesions on the skin or formation of pseudomembrane, pharyngitis or tonsillitis with sore throat, dysphagia, lymphadenitis, low grade fever, malaise, and headache; Cutaneous diphtheria is characterized by formation of lesions on the skin.

EXPOSURE PROCEDURES

Medical Follow-up	Visit USC's designated healthcare provider. Bring a copy of this PSDS.
Mucous Membrane	Flush eyes for 5-10 minutes at eyewash station.
Other Exposures	Immediately wash affected area with soap and water for 15 minutes.
Reporting	Immediately report incident to supervisor, notify EH&S, and complete Manager's Report.

MEDICAL PRECAUTIONS/TREATMENT

Prophylaxis	None available.
Surveillance	Monitor for symptoms of infection
Treatment	Antibiotic therapy with penicillin, cephalosporins, erythromycin, and tetracycline may be used in conjunction with antitoxin to eliminate the bacteria from the site of infection. Penicillin can be given intramuscularly or orally
USC Requirements	Immediately report any exposures to Environmental Health & Safety.
Vaccines	DTaP vaccine of Diphtheria, pertussis, and tetanus toxoid.

REFERENCES

BMBL
http://tiny.cc/cdc-bmbl

CDC
https://www.cdc.gov/

Virginia Tech
http://tiny.cc/vt-psds

Canadian PSDS
http://tiny.cc/canada-gov-psds

NIH Guidelines
http://tiny.cc/nih-bio-secure