Material Safety Data Sheets - Infectious Substances

MATERIAL SAFETY DATA SHEET - INFEKTIOUS SUBSTANCES

SECTION I - INFECTIOUS AGENT

NAME: Escherichia coli, enteroinvasive

SYNONYM OR CROSS REFERENCE: EIEC, bacillary dysentery

CHARACTERISTICS: Gram negative rod; motile, aerobic; serotyping

SECTION II - HEALTH HAZARD

PATHOGENICITY: Disease localized primarily in the colon (invasion of epithelial cells of colon, similar to dysentery; shigella-like disease); fever; mucoid, occasionally bloody diarrhea; generally self-limiting; most severe form may result in hypotension with severe toxemia; sometimes associated with food poisoning

EPIDEMIOLOGY: Usually sporadic, particularly in under-developed countries; may cause common source outbreaks

HOST RANGE: Human

INFECTIOUS DOSE: Appears to have low infectious dose, may be similar to that of Shigella spp., 10 organisms by ingestion

MODE OF TRANSMISSION: Fecal-oral route; fecal contamination of water, food or fomites; poor sanitation and hygiene

INCUBATION PERIOD: 12-72 hours

COMMUNICABILITY: Communicable during duration of fecal excretion (several weeks)

SECTION III - DISSEMINATION

RESERVOIR: Infected persons

ZOONOSIS: No

VECTORS: None

SECTION IV - VIABILITY

DRUG SUSCEPTIBILITY: Sensitive to ampicillin

SUSCEPTIBILITY TO DISINFECTANTS: Susceptible to many disinfectants - 1% sodium hypochlorite, 70% ethanol, glutaraldehyde, iodines, phenolics, formaldehyde

PHYSICAL INACTIVATION: Inactivated by moist heat (121° C for at least 15 min) and dry heat (160-170° C for at least 1 hour)
SURVIVAL OUTSIDE HOST: Survives well in contaminated feces, food, soil or water

SECTION V - MEDICAL

SURVEILLANCE: Monitor for symptoms; confirm by examination of stool specimens; demonstration of invasiveness of isolates in tissue culture

FIRST AID/TREATMENT: Therapy generally not necessary as illness is short-lived; electrolyte fluid therapy if excessive diarrhea; antibiotic therapy in severe cases

IMMUNIZATION: None

PROPHYLAXIS: Not usually administered

SECTION VI - LABORATORY HAZARDS

LABORATORY-ACQUIRED INFECTIONS: 3 reported cases of laboratory infections with *E. coli*

SOURCES/SPECIMENS: Feces; contaminated food, water, fomites

PRIMARY HAZARDS: Ingestion

SPECIAL HAZARDS: None

SECTION VII - RECOMMENDED PRECAUTIONS

CONTAINMENT REQUIREMENTS: Biosafety level 2 practices containment equipment and facilities for activities involving cultures and infected clinical materials

PROTECTIVE CLOTHING: Laboratory coat; gloves when contact with infectious materials is unavoidable

OTHER PRECAUTIONS: Good personal hygiene and frequent handwashing

SECTION VIII - HANDLING INFORMATION

SPILLS: Allow aerosols to settle; wearing protective clothing, gently cover spill with absorbent paper towel and apply 1% sodium hypochlorite, starting at perimeter and working towards the centre; allow sufficient contact time (30 min) before clean up

DISPOSAL: Decontaminate before disposal; steam sterilization, chemical disinfection

STORAGE: In sealed containers that are appropriately labelled

SECTION IX - MISCELLANEOUS INFORMATION

Date prepared: January, 2000

Prepared by: Office of Laboratory Security, PHAC

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