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Office of  
Laboratory  
Security

MSDS

**MATERIAL SAFETY DATA SHEET - INFECTIOUS SUBSTANCES****SECTION I - INFECTIOUS AGENT****NAME:** *Entamoeba histolytica***SYNONYM OR CROSS REFERENCE:** Amebiasis, Amebic dysentery, Ameboma**CHARACTERISTICS:** Obligate parasite of human alimentary tract; possess both cyst (10-15 µm in diameter) and trophozoite forms; trophozoite (12-50 µm in diameter) are microaerophilic with a granular, vacuolated endoplasm and clear ectoplasm with pseudopods**SECTION II - HEALTH HAZARD****PATHOGENICITY:** Approximately 90% of most infections are asymptomatic, only evidence may be seroconversion; debilitated, pregnant or immunocompromised individuals may develop an abrupt onset of fever, severe abdominal cramps, profuse bloody diarrhea and tenesmus; complications include massive hemorrhage, peritonitis, amebomas and liver abscesses**EPIDEMIOLOGY:** Worldwide distribution; 10% of world's population is infected with *E. histolytica*; stool survey in the US indicated that 5% of the population harbors *E. histolytica*; higher incidence in areas of the tropics with poor sanitation; common in mental institutions and among sexually promiscuous male homosexuals**HOST RANGE:** Humans, primates**INFECTIOUS DOSE:** Not known; however, theoretically, the ingestion of one viable cyst can cause infection**MODE OF TRANSMISSION:** Ingestion of fecally contaminated water and food (raw vegetables), oral-anal sexual contact; by fecally contaminated hands of foodhandlers**INCUBATION PERIOD:** Variable, from a few days to several months; usually 2-4 weeks**COMMUNICABILITY:** During the period of cyst passing and may continue up to several years**SECTION III - DISSEMINATION****RESERVOIR:** Humans (chronically ill or an asymptomatic cyst passer - can excrete 15 million [ $15 \times 10^6$ ] cysts per day)**ZOONOSIS:** None

**VECTORS:** None

#### **SECTION IV - VIABILITY**

**DRUG SUSCEPTIBILITY:** Susceptible to metronidazole, tinidazole, ornidazole, deloxanide furoate, iodoquinol, dehydroemetine, chloroquine, tetracycline

**SUSCEPTIBILITY TO DISINFECTANTS:** Susceptible to 1% sodium hypochlorite, 2% glutaraldehyde, 2% tincture of iodine, cysts are relatively resistant to levels of chlorination used in standard water purification

**PHYSICAL INACTIVATION:** Cysts are sensitive to heating above 50° C

**SURVIVAL OUTSIDE HOST:** Cysts are sensitive to drying, trophozoites are rapidly killed by drying, water, urine and barium

#### **SECTION V - MEDICAL**

**SURVEILLANCE:** Monitor for symptoms; confirm by microscopic demonstration of trophozoites or cysts in faecal specimens, serological assays

**FIRST AID/TREATMENT:** Administration of appropriate drug therapy; extraintestinal disease is most difficult, needle aspiration of liver abscess may be indicated with antibiotic use

**IMMUNIZATION:** None available

**PROPHYLAXIS:** None available

#### **SECTION VI - LABORATORY HAZARDS**

**LABORATORY-ACQUIRED INFECTIONS:** 23 cases were reported up to 1987

**SOURCES/SPECIMENS:** Fecal specimens, abscess aspirate, tissue sections

**PRIMARY HAZARDS:** Ingestion; direct contact of mucous membranes with infectious materials

**SPECIAL HAZARDS:** None

#### **SECTION VII - RECOMMENDED PRECAUTIONS**

**CONTAINMENT REQUIREMENTS:** Biosafety level 2 practices and containment facilities for activities involving the infectious stages of the parasite and the manipulation of known or potentially infectious tissues or body fluids

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

**OTHER PRECAUTIONS:** Frequent handwashing and proper hygiene practices are important

#### **SECTION VIII - HANDLING INFORMATION**

**SPILLS:** Allow aerosols to settle; wearing protective clothing gently cover the

spill with absorbent paper towel and apply 1% sodium hypochlorite starting at the perimeter and working towards the center; allow sufficient contact time (30 min) before clean-up

**DISPOSAL:** Decontaminate all wastes before disposal; steam sterilization, chemical disinfection, incineration

**STORAGE:** In sealed containers that are appropriately labelled

## SECTION IX - MISCELLANEOUS INFORMATION

**Date prepared:** January, 2001

**Prepared by:** Office of Laboratory Security, PHAC

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