MATERIAL SAFETY DATA SHEET - INFECTIOUS SUBSTANCES

SECTION I - INFECTIOUS AGENT

NAME: *Vibrio parahaemolyticus*

SYNONYM OR CROSS REFERENCE: N/A

CHARACTERISTICS: Gram negative rod, halophilic, facultative anaerobe, 0.5-0.8 μm x 1.4-2.4 μm. Pathogenic strains usually possess characteristic hemolytic reaction (Kanagawa phenomenon)

SECTION II - HEALTH HAZARD

PATHOGENICITY: Gastroenteritis characterized by watery diarrhea and abdominal cramps; sometimes nausea, vomiting, fever and headache; occasionally a dysentery-like illness with bloody or mucoid stools, high fever, and high WBC; open wounds may become infected; systemic infection and death rarely occur

EPIDEMIOLOGY: Sporadic cases and common source outbreaks, particularly in Japan, Southeast Asia, and North America; occurs primarily in warm months of the year

HOST RANGE: Humans

INFECTIONOUS DOSE: Ingestion -> 10^6 organisms

MODE OF TRANSMISSION: By ingestion of raw or inadequately cooked seafood, or any food cross-contaminated by handling raw seafood in the same environment, or by rinsing with contaminated seawater; a period of time at room temperature is generally necessary to allow multiplication of organisms to infectious level; exposure of open wound to contaminated sea water

INCUBATION PERIOD: Usually between 12-24 hours, but can range from 4-96 hours

COMMUNICABILITY: Not communicable from person-to-person

SECTION III - DISSEMINATION

RESERVOIR: Marine coastal environs are the natural habitat; during the cold season, organisms are found in marine silt; during the warm season, they are found free in coastal waters and in fish and shellfish

ZOOONOSIS: None

VECTORS: None

SECTION IV - VIABILITY

DRUG SUSCEPTIBILITY: Sensitive to penicillin, ampicillin, fluoroquinolones; strains resistant to multiple antibiotics have been isolated
SUSCEPTIBILITY TO DISINFECTANTS: Susceptible to many disinfectants - 1% sodium hypochlorite, 70% ethanol, 2% glutaraldehyde, formaldehyde

PHYSICAL INACTIVATION: Sensitive to cold

SURVIVAL OUTSIDE HOST: Shrimp - up to 120 days; swabs - 72 days

SECTION V - MEDICAL

SURVEILLANCE: Monitor for symptoms; confirmation by stool culture or culture of suspected contaminated food (> 10^5 organisms)

FIRST AID/TREATMENT: Fluid replacement as necessary

IMMUNIZATION: None

PROPHYLAXIS: None

SECTION VI - LABORATORY HAZARDS

LABORATORY-ACQUIRED INFECTIONS: At least 1 reported case of laboratory acquired infection

SOURCES/SPECIMENS: Feces, infected seafood and seawater

PRIMARY HAZARDS: Ingestion, parenteral inoculation; importance of aerosol hazards not known

SPECIAL HAZARDS: Naturally and experimentally infected animals are a potential source of infection

SECTION VII - RECOMMENDED PRECAUTIONS

CONTAINMENT REQUIREMENTS: Biosafety level 2 practices and containment for activities with cultures or potentially infectious clinical materials; animal biosafety level 2 practices and facilities for activities with infected animals

PROTECTIVE CLOTHING: Laboratory coat; gloves when direct 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 paper towels 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: February, 2001

Prepared by: Office of Laboratory Security, PHAC
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Important Notices