



Pathogen Safety Data Sheet: Infectious Substances – *O'Nyong-Nyong virus*

SECTION I - INFECTIOUS AGENT

NAME: *O'Nyong-Nyong virus*

SYNONYM OR CROSS REFERENCE: Epidemic polyarthritis and rash, O'Nyong-Nyong virus disease, ONN.

CHARACTERISTICS: Togaviridae (formerly group A arboviruses), genus Alphavirus; spherical, enveloped virions 60 nm in diameter, single-stranded, positive-sense RNA genome.

SECTION II – HAZARD IDENTIFICATION

PATHOGENICITY/TOXICITY: Self-limiting febrile viral disease; characterized by arthralgia or arthritis typically in the knee, ankle and small joints of the extremities, followed by a maculopapular rash in 60-70% of cases; buccal and palatal enanthema can occur; inapparent infections are common, immunity is long lasting.

EPIDEMIOLOGY: Found in Africa.

HOST RANGE: Humans.

INFECTIOUS DOSE: Not known.

MODE OF TRANSMISSION: By bite of an infective mosquito.

INCUBATION PERIOD: Greater than 8 days.

COMMUNICABILITY: No evidence of person-to-person transmission.

SECTION III - DISSEMINATION

RESERVOIR: Unknown.

ZOONOSIS: No.

VECTORS: Mosquitoes - *Anopheles* spp. (*A. funestus*, *A. gambiae*).

SECTION IV – STABILITY AND VIABILITY

DRUG SUSCEPTIBILITY/RESISTANCE: No antiviral available to date.



SUSCEPTIBILITY TO DISINFECTANTS: Sensitive to 70% ethanol, 1% sodium hypochlorite, 2% glutaraldehyde, sensitive to lipid solvents.

PHYSICAL INACTIVATION: Inactivated by moist, dry heat > 58° C; sensitive to drying.

SURVIVAL OUTSIDE HOST: Unknown, less than one day in culture medium at 37° C.

SECTION V – FIRST AID / MEDICAL

SURVEILLANCE: Monitor for symptoms; confirm by serological analysis and viral isolation in mice.

FIRST AID/TREATMENT: Mainly supportive therapy.

IMMUNIZATION: None available to date.

PROPHYLAXIS: None available.

SECTION VI - LABORATORY HAZARDS

LABORATORY-ACQUIRED INFECTIONS: Two cases of O'Nyong Nyong virus infection were reported by 1980.

SOURCES/SPECIMENS: Blood.

PRIMARY HAZARDS: Accidental parenteral inoculation, aerosols.

SPECIAL HAZARDS: None.

SECTION VII – EXPOSURE CONTROLS / PERSONAL PROTECTION

RISK GROUP CLASSIFICATION: Risk group 2.

CONTAINMENT REQUIREMENTS: Containment Level 2 facilities, equipment, and operational practices for work involving infectious or potentially infectious materials, animals, or cultures.

PROTECTIVE CLOTHING: Laboratory coat; gloves when skin contact with infectious materials or animals is unavoidable. Eye protection must be used where there is a known or potential risk of exposure to splashes.

OTHER PRECAUTIONS: All procedures that may produce aerosols, or involve high concentrations or large volumes should be conducted in a biological safety cabinet (BSC). The use of needles, syringes, and other sharp objects should be strictly limited. Additional precautions should be considered with work involving animals or large scale activities.



SECTION VIII - HANDLING AND STORAGE

SPILLS: Allow aerosols to settle and, wearing protective clothing, gently cover spill with paper towels and apply an appropriate disinfectant, starting at the perimeter and working towards the centre. Allow sufficient contact time before clean up.

DISPOSAL: Decontaminate all wastes that contain or have come in contact with the infectious organism before disposing by autoclave, chemical disinfection, gamma irradiation, or incineration.

STORAGE: The infectious agent should be stored in leak-proof containers that are appropriately labelled.

SECTION IX – REGULATORY AND OTHER INFORMATION

REGULATORY INFORMATION: The import, transport, and use of pathogens in Canada is regulated under many regulatory bodies, including the Public Health Agency of Canada, Health Canada, Canadian Food Inspection Agency, Environment Canada, and Transport Canada. Users are responsible for ensuring they are compliant with all relevant acts, regulations, guidelines, and standards.

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Prepared by: Centre for Biosecurity, Public Health Agency of Canada

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