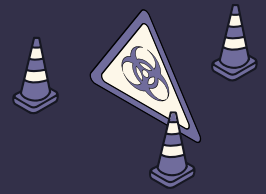


# Biological Hazards



Biological hazards include bacteria, fungi, viruses, plant, and animal particles. Pathogens can be water- or air-borne, or live in organic matter and soil. 80 cases of Leptospirosis and 180 cases of legionellosis (Legionnaire's disease) were notified to MOH in 2021 (ESR data).

## Awareness of hazards:

- human waste (urine, faeces, vomit)
- human blood or body tissue
- food and food waste
- contaminated water
- dead animals (roadkill)
- animal urine and faeces
- stagnant roadside water sources
- decaying vegetation, compost, potting mix
- needles and syringes
- poisonous plants
- contaminated soil.

Leptospirosis is caused by bacteria found in rat urine and stagnant waterways. Infection is through ingestion, via cuts and broken skin, or through the linings of our eyes, ears and noses. Untreated, it can lead to organ damage, long-term fatigue, and depression.

Legionnaire's disease is caused by inhaling bacteria found in organic waste and soil and can lead to pneumonia (infection of

the lungs). Age, smoking and existing health conditions are contributing factors.

## Understanding risks:

Biological hazards in the work environment are safety risks because harm can occur after a single exposure. High risk environments may require specially trained persons to remove the hazard(s). Preventing harm also depends on safe behaviours. PPE use is critical to minimise uncontrolled risks.

**Safe behaviours** include avoiding direct contact and managing sites to avoid animal infestations. Workers shouldn't eat, drink, or smoke during work – and wash hands, forearms and face first. Workers immersed in stagnant waters should consult a GP. Hair should be covered around organic dust. Clothing should be hot-washed and changed before leaving work. **Unsafe behaviours** are handling dead animals and waste.

## Eliminate or minimise risks (examples):

Risk controls focus on either the hazard or the behaviour of workers and others.

- **Eliminate the hazard.** Pre-inspection and specialised removal of bio-wastes and hazards.
- **Substitute the hazard.** Use bottled water if water supply is suspect.
- **Isolate the hazard.** Isolation zones. Containment. Disposal.
- Use **engineered modifications.** Use tools to prevent direct contact. Traps and pest control.

Focusing on human behaviours include:

- **Administration of safe systems of work.** Training. Health monitoring. Showering/washing and laundry facilities. Regular breaks. Medical advice if immersed in infected water/biohazards.
- **Personal protection equipment.** Disposable coveralls. Respirators (AS/NZS). Eye wear, masks, and headwear. Waterproof dressings on wounds.