

# Biorisk Management definitions and concepts

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## Definitions

- **Laboratory Biosafety** is a combination of containment principles, technologies and practices that, together, help prevent exposure to, or release of, infectious material or toxins that can cause harm to humans or animals
- Protects people and the environment from exposure to harmful biological materials

- **Laboratory biosecurity**: The protection, control and accountability for valuable biological materials within laboratories, in order to prevent their unauthorized access, loss, theft, misuse, diversion or intentional release
- Prevents misappropriation and misuse of potentially harmful biological agents

- **Harm:** is the physical injury or damage to health.
- **Hazard:** is a potential source of harm to a worker.
- **Risk:** is the combination of the likelihood of the occurrence of a harm and the severity of that harm. A situation involving exposure to danger
- **Likelihood :** is the chance of something happening.

- **Biorisk:** the risk that a particular biological event (naturally occurring diseases, accidents, unexpected discovery, or deliberate misuse of biological agents and toxins) which may affect adversely the health of human populations.
- An assessment of these risks can be both quantitative and qualitative.
- The risk associated with biological materials and/or infectious agents

## Examples of Hazards and Their Effects

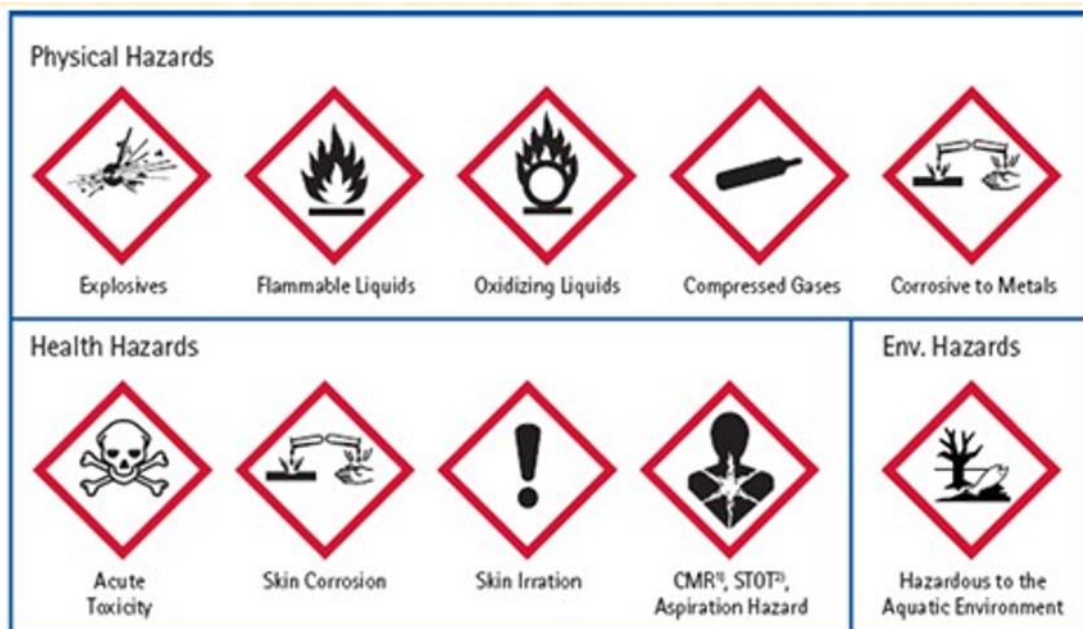
Workplace Hazard	Example of Hazard	Example of Harm Caused
Thing	Knife	Cut
Material	Mycobacterium tuberculosis	Tuberculosis
Source of Energy	Electricity	Shock, electrocution
Condition	Wet floor	Slips, falls
Behaviour	Bullying	Anxiety, fear, depression

## Laboratory safety symbols and hazard signs.

- **Hazard symbols or warning symbols** are recognisable symbols designed to warn about hazardous or dangerous materials, locations, or objects, including poisons, and radioactivity.
- The use of hazard symbols is often regulated by law and directed by standards organisations.



Biological hazard



- **Biological laboratory:** a facility within which biological agents, their components or their derivatives, and toxins are collected, handled and/or stored.
- Biological laboratories include clinical laboratories, diagnostic facilities, regional and national reference centres, public health laboratories, research centres (academic, pharmaceutical, environmental, etc.) and production facilities (the manufacturing of vaccines, pharmaceuticals, large-scale genetically modified organisms, etc.) for human, veterinary and agricultural purposes

- **Bioethics:** the study of the ethical and moral implications of biological discoveries, biomedical advances and their applications, as in the fields of genetic engineering and drug research

- **References**

- WHO, (2006) Biorisk management Laboratory biosecurity guidance

## In summary

