SDG 6



Indicator 6.3.2

Preventing water system pollution

This report outlines the institutional protocols and infrastructure safeguards established by Misr International University to ensure the integrity of its water system. The data, derived from the university's "Mechanism for Preserving Water from Pollution," demonstrates a two-pronged approach: structural isolation of water networks to prevent cross-contamination and strict operational controls regarding hazardous chemical disposal, specifically within laboratory environments.

Infrastructure Safeguards and Network Isolation	To prevent polluted water from entering the primary water system, the university has implemented specific engineering controls regarding its water stations and piping infrastructure. **1. Independent Piping Networks** The university maintains complete physical separation between different water systems. The water pipe network connecting Station 1 and Station 2, as well as the stations themselves, is **completely independent**. This structural isolation

	eliminates the risk of cross-contamination between potable water supplies and other water sources. 2. **Maintenance and Monitoring** • **Periodic Sanitation:** Water storage tanks undergo periodic washing and disinfection to prevent the buildup of contaminants. • **Laboratory Analysis:** To verify safety, water samples are analyzed periodically by certified laboratories in the Arab Republic of Egypt. • **Leakage Prevention:** The university asserts that the maintenance schedule effectively prevents the leakage of polluted water into the clean water network. 3. **Sustainable Management of Auxiliary Water Systems** The university manages secondary water resources (irrigation and fire safety) in a closed-loop or controlled manner to prevent runoff pollution: • **Irrigation Reserves:** Four polyethylene tanks with a total capacity of **80 m³** support the irrigation station. These are supplied by the treatment plant or external irrigation lines, keeping non-potable water contained. • **Fire Water Recycling:** The fire protection water station (capacity **150 m³**) is renewed twice annually. To prevent waste and pollution, the water discharged during this renewal process is diverted to the irrigation tanks for reuse, rather than being dumped into the general sewage system. •
Pollution Prevention in Academic Laboratories	A critical vector for university water pollution is the accidental release of chemicals into the drainage system. The report highlights the Faculty of Pharmacy as a primary case study for strict pollution control protocols. 1. **Prohibition of Hazardous Discharge** There is a **strict prohibition** on disposing of hazardous or polluting materials into laboratory sinks/drains. The banned categories include:

- **Corrosive Materials:** Strong acids and strong bases.
- **Reactive/Active Materials:** Unstable substances, materials that react violently with water to produce smoke/fumes, and substances generating cyanide or sulfide gases upon contact with acids/bases.
- **Toxic Materials:** Specifically, those containing heavy metal residues in filtration products, including Arsenic (As), Barium (Ba), Cadmium (Cd), Mercury (Hg), Selenium (Se), and Silver (Ag).
- **Flammable Materials:**
    - Liquids containing at least 24% alcohol.
    - Substances with a boiling point below 60°C.
    - Materials capable of causing fire through friction, moisture absorption, or spontaneous reaction.
    - Compressed flammable gases and oxidizers.

2. **Hazardous Waste Management Procedures**

To ensure these pollutants do not enter the water system, the university employs the following workflows:

- **Collection:** Chemical residues resulting from student experiments are collected in dedicated containers prepared specifically for each laboratory.
- **Disposal:** These collected wastes are processed according to the university's "Hazardous Chemical Waste Disposal Mechanism," ensuring they are treated appropriately according to their chemical nature rather than flushed.

3. **Permissible Limits**

The protocols are specific about what *can* enter the system, limiting discharge to only safe substances:

- Small quantities of diluted acids are permitted only if the pH level is between **5.5 and 10.5**.
- Safe salts are permitted.

Oversight and Incident Prevention	To prevent pollution caused by accidents or negligence, the university enforces continuous oversight: • **Supervision:** The Occupational Safety and Health Administration at the college supervises the cleaning and clearing of watercourses. • **Continuous Maintenance:** Drainage systems are cleaned continuously to prevent blockages that could lead to backflow or overflow incidents.