AASTMT Policy on Hazardous Waste Disposal

Brief Description

AASTMT's Hazardous Waste Disposal Policy ensures the safe management of chemical, biological, medical, electronic and other hazardous waste across all AASTMT campuses in Egypt, from the point where it is produced to its final, licensed disposal. It requires hazardous waste to be prevented and reduced where possible, segregated at source, labelled, stored securely, treated on site where appropriate (such as autoclaving biological waste and neutralising liquid chemicals), and handed over only to licensed contractors under staff supervision and with full documentation. Version 2 builds on the AASTMT Medical and Biohazardous Waste Disposal Program (2023–2024) and the hazardous materials section of the Consumption and Recycling Policy (created May 2019, reviewed 2024). It adds the Egyptian legal framework, a procedure for every waste stream, how each campus applies the policy, measured hazardous waste data and targets.

1. Policy Statement

AASTMT is committed to the safe and responsible management of hazardous waste to safeguard human health and the environment. No hazardous waste generated by AASTMT may be poured into drains, mixed with general waste, burned in the open or dumped on land. Every hazardous waste is identified, segregated, handled and disposed of by procedures that minimise risk and prevent contamination of soil, water and air, in line with Egyptian law and international standards.

2. Scope: Hazardous Waste Covered

- **Chemical waste:** solvents, acids, bases, reagents, heavy metals and expired chemicals from teaching and research laboratories.
- **Biological and infectious waste:** cultures, specimens and materials contaminated with microorganisms from microbiology, biotechnology and biochemistry laboratories.
- **Medical waste and sharps:** used syringes, needles, swabs and contaminated materials from clinics, the AASTMT Alamein Hospital and clinical laboratories; expired medicines.
- **Broken laboratory glass.**
- **Electronic waste:** obsolete computers, laboratory devices and electronic components.
- **Batteries, fluorescent lamps, printer toners and cartridges.**
- **Used oils, fuels, paints, solvents and asbestos** from workshops, maintenance and building works.
- **Ship-generated waste:** oily residues and hazardous garbage from AASTMT training ships.

3. Legal Framework

- **Waste Management Law No. 202 of 2020** and its executive regulations: management of hazardous waste by licensed handlers.
- **Environment Law No. 4 of 1994,** as amended by Law No. 9 of 2009, and its executive regulations: handling, storage, transport and disposal of hazardous substances and waste.
- **Decree No. 44 of 2000** (executive regulations of Law No. 93 of 1962): no hazardous substances may be discharged to public sewers.
- **Ministry of Health and Population rules** for the management of healthcare waste.
- **International:** the Basel Convention on hazardous wastes, MARPOL Annexes I and V for ships, and ISO 14001 environmental management.

4. Waste Hierarchy

Following the "waste order" of the Consumption and Recycling Policy, AASTMT first prevents hazardous waste (buying only the chemicals needed, sharing stock between laboratories, microscale experiments), then reuses and recycles it where safe (e-waste and batteries to certified recyclers), then treats it to remove its hazard (autoclaving, neutralisation), and only then sends residual waste for licensed disposal. End-of-life impacts are considered when equipment and chemicals are purchased.

5. Procedure: From Generation to Final Disposal

- **1. Identify and classify:** every laboratory, clinic and workshop keeps an inventory of the hazardous materials it uses and the waste it produces.
- **2. Segregate at source:** chemical, biological, medical, sharps, broken glass and electronic waste are kept apart in dedicated, colour-coded and labelled containers.
- **3. Store securely:** chemicals in fume hoods and secure cabinets (flammables in fire-rated cabinets); liquid chemical waste in labelled bottles in each laboratory, transferred to larger containers; biohazard waste in sealed biohazard containers in controlled storage areas.
- **4. Treat on site:** biological waste is sterilised by autoclaving; liquid chemical waste is neutralised where possible and chemical wastewater passes through neutralisation pits before any discharge.
- **5. Hand over under supervision:** waste is collected by Nahdet Misr for Modern Environmental Services, a licensed contractor, twice a week at Abu Qir; every handover is supervised by trained AASTMT staff, who check containment and sign the transfer documents.
- **6. Final treatment and disposal:** at licensed facilities such as the Alexandria Governorate hazardous waste site at Nasreya, by incineration with energy recovery where appropriate, and certified landfill only for residual, non-recoverable waste.
- **7. Record and report:** contracts, transfer documents, invoices and quantities are kept for every campus and reported every year.

Waste stream	Container and storage	On-site treatment	Final route
Liquid chemical waste	Labelled bottles in each lab, then larger sealed containers	Neutralisation where possible	Licensed contractor to licensed treatment facility
Solid and expired chemicals	Original or labelled containers in secure cabinets	None	Licensed contractor
Biological waste	Biohazard bags and containers	Autoclaving	Licensed contractor, incineration; residual ash to certified landfill
Medical waste and sharps	Red bags and puncture-proof sharps boxes	Sterilisation as needed	Licensed contractor, incineration; residual ash to certified landfill
Broken glass	Separate rigid containers	None	Licensed contractor
E-waste, batteries, lamps, toners	Separate collection points	None	Certified recyclers
Used oils, paints, solvents	Closed drums in bunded areas	None	Licensed recycler or contractor
Asbestos	Left in place, sealed and labelled; never broken or swept	None	Licensed specialist contractor to licensed disposal
Ship-generated waste	Ship's designated tanks and bins	None	Port reception facilities (MARPOL)



College of Pharmacy: liquid chemical waste collected in designated bottles in each laboratory

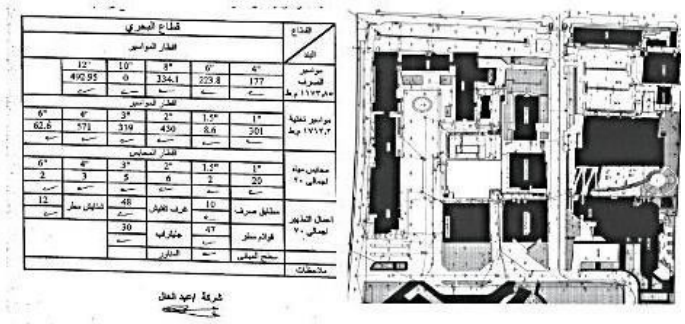


Biohazard waste bagged for collection



Nahdet Misr disposal of wastes into Alexandria Governorate Hazardous Waste Management (Naseria)

Wastes separation



Checkup checklist for all pipes and sanitation

Plan with location of inspection points

Nahdet Misr disposal to the Alexandria Governorate hazardous waste site (Nasreya), waste separation, pipe and sanitation checklist and inspection plan

How Each Campus Applies the Policy

Campus	Main hazardous waste sources	How it is managed
Alexandria – Abu Qir (main campus)	College of Pharmacy, Engineering and Maritime laboratories; Aquaculture Research Center; campus clinic; Industry Service Complex workshops	Segregation in every laboratory; autoclaving of biological waste; liquid chemical waste in designated bottles and broken glass in separate containers; supervised twice-weekly collection by Nahdet Misr to Nasreya; clinic waste under Nahdet Misr Contract No. 383/2025–2026; dedicated waste washing room
Matrouh – El Alamein (campus and AASTMT Alamein Hospital)	College of Pharmacy (El Alamein) laboratories; hospital wards, clinics and medical laboratories	Campus-wide segregation in stainless-steel, colour-coded bins (since August 2024); medical waste collected separately; medical and laboratory wastewater treated on site before reuse
Giza – Smart Village	Computing laboratories and offices (mainly e-waste, batteries, toners)	E-waste collected separately for certified recycling
Cairo – Heliopolis	Engineering laboratories, offices	Segregation in place; licensed hazardous waste contract to be signed by 2027
Giza – Dokki	Engineering laboratories, offices	Segregation in place; licensed hazardous waste contract to be signed by 2027
Alexandria – Miami	Offices, maritime training	E-waste and battery collection
Port Said	Maritime and technical laboratories	Segregation in place; licensed hazardous waste contract to be signed by 2027
Aswan – South Valley	Engineering and computing laboratories	Segregation in place; licensed hazardous waste contract to be signed by 2027
Training ships	Engine rooms and maintenance	Oily residues and hazardous garbage to port reception facilities under MARPOL



El Alamein campus: segregated waste collection in stainless-steel, colour-coded bins

Hazardous Waste Data

Scope of the figures: laboratory chemical waste and electronic waste from AASTMT disposal records; hazardous medical waste is shown as an estimated annual range.

Waste stream	Previous year (tons)	Latest year (tons)	Treatment
Laboratory chemical waste	1.89	1.70	Neutralisation and licensed treatment (100%)
Electronic waste	0.51	0.50	Certified recycling (100%)
Total (laboratory chemical waste and e-waste)	2.40	2.20	100% treated by appropriate methods
Hazardous medical waste	0.5–1.0 per year (estimate)		Incineration by licensed contractor; residual ash to certified landfill

Targets

- Zero-waste campus (year to be confirmed), and 15% less total waste before 2030 (AASTMT waste strategy).
- Cut laboratory chemical waste by a further 10% by 2028 through inventory control and green chemistry in teaching labs.
- A licensed hazardous waste contract and transfer records at every campus by 2027.
- 100% of e-waste and batteries sent to certified recyclers.

Training and Awareness

- Students and laboratory staff are trained in segregation, fume hood use and safe disposal at the start of every practical course, in the College of Pharmacy and all practical colleges at every campus.
- Workshops and campaigns on waste management are held with partners such as Alexandria Governorate and Nahdet Misr.
- The Industry Service Complex and the Productivity and Quality Institute deliver occupational safety and health training (OSHA, NEBOSH, ISO 45001).

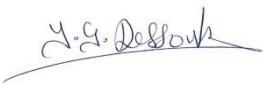
Spills and Emergencies

- Spill kits, eyewash stations and safety showers are kept in every laboratory that uses hazardous chemicals.
- Spills are contained at once, the area is isolated, and the incident is reported to the laboratory supervisor and the Sustainability Office within one hour; contaminated material is treated as hazardous waste.
- Evacuation and emergency drills are held on every campus.

Roles and Responsibilities

Role	Responsibility
SDGs Workforce Committee	Approves the policy and its reviews
Dean of Scientific Research and Innovation	Signs the policy approved by the SDGs Workforce Committee
SDG 15 and SDG 12 officers, Sustainability Office	Coordinate implementation, keep records and publish yearly data
Deans and heads of laboratories	Apply segregation, storage and on-site treatment in their laboratories
Clinic and hospital managers	Manage medical waste and sharps
Facilities teams on each campus	Manage contracts and supervise every handover
Licensed contractors (Nahdet Misr)	Collect, transport, treat and dispose of hazardous waste lawfully
Students and staff	Follow the procedures and report incidents

Review Program

Item	Detail
Document title	AASTMT Policy on Hazardous Waste Disposal
Date created	2023–2024 (Medical and Biohazardous Waste Disposal Program)
Approving body	SDGs Workforce Committee
Version	2
Last review date	October 2026
Next review date	2027
Approval signature	Prof. Dr. Yasser Gaber Eldesouky, Dean of Scientific Research and Innovation 

Version	Date	Changes
1	2023–2024	Medical and Biohazardous Waste Disposal Program: segregation, autoclaving, fume hoods, Nahdet Misr, supervised handover, training
2	October 2026	Full scope of hazardous waste streams; legal framework; waste hierarchy; seven-step procedure and waste stream table; campus-by-campus implementation (Abu Qir, Miami, Heliopolis, Dokki, Smart Village, El Alamein, Port Said, Aswan, training ships); hazardous waste data and targets; spill response; roles