

# Policy waste disposal – Hazardous materials



**KALASALINGAM ACADEMY OF RESEARCH AND EDUCATION**  
(Deemed to be University)  
(Under the section 3 of the UGC Act 1956)  
Anand Nagar, Krishnankoil-626126, Srivilliputhur (via), Tamil Nadu, India.



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Under sec. 3 of UGC Act 1956. Accredited by NAAC with "A++" Grade



## **Kalasalingam Academy of Research and Education (KARE)**

### **Hazardous waste disposal policy**

**Policy Framed: 23-02-2022**

#### **Preamble**

Kalasalingam Academy of Research and Education (KARE) has a duty to ensure that all the Solid and Chemical hazardous waste should be disposed or managed to facilitate implementation of the action plan brought out in our "National Environment Policy 2006" on management aspects of hazardous waste including their minimization, environmentally sound management and active promotion of transfer and use of cleaner technologies.

#### **Objectives**

- To ensure that hazardous chemical waste management is carried out in accordance with all waste legislation requirements, including the duty of care, and to prepare for and mitigate the effects of future legislative changes.
- To encourage repair, reuse, and recycle over trash disposal in a cost-effective way, and to reduce waste generation at the source.
- To enhance and encourage waste minimization, reuse, and recycling through promoting environmental consciousness.
- To ensure the safe processing and storage of waste in the college campus.
- To provide appropriate training to teachers, residents, staff, students and other stakeholders on waste management issues.
- To promote holistic approach of waste management in the campus.

#### **Action Plan**

The college has made it mandatory on the part of the convenor of the department/ Principal Investigator (Project) to report changes/additions in hazardous waste generation and steps taken to reduce generation of waste per unit of production. The rules and procedures contained in this policy shall apply to all faculties where there is laboratory use of hazardous

chemicals. In laboratories, we follow the following steps to minimize the hazardous waste and secure environment:

### **i) Prevention**

Practices adopted in the college to prevent environment are:

Principles of Green Chemistry are strongly adopted/ recommended to follow.

- We, KARE try to use green solvents that are the solvents with lowest toxicity such as acetone, ethanol, methanol, 2-propanol, ethyl acetate, isopropyl acetate, methyl ethyl ketone, 1-butanol, and tert-butanol
- Overall exercises of B.Sc. and M.Sc. are performed under controlled conditions to avoid any type of nuisance to the environment.
- Avoid using salts of cadmium, lead, arsenic, mercury and other heavy metals.
- Try to avoid purchasing chemical materials in bulk quantities.
- Substitutions for chemicals are made whenever possible.
- Organize lectures on Green Chemistry to create awareness among the students.
- Most of our research laboratories work on the principles of Green Chemistry.

### **ii) Reduction**

Practices adopted to reduce chemical waste in laboratory using semi microanalysis in chemistry Lab. during inorganic mixture analysis, salts given to the students are analysed by semi micro analysis. In semi micro analysis minimum quantity of salts and reagents are required.

- Acids and bases kept in laboratory reagent bottles are of low concentration.
- Some acid-base reacts to form salt which directly does not affect the environment.
- Some gases like carbon dioxide, nitrogen dioxide, sulphur dioxides; which are emitted during the experiments are absorbed by plants and particulates and when it rains, they come down to earth.

### **iii) Disposal**

- Acids and bases kept in laboratory reagent bottles are of low concentration and during experiment and washing by mixing with tap water and drainage water, they are diluted and become less harmful.
- Acid-base reacts in the drainage to form salt and thus neutralized, which directly does not affect the environment.
- Some gases like carbon dioxide, nitrogen dioxide and sulphur dioxide which are emitted during the experiments are absorbed by plants and particulates.



- Solid wastes like filter papers are biodegradable.
- Sewer Disposal: Limited volumes of chemical waste are disposed by sanitary sewer under certain conditions. It has been flushed to the sewer with at least an equal volume of water.

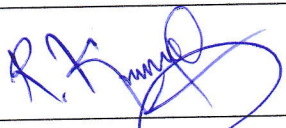

**Policy Review and Compliance**

This policy will undergo an annual review by the members appointed by the University to assess its effectiveness and incorporate feedback from the stakeholders, students and faculties. Revisions will be made whenever needed to adapt to new pollution control board rules and regulations, technological advances and institutional needs.

**Conclusion**

KARE tries to take necessary measures/steps so that our environment is not polluted by hazardous chemicals; and students, faculty members and other stakeholders are safe by avoiding environmental toxins from contaminating their bodies and adversely affecting their health.

**Policy Preparation and Verification Team**

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