



चौधरी महादेव प्रसाद महाविद्यालय
C. M. P. DEGREE COLLEGE
(A Constituent P.G. College, University of Allahabad)
Under the Strengthening Component of DBT Star College Scheme
Website: www.cmpcollege.ac.in



Hazardous Chemical Waste Policy

1. Preamble

C.M.P. Degree College, Prayagraj has been dedicated to transform lives and serving society through the pursuit of quality in teaching, innovation, lifelong learning, cultural enrichment, and outreach programmes. The College was founded in 1950 with a vision to contribute to the national development by providing quality education along with advancing higher learning and scientific research. In order to mitigate its environmental impact and provide a safe and healthy working environment for teaching and non-teaching personnel, students, and visitors, C.M.P. Degree College, Prayagraj is committed for sustainable development and hazardous chemical waste management. The College ensures that any hazardous waste generated in campus is disposed of appropriately, ideally by turning it into a product with additional value that is also environmentally benign. Furthermore, the Solid & Chemical hazardous waste should be disposed or managed. The objective of the policy is to facilitate implementation of the action plan brought out in “**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.

2. Policy Statement

The college has adopted the principles of the ‘best practicable environmental option’ in the delivery of its hazardous chemical waste management services. We, at CMP Degree College have applied a ‘waste hierarchical approach’ to reduce, reuse, recycle and recover waste products in preference to the disposal of waste to landfill. Hazardous waste is defined as a waste, or a combination of wastes, which because of its quantity, concentration, physical or chemical characteristics may pose a substantial present or potential threat to human health or the environment when improperly treated, stored, disposed of, transported, or otherwise managed. A laboratory chemical becomes a waste when no longer intended to use or reuse. At this point of time the chemical must be managed as a hazardous waste. The college recognises the significance of adhering to these regulatory requirements, managing its waste responsibly, minimising waste sent to landfills, and maximising reuse and recycling opportunities. Compliance with the many rules under national and international environmental protection legislation is required for everyone who produces, keeps, or disposes of hazardous/chemical waste of any kind.



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3. Policy Objectives

The objectives of this policy are:

- 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.

4. 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 steps given in the flow chart to minimize the hazardous waste and secure environment:





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I. PREVENT: Practices adopted in the college to prevent environment are:

- 12 principles of Green Chemistry are strongly adopted/recommended to follow.
- We, at CMP Degree college 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 works on the principles of Green Chemistry.

II. REDUCE: 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 semimicro 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 react to form salt which directly does not affect the environment.
- Some gases like carbon dioxide, nitrogen dioxide, sulphur dioxide; which are emitted during the experiments are absorbed by plants and particulates and when it rains, they come down to earth.

III. REUSE:

- Broken porcelain dishes are used as porcelain chips (boiling chips) during reflux.

IV. RECYCLE:

- Broken glass wares, reagent bottles and old equipments are recycled through scrap committee.

V. RECOVER:

- In experiments, where much quantity of solvents are used, the solvents are recovered by distillation and reused.

VI. DISPOSE:

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- 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.

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

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