

# **ECO-FRIENDLY SHEEP WOOL FILTERS FOR RETAINING HEAVY METALS FROM POLLUTED WATER**

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Human activities have been causing harmful environmental changes, significantly challenging ecosystem health. Heavy metals are a significant concern among different pollutants due to their long-lasting nature and harmful effects. Heavy metals released by industrial processes can pollute water sources, creating hazards for both humans and habitats. Several research studies have been carried out to determine the efficiency of sheep's wool in retaining heavy metals. The experiments have shown encouraging findings, indicating that high retention rates have been achieved for various heavy metals, and sheep wool is an innovative solution. Because it is a natural fibre rich in keratin, it has impressive capabilities for retaining heavy metals. Using this fibre in filtration systems can efficiently retain heavy metals from industrial and contaminated water, helping to reduce environmental pollution. This innovative use of sheep wool filters demonstrates a way to turn sheep wool waste into a valuable resource for environmental remediation rather than just a by-product. Reusing sheep wool waste should help reduce pollution and enhance waste management practices, promoting sustainable resource utilisation. This study will discuss how sheep wool waste efficiently retains heavy metals from industrial and contaminated water sources, at some point protecting the environment and human health.