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Piles of electronic waste in households: A study on practices of consumers in India with respect to electronic waste

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Considering amplified E-waste generation day by day due to increased dependence of people on electronics has become imperative that we look for sustainable solutions for managing consumption of electronics. Electronic products are purchased, used and then disposed of very quickly by the end users without giving due consideration of its harmful effects to health as well as environment. The current scenario for E-waste disposal is very disastrous as there is no system in place for proper collection of E-waste from the end user. This paper attempts to study the practices followed by consumers and users of electronic goods in India specifically Delhi. The paper also assesses suggestive measures to regulate the management of E-waste at stakeholder levels and possible techno-political remedies for effective implementation of E-waste (Handling and Management) Rules, 2011. The research findings also show that consumers/users of electronics were unaware of E-waste (M&H) Rules, 2011 and their roles and responsibilities regarding safe and environmentally sound disposal of E-waste.

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Waste plastics recycling through selective dissolution and re-precipitation

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Selective dissolution and precipitation (SDP) technique is a mechanical recycling technique to selectively dissolve a type of plastic from a physically co-mingled mixture of polyolefins in an organic solvent and subsequently re-precipitate it by the addition of an anti-solvent or by flash vaporization. The types of plastics considered in this study are low-density polyethylene (LDPE), high-density polyethylene (HDPE), polypropylene (PP), and polystyrene (PS) and polyethylene terephthalate (PETE). The proposal intends to develop a lab scale process for segregation of a comingled plastics to virgin plastics adopting SDP. The process of dissolution and precipitation is known to be influenced by process parameters such as type of plastic, the dissolution time, the concentration of the dissolving plastic in the solvent and the ratio of the volume of anti-solvent to the solvent. The process development activity would include optimizing the process parameters within the chosen limits of each of the parameters to maximize the yield and purity. The molecular structure of the recovered plastic will be determined using the FTIR analysis and the thermal properties will be studied by TGA/DTA analysis.

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