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Investigation of energy production from hospital plastic waste and COVID-19 diagnostic kits

COVID-19 has led to the enormous rise of medical wastes throughout the world, and these have mainly been generated from hospitals, clinics, and other healthcare establishments. This creates an additional challenge in medical waste management, particularly in developing countries. Improper managing of medical waste may have serious public health issues and a significant impact on the environment. There are currently three disinfection technologies, namely incineration, chemical and physical processes, that are available to treat COVID-19 medical waste (CMW). This study focuses on thermochemical process, particularly pyrolysis process to treat the medical waste. Pyrolysis is a process that utilizes the thermal instability of organic components in medical waste to convert them into valuable products. Besides, the technique is environmentally friendly, more efficient and cost-effective, requires less landfill capacity, and causes lower pollution. The current pandemic situation generates a large amount of plastic medical wastes, which mainly consists of polyethylene, polypropylene, polystyrene, polyethylene terephthalate, and nylon. These plastic wastes can be converted into valuable energy products like oil, gas and char through pyrolysis process.

Biography

Ramin Tahmasebi-Boldaji has completed his MSc at the age of 27 years from University of Isfahan, Iran. He is the researcher and expert in NRK Company, Isfahan, Iran. He has 9 publications that have been cited 30 times, and his publication H-index is 3.

Ramintahmasbi68@gmail.com



Dr. Ramin Tahmasebi-Boldaji
University of Isfahan, Iran