

New disposal system for biomedical waste

Indian scientists have developed a new environment-friendly biomedical waste disposal system, which will soon be installed in six major hospitals in the country. The system has been developed by the Facilitation Centre for Industrial Plasma Technologies at the Institute of Plasma Research, with support from the Department of Science and Technology. The technology uses plasma pyrolysis and eliminates the problem of toxic fumes encountered in conventional incinerators. The technology can handle all types of hospital wastes, besides eliminating the need for waste segregation.

The new system, which has a capacity of 25 kg/h, can handle waste produced by a 300-bed hospital. It uses extremely high temperatures to completely decompose waste in an oxygen-starved environment into very simple molecules. Plasma pyrolysis gasifies all organic material, while non-combustible materials – such as glass and metals – are reduced to an inert material with toxicity several orders of magnitudes lower than current landfill regulations. The gas produced after pyrolysis is high in hydrogen and carbon monoxide with traces of methane, acetylene and ethylene. It can be combusted very efficiently to yield carbon dioxide,