

Urgent hazardous waste problems are present in a number of industries:

- The Indian chemical industry is a major producer of hazardous waste; both organic and inorganic chemicals for pharmaceuticals, fertilizers, pesticides, textiles, plastics and detergents. India uses 100,000 tonnes of pesticides a year, much of which contain compounds banned in North America. Synthetic chemical fertilizers are a major source of hazardous waste, with increasing levels of nitrates found in soil and water.
- Toxic chemicals are also produced and handled in traditional small enterprises such as dyeing, textile printing, leather processing, and metalwork. Many of these smaller industries are located in densely populated urban areas, resulting in growing levels of untreated water, air and solid pollutants. Reliable monitoring technologies for these operations are required in the short term.
- Heavy industries, including automotive, pulp and paper and steel, produce a range of toxic air and water effluent that requires remediation, or process systems that prevent pollution.

India has a limited technological capacity in the field of industrial and hazardous waste treatment. Although chemico-physical treatment processes are available, they are rarely used in the treatment of hazardous wastes.

Risk assessments are now included in environmental impact assessments and for projects that require handling of hazardous substances. Efforts are being made to create and maintain a data bank for hazardous chemicals and accidents. Data bases like the Canadian CCINFO, CTEC5 and POISINDEX in microfiche are being used for this purpose.

Technology Opportunities

Indian industry needs assistance with hazardous waste management, toxic materials treatment and disposal, soil decontamination procedures, waste pre-treatment systems and incineration plants. Also, there is a demand for an entire range of know-how with respect to process technology and planning for hazardous waste incineration plants in India, especially for low-capacity (less than 20 t/d) plants. About 34-45 hazardous waste incineration plants are planned for construction within the next ten years.

Canadian firms can provide some specific hazardous waste sector technologies in a number of areas.

- Rapid thermal pyrolysis technology for conversion of waste materials.
- Incineration, stabilization and solvent extraction technology for control of BOD, COD, toxic and hazardous sludges.