

Patent Status

Utility patent granted in the United States

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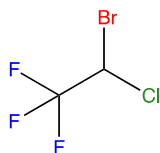
License Status

Seeking licensees

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Halogenated hydrocarbon

Novel Process for Removal of Halogenated Hydrocarbons

Opportunity

Halogenated hydrocarbons are widely used in flame retardants, electronics, pharmaceuticals, and solvents. The presence of these materials in waste streams continues to be a significant environmental problem. Traditional treatment methods require extensive energy, create toxic by-products, or are incompatible with air or water.

Researchers at the University of Guelph have developed a novel method to efficiently remove a variety of these toxic compounds from waste streams at low cost by converting the halogenated hydrocarbons into non-halogenated materials.

Applications and Advantages

- Solution-based treatment that is compatible with air, water, and organic solvents
- Demonstrated to be effective for treatment of brominated flame retardants, DDT, halothane, CCl₄, CBr₄, and most Freons
- Reducing agent is cost effective and easy to manufacture
- Solution-based reducing agent facilitates easy handling and transportation
- Dehalogenation occurs at or slightly above room temperature
- Reducing agent produces salt for easy removal

Keywords

halogenated hydrocarbons, reducing agent, waste water treatment, environmental remediation, insecticides, freons



R-X: halocarbon (X: Cl or Br)

R-H: hydrocarbon

Agent-H: unique reducing agent