'Switchable' solvents are discovered

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Researchers from Canada and the United States have discovered a new environmentally-friendly way to make chemicals for pharmaceuticals.

The researchers from Queen's University in Kingston, Ontario, Canada, and the Georgia Institute of Technology in Atlanta, said they developed new solvents that are both cleaner and cheaper when used in the production of many chemicals.

The team, led by Queen's University chemist Philip Jessop, said because each step in a chemical process often requires a different solvent, there can be a great deal of waste that is both costly and damaging to the environment.

"We all want the products of the plastics and pharmaceutical industries, but we don't want the pollution," said Jessop. "Our research is seeking ways to decrease the amount of solvent waste generated by these companies."

The new "switchable" solvents change their properties when alternately exposed to carbon dioxide and nitrogen. That, said Jessop, makes it possible to re-use the same solvent for multiple steps in a chemical process, rather than discarding and replacing the solvent after each stage.