Cleaning Up Polystyrene Foam Case Study

Polystyrene foam, commonly known as Styrofoam®, is an amazing product. It’s strong,

lightweight, and durable. Its common uses range from building insulation to food and beverage containers. What happens to polystyrene when it is no longer needed? According to the EPA, most of it ends up in landfills and that’s where it will remain basically unchanged for the next 500 years. That Styrofoam beverage cup you discard today will join some 25 billion annually that become part of more than 2.3 million tons of polystyrene waste generated each year in the United States.

Kevin O’Connor, Ph.D., at the University College Dublin, along with colleagues from Ireland and Germany, developed a method that uses a bacterium to convert polystyrene into a useful and biodegradable plastic known as polyhydroxyalkanoate (PHA). The organism, *Pseudomonas putida,* is able to utilize styrene oil as both an energy and carbon source.

* *What is the name for the process that utilizes microorganisms to reduce or degrade waste o rpollutants?*
* *What other problems might pseudomonads be able to help us deal with?*