

Soil bacterium *Pseudomonas sp.*: destroyer of mustard gas hydrolysis products  
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#### Abstract

A bacterial culture capable of utilizing products of **mustard gas** hydrolysis as a source of carbon was isolated from soil. This culture was tolerant to organochlorine substances in the hydrolysate. The bacterium was identified as *Pseudomonas sp.* The bacterium utilizes the major product of mustard gas hydrolysis, **thiodiglycol**, through two pathways. One involves the oxidation of the primary alcoholic groups in thiodiglycol, yielding thiodiglycolic and thioglycolic acids. The cleavage of the C-S bonds in these acids gives rise to acetate, which is then used further in the cell metabolism. The other pathway involves the cleavage of the C-S bond in the thiodiglycol molecule, yielding  $\beta$ -mercaptoethanol, which is transformed by *Pseudomonas sp.* into thioglycolic acid. The results show the promise of this bacterium for the **bioremediation** of mustard gas-contaminated soils.