

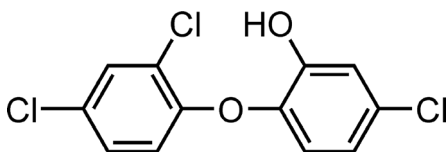
# GAGANJOT GILL

STUDENT, CHEMISTRY



## SPECTROSCOPIC DETERMINATION OF TRICLOSAN CONCENTRATION IN A SERIES OF ANTIBACTERIAL SOAPS

Triclosan is prevalent in soaps and cosmetic products as an anti-bacterial agent. Triclosan is linked to weakening the immune system and effecting the activity of hormones, resulting in reproductive and developmental effects (1).



Triclosan concentration is determined in liquid soaps using a method which incorporates UV-vis spectroscopy developed by Graeme R. A. Wyllie (2). Sodium nitrite and 4-sulfanilic acid creates a diazonium complex, which reacts with Triclosan to form a colored complex.

Triclosan levels in a Dawn ultra-antibacterial hand soap, Palmolive ultra-antibacterial hand soap, and Dial antibacterial hand wash were determined and the results will be presented.

### Reference

- Wyllie, Graeme R. A. "Spectroscopic Determination of Triclosan Concentration in a Series of Antibacterial Soaps: A First-Year Undergraduate Laboratory Experiment." *Journal of Chemical Education*, vol. 92, no. 1, 2014, pp. 153–156., doi:10.1021/ed5004146.
- <https://www.beyondpesticides.org/programs/antibacterials/triclosan/health-effects>

**Research Advisor: Dr. John Washington**