



2017 NOBCCChE National Science Fair Abstract

Category: **Biological Science**

Title: **The Effect of Aerosolized 1,4 Dioxane on Lung Cells**

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While people are at work and at home, they do not realize the chemicals they are inhaling from painting solvents or detergent use. It has been discovered that low level exposure of environmental pollutants like pesticides and cleaning agents can alter the viability of these lung cells (Newman, 2017). When a person washes their clothes with detergents, do they understand the harsh chemicals they are inhaling in their body? Indoor air pollution is a rising problem, especially in developing countries, that increases the risk of respiratory diseases. Uniquely, acute respiratory infections have been linked with environmental exposure of pollutants from biomass fuels in rural areas of Kenya and India (Ezzati and Kammen, 2001). A solvent used in Tide laundry detergent and other chemicals is 1,4 dioxane. It was classified by the EPA as a harmful substance that easily enters the body through inhalation (Agency for Toxic Substances and Disease Registry, 2015). This research study seeks to understand the effect of cleaning solvents on the health for the lung cells.