In this three-step synthesis, *p*-toluidine, a cancer suspect agent, was converted into 2,6-Dinitro-4-methylaniline that is of possible medicinal interest. The three-step synthesis included tosylation of *p*-toluidine, dinitration of the amide from step one, and hydrolysis of the dinitro amide. The dinitration of the amide step exhibits a common organic chemistry electrophilic aromatic substitution reaction. After each step, the product was recrystallized, weighed, and analyzed using nuclear magnetic resonance spectroscopy (NMR) and thin layer chromatography (TLC). Green Chemistry is important because it poses less harmful effects to the environment and reduces hazards. In order to make this synthesis greener, HCl was used instead of H_2SO_4 in the hydrolysis of the dinitro amide. The implication of this study is to convert a harmful agent into a product that may be used in the future for medical use.