The ability of Salmonella spp. to adhere and form biofilms is one of the factors that contribute to its resistant and persistent nature in different environments, especially in the food processing industry. Several strategies for controlling bacterial adhesion to surfaces have been proposed, including the use of natural compounds. Carvacrol is an important component of the essential oils of oregano and thyme and is considered a broad-spectrum antimicrobial. The aim of this study was to evaluate the effect of carvacrol against Salmonella spp. biofilms on stainless steel surface. Sub-inhibitory concentrations of carvacrol were added to the microtubes containing the stainless steel coupons and bacterial inoculum (10^7 CFU/mL) and incubated at 35°C for 48 h. After, the microtube contents were aspirated, the coupons were washed, placed in 0.85% sterile saline solution, and subjected to ultrasonic bath at 25 Hz for 5 min. Serial dilutions were performed and plated on Mueller Hinton Broth and incubated at 35°C for 24 h. The results were expressed in log CFU/cm^2. Biofilm formation on stainless steel was also analyzed by scanning electron microscopy. The reduction of the cells number of S. Saintpaul adhered to the stainless steel after treatment with carvacrol was observed in all sub-inhibitory concentrations tested: 39 µg/mL, 78 µg/mL, and 117 µg/mL (25%, 50%, and 75% of the minimum inhibitory concentration, respectively). The carvacrol reduced the number of bacterial cells adhered to stainless steel surface, which makes it a potential compound for Salmonella spp. control.