Granisetron hydrochloride is a 5-HT3 receptor antagonist that is used as an antiemetic in vomiting and nausea relating to chemotherapy and radiotherapy treatment in cancer diseases. In situ injectable implant systems are biodegradable polymer solutions containing biocompatible solvent and biodegradable polymer incorporated with drug which generate a (semi-) solid depot after subcutaneous injection. The sterilization of these systems needs γ radiation dosing with 20 – 25 kGy. The aim of this study is monitoring a possible degradation of granisetron hydrochloride in bulk formulations after sterilization process. In this study, dimethylsulfoxide (DMSO), 1,2 propanediol and propylene carbonate were selected as solvents and Resomer RG 502 type of poly(lactide-co-glycolide) polymer (PLGA) was selected as biodegradable polymer. The formulations were prepared by solving PLGA in each solvent (1:3) (w/w) and then granisetron hydrochloride was added to formulations in a ratio of 1%. Mixing procedures were done by an ultrasonic shaker. Before UV-spectrophotometric analyses, 10 μg mL⁻¹ solution of granisetron hydrochloride dilutions were prepared by adding the solvent of each formulation and then zero-order spectrum of drug in dilutions were taken. After that, formulations were exposed to 25 kGy γ radiation for sterilization process during 20 hours. Dilutions of irradiated formulations were prepared as same with the dilutions of the formulations before radiation and the zero-order spectra of all samples were again taken. Furthermore, the first derivative of these spectra were traced with Δλ = 2 nm. After this process, we observed that the maximum and minimum wavelength of drug was not changed. Consequently, we could say that granisetron hydrochloride may not degrade after exposure to γ radiation.