The thesis is devoted to Gamma-null sets, which is a σ-ideal closely related to the differentiability of Lipschitz functions on Banach spaces. However, apart from the introduction, where we quickly summarize some known results on the differentiability of Lipschitz functions, the work does not focus on this aspect. The aim of the thesis is to show that the Gamma-null sets are well defined and to supplement the proofs of some known properties. The main contribution is a detailed treatment and completion of the omitted steps of the proof that Gamma-null and Lebesgue-null sets in $\mathbb{R}^n$ coincide. The main steps of the proof, as well as the concept of Gamma-nullness, come from the paper by Joram Lindenstrauss and David Preiss, *On Fréchet differentiability of Lipschitz maps between Banach spaces* (2003), which the thesis builds upon. Furthermore, the thesis demonstrates that Gamma-null sets form a non-trivial σ-ideal, the proof is not directly taken from the literature.