The ATLAS experiment records data from the collisions of protons accelerated in the Large Hadron Accelerator (LHC). The LHC is a major part of the Accelerator Complex in the European Organization for Nuclear Research (CERN). In the recorded data it is possible to find new undiscovered particles by means of data analysis. Example of such particles are leptoquarks. This bachelor thesis is based on data collected in 2015-2016 at 13 TeV centre-of-mass energy and with a total luminosity of 36.1 fb^{-1}. In these data, there was no indication of the existence of leptoquarks, which originate from the paired production with the decay channel, where one leptocvark decays into muon and quark and the other one into neutrino and quark, and so this thesis aims to set a limit on the production cross-section for these particles.