Abstract: We consider a model of density-dependent compressible-incompressible fluids, which arise from the study of the Fluid-Dynamics Model of Biofilms. Though the Compressible-Incompressible Model seems to be similar to the Density-Dependent Incompressible Euler Equations, it presents some differences which require a different approach. We establish a result of local existence and uniqueness of solutions to this system, by using a new approximating technique which takes inspiration from the Projection Method, the Artificial Compressibility Method and the Incompressible Limit Method.