1023-35-402 **Ralph Saxton*** (rsaxton@uno.edu), Department of Mathematics, University of New Orleans, New Orleans, LA 70148, and **Feride Tiglay** (ftiglay@uno.edu), Department of Mathematics, University of New Orleans, New Orleans, LA 70148. *Global Existence of Stagnation-Point Class Solutions for a Perfect Incompressible Fluid.*

We obtain existence results for a particular class of solutions to the Euler equations describing an incompressible, inviscid fluid. By considering a stagnation-point class of solutions, which is known to admit finite time blow-up of smooth solutions in the two-dimensional case, we are led to a nonlocal initial value problem for which we establish local well-posedness in all dimensions and persistence in time for three and higher dimensions. (Received September 11, 2006)