Assuming incompressible Navier-Stokes equation in the form

$$\frac{\partial \mathbf{u}}{\partial t} + \left(\mathbf{u} \cdot \nabla\right)\mathbf{u} + \frac{1}{\rho}\nabla p = \nu \nabla^2 \mathbf{u},$$

and constant density, show that vorticity equation for $\omega = \nabla \times \mathbf{u}$ has the form similar to the induction equation.