The Thermodynamics of Linear Fluids and Fluid Mixtures by Pekař \& Samohýl
Page 180, equation (4.169); page 181, equation (4.171)
Eq. (4.167) has to be valid for any (and arbitrary) values of independent quantities (4.140). Thus, also for zero values of all quantities $\stackrel{\circ}{\mathbf{D}}_{\alpha}, \mathbf{u}_{\beta}, \mathbf{g}$; then (4.169) follows. If, moreover, we select zero values also of $\operatorname{tr} \mathbf{D}_{\alpha}$, (4.171) follows.

