$$\chi_S = \frac{-1}{V}\left(\frac{\partial V}{\partial P}\right)_S = \frac{1}{\mu}\left(\frac{\partial \mu}{\partial P}\right)_S$$

Lien entre μ_1 et P_1 : on va montrer que $\mu_1 = \mu_0 \chi_S P_1$

(*) $d\mu = \left(\frac{\partial \mu}{\partial P}\right)_S dP + \cancel{\left(\frac{\partial \mu}{\partial S}\right)_P dS}$?

$= \mu \chi_S dP$

(*) $d\mu = \frac{\partial \mu_1}{\partial t} dt$ et $dP = \frac{\partial P_1}{\partial t} dt$ car $\vec{v_1} \cdot \overrightarrow{\text{grad}} \begin{cases} \mu_1 \\ P_1 \end{cases} = 0$

Donc $\frac{\partial \mu_1}{\partial t} = \mu \chi_S \frac{dP}{dt} \Rightarrow \frac{\partial \mu_1}{\partial t} = \mu_0 \chi_S \frac{\partial P_1}{\partial t}$ (ordre 1)

Donc $\boxed{\mu_1 = \mu_0 \chi_S P_1}$ car $\langle \mu_1 \rangle = 0$ et $\langle P_1 \rangle = 0$