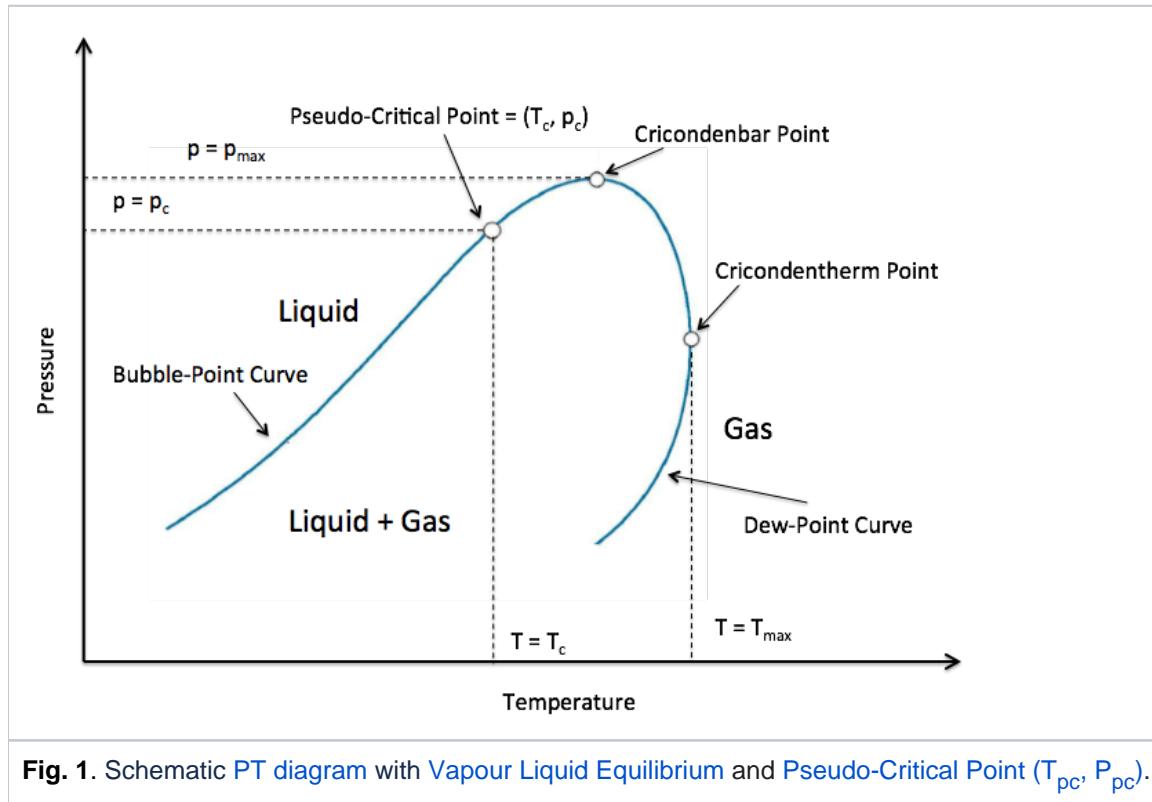


# Pseudo-Critical Point = (T<sub>pc</sub>, P<sub>pc</sub>)

A property of a [Fluid Mixture](#) represented by the junction point of [Vapour Liquid Equilibrium \(VLE\)](#) area on PT diagram of [Fluid Mixture](#) (see [Fig. 1](#)).

It is characterized by [pseudo-critical temperature](#) T<sub>pc</sub> and [pseudo-critical pressure](#) P<sub>pc</sub>.



The simplest estimate (also called Linear Blending Rule) of [Pseudo-Critical Point](#) (T<sub>pc</sub>, P<sub>pc</sub>) is the [mole fraction](#) weighted average of the [critical temperature](#) {T<sub>c,i</sub>} and [critical pressure](#) {P<sub>c,i</sub>} of [fluid components](#) (which are [pure substances](#)) :

$$(1) \quad T_{pc} = \sum_i x_i T_{c,i}$$

$$(2) \quad P_{pc} = \sum_i x_i P_{c,i}$$

where

x <sub>i</sub>	mole fraction of the i-th mixture component
T <sub>c,i</sub>	critical temperature of the i-th mixture component
P <sub>c,i</sub>	critical pressure of the i-th mixture component

There are other no-linear methods to blend the components to estimate the [Pseudo-Critical Point](#) but many engineering applications use (1) and (2) as the seed and then fit the values to match lab test data.

In case the fluid composition is not known one can use empirical Pseudo-Critical Point Correlations to assess the Pseudo-Critical Point.

## See also

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[Natural Science / Physics / Thermodynamics / Thermodynamic system](#)

[\[ Fluid Mixture \]](#)

[\[ Pseudo-Critical Point \( \$T\_{pc}\$ ,  \$P\_{pc}\$ \) \]\[ Pseudo-Critical Temperature \( \$T\_{pc}\$ \) \]\[ Pseudo-Critical Pressure \( \$P\_{pc}\$ \) \]\[ Pseudo-Critical Point Correlations @model \]](#)

[\[ Critical Point \( \$T\_c\$ ,  \$P\_c\$ \) \]\[ Critical Temperature \( \$T\_c\$ \) \]\[ Critical Pressure \( \$P\_c\$ \) \]](#)