

Pseudo-Critical Point = (T_{pc}, P_{pc})

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_{pc} and **pseudo-critical pressure** P_{pc} .

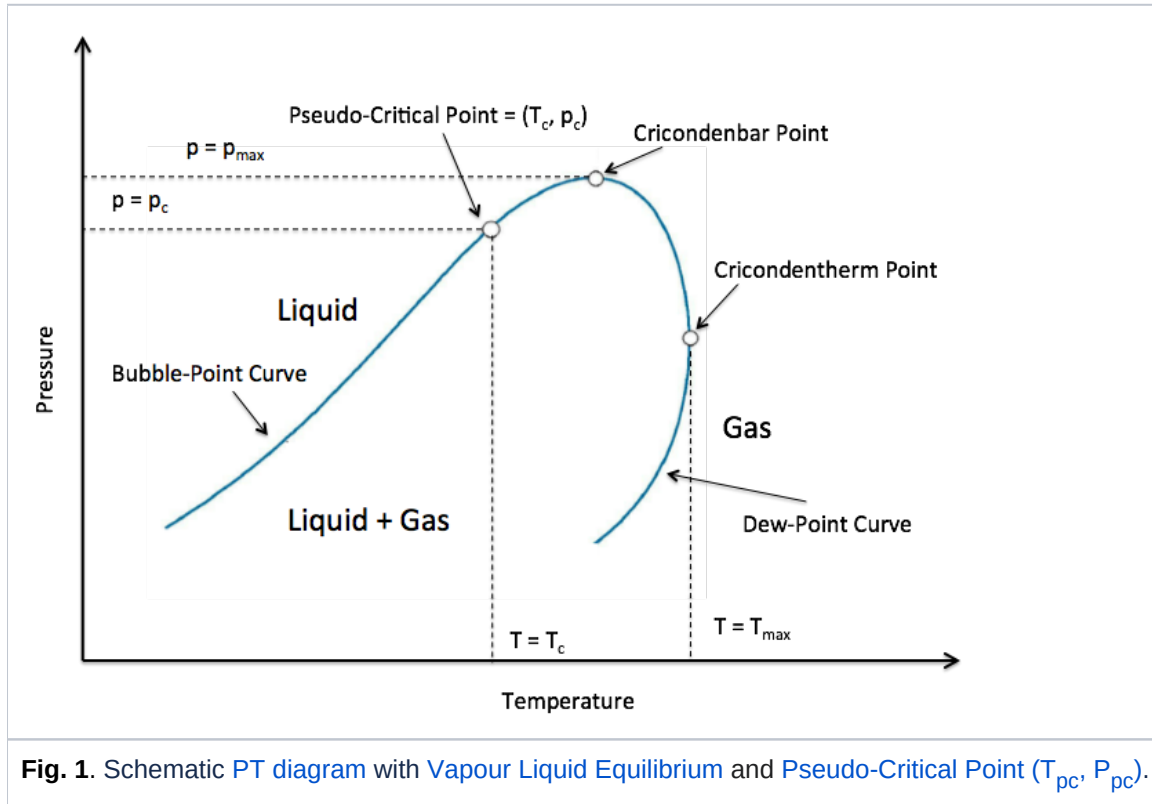


Fig. 1. Schematic **PT diagram** with **Vapour Liquid Equilibrium** and **Pseudo-Critical Point** (T_{pc} , P_{pc}).

The simplest estimate (also called Linear Blending Rule) of **Pseudo-Critical Point** (T_{pc} , P_{pc}) is the **mole fraction** weighted average of the **critical temperature** $\{T_{c,i}\}$ and **critical pressure** $\{P_{c,i}\}$ 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_i	mole fraction of the i -th mixture component
$T_{c,i}$	critical temperature of the i -th mixture component
$P_{c,i}$	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

[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 \(\$T_c\$, \$P_c\$ \)](#)][[ritical Temperature \(\$T_c\$ \)](#)][[Critical Pressure \(\$P_c\$ \)](#)]