

Fluid Density

The mass of fluid per unit volume:

$$\rho = \frac{m}{V}$$

where

<i>m</i>	fluid mass	<i>V</i>	fluid volume
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The total fluid density of multiphase fluid is given by following equation:

(1)
$$\rho = \sum_{\alpha} s_{\alpha} \rho_{\alpha}$$

where

ρ_{α}	Density of α -phase	s_{α}	volumetric share of α -phase
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Density of popular petroleum fluids at SPE Standard Conditions (STP):

Fluid	Typical range (g/cc)
Natural Gas	0.007 – 0.30
Gas Condensate	0.200 – 0.40
Oil	0.400 – 1.12
Water	1.000 – 1.15

See also

Natural Science / Physics / State of matter / Fluid

Petroleum Industry / Upstream / Subsurface E&P Disciplines / Fluid Analysis

[Density]