



LIQ-PROP
THE HYDROCARBON LIQUID PROPERTY APPLICATION

Developed by : AMIT KATYAL

LIQ-PROP: MAIN FEATURES

- LIQ-PROP IS A SOFTWARE APPLICATION MADE USING MS EXCEL AND VBA
- LIQ-PROP IS A COMBINATION OF MACROS OF MS EXCEL
- LIQ-PROP CAN BE USED TO FIND LIQUID DENSITY OF MIXTURES OF NON-POLAR OR MILDLY POLAR HYDROCARBONS
- LIQ-PROP CAN ALSO FIND LATENT HEAT OF VAPORIZATION OF HYDROCARBON MIXTURES

LIQUID DENSITY USING LIQ-PROP

LIQ-PROP USES FOUR DIFFERENT METHODS FOR FINDING LIQUID DENSITY OF MIXTURES OF NON-POLAR OR MILDLY POLAR HYDROCARBONS. THE METHODS USED ARE GIVEN BELOW:

- COSTALD'S METHOD
- COSTALD'S METHOD WITH YEN AND WOOD CORRELATION
- MODIFIED RACKETT METHOD WITH CHUEH & PRAUSNITZ MIXING RULE
- MODIFIED RACKETT METHOD WITH LI'S MIXING RULE

COSTALD'S METHOD GIVE SLIGHTLY BETTER RESULTS AT LOW PRESSURES WHEREAS MODIFIED RACKETT METHOD IS MORE SUITABLE AT HIGH PRESSURES

LIQUID DENSITY USING LIQ-PROP

- LIQ-PROP INCLUDES ALKANES, ALKENES, ALKYNES, CYCLOALKANES, AROMATICS AND INORGANIC GASES AS POSSIBLE COMPONENTS OF HYDROCARBON MIXTURE
- LIQ-PROP FINDS PSEUDO-SATURATION VAPOR PRESSURE OF HYDROCARBON MIXTURES AND FINDS LIQUID DENSITY AT PSEUDO-SATURATION VAPOUR PRESSURE

LIQUID DENSITY USING LIQ-PROP

- LIQ-PROP CAN FIND PSEUDO-SATURATED LIQUID DENSITY AT PRESSURES UPTO PSEUDO-CRITICAL PRESSURE OF HYDROCARBON MIXTURES
- LIQ-PROP CAN ALSO FIND LIQUID DENSITY AT ELEVATED PRESSURES ABOVE PSEUDO-SATURATION VAPOR PRESSURE OF HYDROCARBON MIXTURES
- LIQ-PROP CAN PREDICT LIQUID DENSITIES ACCURATELY WITH AN ERROR OF LESS THAN FEW PERCENTAGE

LATENT HEAT USING LIQ-PROP

- LIQ-PROP USES PROPRIETARY METHOD FOR FINDING LATENT HEAT OF VAPORIZATION FOR MIXTURES OF NON-POLAR OR MILDLY POLAR HYDROCARBONS
- LIQ-PROP INCLUDES ALKANES, ALKENES, ALKYNES, CYCLOALKANES, AROMATICS AND INORGANIC GASES AS POSSIBLE COMPONENTS OF HYDROCARBON MIXTURE
- LIQ-PROP CAN FIND LATENT HEAT OF VAPORIZATION AT PRESSURES UP TO PSEUDO-CRITICAL PRESSURE OF HYDROCARBON MIXTURES

LATENT HEAT USING LIQ-PROP

- LIQ-PROP DOES NOT INCLUDES SENSIBLE HEAT CHANGES FOR HEATING THE LIQUID AND VAPOR FRACTIONS FROM BUBBLE POINT TO DEW POINT IN ITS CALCULATIONS
- LIQ-PROP CALCULATES LATENT HEAT OF VAPORIZATION WITH HIGH ACCURACY AS SENSIBLE HEAT CHANGES CONTRIBUTE A SMALL PERCENTAGE OF TOTAL LATENT HEAT

ADVANTAGES OF LIQ-PROP

- LIQ-PROP CAN BE USED IN ENGINEERING CALCULATIONS WHERE COMPOSITION OF HYDROCARBON MIXTURE IS KNOWN AND LIQUID DENSITY AND LATENT HEAT OF VAPORIZATION ARE DESIRED
- LIQ-PROP CAN FIND LIQUID DENSITY AND LATENT HEAT OF VAPORIZATION FOR ANY MIXTURE OF NON-POLAR OR MILDLY POLAR HYDROCARBONS
- LIQ-PROP CAN FIND PSEUDO-SATURATED LIQUID DENSITY AND LATENT HEAT OF VAPORIZATION AT PRESSURES UPTO PSEUDO-CRITICAL PRESSURE
- LIQ-PROP CAN ALSO FIND LIQUID DENSITY AT SUPER SATURATED CONDITIONS AT ELEVATED PRESSURES ABOVE PSEUDO-SATURATED VAPOR PRESSURES

THANKS

**FOR QUERIES
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