



*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 UPTO 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  
CONTACT:**

**AMIT KATYAL**

**D-1/65, JANAHPURI,  
NEW DELHI, INDIA**

**MOB: +919818757689**

**EMAIL: amit@eq-comp.com**

