



### **About this document**

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We recommend using our search feature to find the title.

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Thanks for visiting our site,

Chris Haslego  
President  
Cheresources, Inc.

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***Content Based  
Chemical Engineering***

VISC - calculates viscosity/temperature formula for liquids

**BASIS:** Based on PERRY'S CHEMICAL ENGINEERS HANDBOOK viscosity nomographs indicate the linear relationship of (1/TEMP abs.) vs natural log(visc), this is known as the Andrade correlation. Given two data points for any liquid, the program calculates this relationship for the liquid.

**NOTE:** Always begin a new case by retrieving the original file. Direct entry of data in cells that originally contain table lookups could cause functions to be lost, or incorrect calculations. I format cells requiring entry colored **RED**; calculated values are black.

- 1.) Enter Point 1 temperature and viscosity at [D7] & [E7].
- 2.) Enter Point 2 temperature and viscosity at [D8] & [E8].
- 3.) Enter fluid name at [C4].
- 4.) Enter fluid temperature at [C11] to determine viscosity [C14].
- 5.) Depress the "macro" Calculate button to WRITE the equation at D18.

**Print out using direct Excel commands. This application is provided by Chemical Engineers Resource Website, visit [cheresources.com](http://cheresources.com) for additional selections.**

Print out using direct EXCEL commands.

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The originator of these spreadsheet(s) specifically excludes all warranties, expressed or implied, as to the accuracy of the data and other information set forth and assumes NO liability for any losses or damage resulting from the use of the materials or application of the data.

Consistent with GOOD ENGINEERING PRACTICE, the burden rests with the USER of these spreadsheets to review ALL calculations, and assumptions. The USER IS FULLY RESPONSIBLE for the results or decisions based on calculations.

This Spreadsheet Requires MACROS to be ENABLED to ASSURE proper operation. See the Workbook Help Sheet for Additional Instructions on Use.

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VISCOSITY calculator - liquids
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Fluid Name : **MULTITHERM PG-1**

	Temp °F	Visc cps	Viscosity Calculation	
			1/(TEMPabs)	@ln(VISC)
Point 1	100	49.7	0.0017857	3.9060049
Point 2	130	27.5	0.0016949	3.314186

Fluid Temp : **120** °Fslope : 6517.8991  
intercept : -7.733101

$$\begin{aligned} \text{VISC} &= \text{EXP}(6517.899132 * 1 / (\text{TEMP} + 460) + (-7.733101)) \\ &= 33.27 \text{ centipose} \end{aligned}$$

New NameViscosity Equation

<b>MULTITHERM PG-1</b>	$=\text{EXP}(6517.899132 * 1 / (\text{TEMP} + 460) + (-7.733101))$
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**The name and equation can now be copied to necessary spreadsheets, then converted from TEXT to an equation.**