

## *Thermal Properties Of Ethylene Glycol Aqueous Solutions*

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### Thermal Properties Of Ethylene Glycol

Ethylene Glycol Heat-Transfer Fluid Freezing Point of Ethylene Glycol based Water Solutions. Dynamic Viscosity of Ethylene Glycol based Water Solutions. Specific Gravity of Ethylene Glycol based Water Solutions. Specific Heat Capacity of Ethylene Glycol based Water Solutions. Boiling Points ...

### Ethylene Glycol Heat-Transfer Fluid - Engineering ToolBox

Ethylene - Thermal Conductivity - Online calculator, figures and table showing thermal conductivity of ethylene, also called ethene or acetene,  $C_2H_4$ , at varying temperature and pressure - Imperial and SI Units

### Thermal Conductivities for some common Liquids

In the article Thermal Conductivity, Density, Viscosity, and Prandtl-Numbers of Ethylene Glycol-Water Mixtures (Bohne, Fischer, & Obermeier, 1984), the thermal conductivity, density, and viscosity of ethylene glycol (EG) - water mixtures were measured. For this research, thermal conductivity was measured with a concentric cylinder device in the temperature range of  $-20^{\circ}C$  to  $180^{\circ}C$ , at saturation pressure.

### Thermal Conductivity of Ethylene Glycol-Water Mixtures ...

Thermal properties of ethylene glycol aqueous solutions☆ Materials and methods. Ethylene glycol (EG) is an organic dialcohol, liquid at room temperature,... Results. On Fig. 1 are presented the results that we obtained on cooling. Discussion. As shown in Fig. 1 and Table 1, the total amount of ...

### Thermal properties of ethylene glycol aqueous solutions ...

Cited by: 30. Thermal conductivity, density, and viscosity of ethylene glycol - water mixtures have been measured. The measurements have been performed in the temperature range from  $-20^{\circ}C$  to  $180^{\circ}C$  for thermal conductivity, from  $-10^{\circ}C$  to  $150^{\circ}C$  for density, and from  $-10^{\circ}C$  to  $100^{\circ}C$  for viscosity.

### Thermal, Conductivity, Density, Viscosity, and Prandtl ...

ETHYLENE. The values of thermodynamic properties are from Jacobson et al. (1988), transport properties from Holland et al. (1983) and surface tension from Beaton and Hewitt (1989). A correlation of the viscosity and thermal conductivity data of gaseous and liquid ethylene.

### ETHYLENE - Thermopedia

Thermal conductivity. The thermal conductivity enhancement of five different ethylene glycol-based Al<sub>2</sub>O<sub>3</sub> nanofluids corresponding to the denoted S1 samples has been measured at 283.15 K, 303.15 K, and 323.15 K. The volume fraction,  $\phi$ , varied between 1.5% and 8.6% estimated from the densities of the pure liquid,...

### Thermal conductivity and viscosity measurements of ...

Between the two, ethylene glycol ( $C_2H_6O_2$ ) is a better heat transfer fluid than propylene glycol ( $C_3H_8O_2$ ). Propylene glycol is less toxic and is considered when toxicity is a concern. Table 1 - Ethylene Glycol Versus Propylene Glycol Thermal Conductivities Temperature (F) Ethylene Glycol Thermal Conductivity [Btu/(hrft<sup>2</sup>)(F/ft)] at 30% Volume

### Glycol Heat-Transfer Fluids Ethylene Glycol versus ...

The density, viscosity, and thermal conductivity of ethylene glycol + water, diethylene glycol + water, and triethylene glycol + water mixtures were measured at temperatures ranging from 290 K to 450 K and concentrations ranging from 25 mol % glycol to 100 mol % glycol.

### Density, Viscosity, and Thermal Conductivity of Aqueous ...

Ethylene glycol is an organic compound with the formula  $(CH_2OH)_2$ . It is mainly used for two purposes, as a raw material in the manufacture of polyester fibers and for antifreeze formulations.

It is an odorless, colorless, sweet-tasting, viscous liquid. Ethylene glycol is toxic. Household pets are especially susceptible to ethylene glycol poisoning from vehicle antifreeze leaks.

### Ethylene glycol - Wikipedia

ethylene glycol as an antifreeze is based on its ability to lower the freezing point when mixed with water. The physical properties of ethylene glycol-water mixtures are therefore extremely important. The end uses for ethylene glycol are numerous (See Table 1). Ethylene Glycol – The Versatile Performer

### Product Guide - MEGlobal

Polyethylene glycol is produced by the interaction of ethylene oxide with water, ethylene glycol, or ethylene glycol oligomers. The reaction is catalyzed by acidic or basic catalysts. Ethylene glycol and its oligomers are preferable as a starting material instead of water, because they allow the creation of polymers with a low polydispersity ...

### Polyethylene glycol - Wikipedia

Thermal conductivity of ethylene glycol and water mixture based Fe<sub>3</sub>O<sub>4</sub> nanofluid has been investigated experimentally. Magnetic Fe<sub>3</sub>O<sub>4</sub> nanoparticles were synthesized by chemical co-precipitation method and the nanofluids were prepared by dispersing nanoparticles into different base fluids like 20:80%, 40:60% and 60:40% by weight of the ethylene glycol and water mixture.

### Thermal conductivity of ethylene glycol and water mixture ...

Abstract. In the present work, we report the thermophysical properties of ethylene glycol and water mixture based silver nanofluids. The thermo physical properties such as thermal conductivity, viscosity, density and specific heat are measured using KD2 Pro thermal properties analyser, capillary viscometer, electronic weighing balance and differential scanning calorimeter respectively.

### Thermophysical properties of ethylene glycol-water mixture ...

Thermal properties and mixing states of ethylene glycol (EG)–water binary solutions in the entire mole fraction range of EG,  $0 \leq x_{EG} \leq 1$ , have been clarified by using differential scanning calorimetry (DSC), large-angle X-ray scattering (LAXS), and small-angle neutron scattering (SANS) techniques. The DSC curves obtained have shown that the EG–water solutions over the range of EG mole ...

### Thermal Properties and Mixing State of Ethylene Glycol ...

Thermal conductivity, density, and viscosity of ethylene glycol – water mixtures have been measured. The measurements have been performed in the temperature range from –20°C to 180°C for ...

### Thermal, Conductivity, Density, Viscosity, and Prandtl ...

10 / 10 Properties of Working Fluids - Brines M. CONDE ENGINEERING — 2011 Fig. 12 - Coefficient of thermal expansion of Polypropylene Glycol. Nomenclature  $\xi$  is the mass fraction of the glycol in solution T is the absolute temperature in K. Literature ASHRAE 2001. Handbook of Fundamentals, Chap. 21.

### THERMOPHYSICAL PROPERTIES OF BRINES - mrc-eng.com

about DOWFROST propylene glycol-based fluids only. For additional information about DOWTHERM ethylene glycol-based fluids, call 1-800-447-4369 and request Form No. 180-1190, "Engineering and Operating Guide for DOWTHERM SR-1 and DOWTHERM 4000 Inhibited Ethylene Glycol-based Heat Transfer Fluids."

### Engineering and Operating Guide for DOWFROST and DOWFROST ...

Figure 9 Thermal Conductivities of Aqueous Triethylene ... ethylene oxide and glycols, with over 70 years of experience in their manufacture, marketing, and research and development . ... solubility properties of triethylene glycol are important for many applications . End-uses

### Triethylene Glycol - Dow

1,2-Ethanediol | HOCH<sub>2</sub>CH<sub>2</sub>OH or CH<sub>2</sub>OHCH<sub>2</sub>OH or C<sub>2</sub>H<sub>6</sub>O<sub>2</sub> | CID 174 - structure, chemical names, physical and chemical properties, classification, patents, literature ...

## Thermal Properties Of Ethylene Glycol Aqueous Solutions

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