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<b>Abstract</b>	:	<p>It is essential to investigate the physicochemical and thermal properties of choline chloride (ChCl)-based deep eutectic solvents (DESs) as hydrogen bond acceptor (HBA) with various hydrogen bond donor (HBD) functional groups, such as <math>\alpha</math>-hydroxy acid (lactic acid) or polyol (glycerol). It is important to consider how molar ratios impact these properties, as they may be altered for particular applications. This study aimed to examine the physicochemical and thermal properties of ChCl-based DESs with lactic acid (LA) or glycerol (Gly) at different molar ratios (1:2–1:10). The pH of ChCl:LA (0–1.0) is lower than that of ChCl:Gly (4.0–5.0) because of the hydrogen bonds between ChCl and LA. A higher amount of LA/Gly resulted in higher densities of ChCl:Gly (1.20–1.22 g cm<sup>-3</sup>) and ChCl:LA (1.16–1.19 g cm<sup>-3</sup>) due to the stronger hydrogen bonds and tighter packing of the molecules. The refractive index of ChCl:Gly (1.47–1.48) was higher than ChCl:LA (1.44–1.46), with a trend similar to density. The viscosities of ChCl:Gly (0.235–0.453 Pa s) and ChCl:LA (0.04–0.06 Pa s) increased with increasing LA/Gly molar ratio but decreased with temperature due to the high kinetic energy from heating, lowering the attractive forces between molecules. The activation energy for ChCl:LA (15.29–15.55 kJ mol<sup>-1</sup>) is greater than for ChCl:Gly (7.77–8.78 kJ mol<sup>-1</sup>), indicating that ChCl:LA has a greater viscosity-temperature dependence than ChCl:Gly. The DESs decomposition temperatures are 179.73–192.14 °C for ChCl:LA and 189.69–197.41 °C for ChCl:Gly. Freezing temperatures are correlated with the molecular weight of HBDs, with lower.. see more.</p>