

Glyme-Lithium Salt Thermal Phase Behavior

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Phase diagrams are reported for glyme mixtures with simple lithium salts. The glymes studied include monoglyme (DME), diglyme, triglyme and tetraglyme. The lithium salts include LiBETI, LiAsF₆, LiI, LiClO₄, LiBF₄, LiCF₃SO₃, LiBr, LiNO₃ and LiCF₃CO₂. The phase diagrams clearly illustrate how solvate formation and thermophysical properties are dictated by the ionic association strength of the salt (i.e., the properties of the anions). This information provides critical predictive capabilities for solvate formation and ionic interactions common in electrolyte solutions.