



OLI MSE Engine in PRO/II®



Through PRO/II Electrolytes, PRO/II clients have access to a substantial part of the OLI AQ thermodynamic model.

The OLI MSE Engine in PRO/II allows the full databank for OLI, both the AQ and MSE models, as a property package with the PRO/II flowsheet simulation environment.

FEATURES

- Electrolytes OLI Property Package Built on OLI's thermodynamic framework and available in PRO/II and as an optional thermodynamic package.
- Electrolytes Component Database Access to the complete OLI component databases in addition to SimSci's traditional databases.
- Electrolyte Properties Calculation and display of thermodynamic and transport properties specific to electrolyte systems such as pH, osmotic pressure, ionic strength and electrical conductivity.
- Chemistry Wizard The OLI Chemistry Wizard provides features such as generating custom electrolyte models including MSE models, and creating and maintaining proprietary species databanks.
- Electrolyte column

APPLICATIONS

- pH control
- Trace metal removal
- Brine handling
- Produced water management
- Amines
- Sour gas
- Regulatory and environmental limits
- Crystallization
- Gas sweetening
- Waste water treatment
- Chlor-alkali brines
- Acid stream neutralization
- Organic acid removal in brines
- Scrubbers
- Caustic wash tower
- Foul feed stripper
- Multi-effect evaporator

PRO/II Electrolyte Module

The PRO/II Electrolyte Module extends the rigorous, steady-state design and operational analysis capabilities of PRO/II to electrolyte modeling. This module forms a seamless integration with OLI's rigorous AQ model for electrolyte thermodynamic algorithms. The OLI MSE Engine extends this model to the full OLI AQ and MSE models.

PRODUCT DESCRIPTION

OLI MSE Engine in PRO/II[®]

OLI MSE MODEL



OLI's aqueous (AQ) model addresses systems up to an ionic strength of 30 molal in the aqueous phase. This model can simulate slurries and heavy brines, and chemical mixtures of many types. The question is not how much solid is present in a stream, but rather how soluble other system components are in water – or without water.

For systems such as H₂SO₄, glycols, alcohols, some amines and others – the component is so highly soluble in the aqueous phase and is present in sufficiently high concentrations, that the system can exceed the limits of the AQ model. For these systems, OLI recommends the mixed solvent electrolyte (MSE) model.

CAPABILITIES

OLI MSE Engine is built on OLI's time-proven approach to electrolyte systems.

- Complete speciation
The OLI model predicts and considers all of the true species in solution in the range of -50 to 300° C, 0 to 1500 bar, and 0 to 30 molal ionic strength and under the MSE option without limit on concentration.
- Robust standard state framework
Based on the Helgeson equation of state, parameter regression and proprietary estimation techniques for the aqueous framework and on OLI technologies for the MSE framework.
- Activity coefficients for complex, high ionic strength systems.
For the aqueous framework, based on the combined work of Bromley, Zemaitis, Meissner, Pitzer and OLI technologists. For MSE, based upon OLI development, published, and peer-reviewed.
- Comprehensive databanks
The complete OLI databank with coverage for the electrolyte chemistry of 80 elements and thousands of organics. Data service provides customized coverage of client chemistry in the form of private databanks.
- Thermophysical properties
OLI has developed unique chemical /physical based models to compute thermodynamic and transport properties for complex electrolyte mixtures.

RELATED PRODUCTS

Stream Analyzer: in-depth chemistry studies of your electrolyte chemistry

Corrosion Analyzer: the electrochemistry of aqueous corrosion

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