OLI Engine in Aspen HYSYS™ (HEO)

With the OLI Engine in Aspen HYSYS, existing Aspen HYSYS clients can now use OLI as a property method within their flowsheets for any water-containing or electrolyte streams. The OLI Engine operating "under the hood" of a process simulator allows predictive and electrolyte simulations within a more traditional flowsheet environment.

OLI Engine in Aspen HYSYS allows the OLI thermophysical property framework as a property package with the Aspen HYSYS flowsheet simulation environment.

The AQ model is presently available in the OLI Engine in Aspen HYSYS. Beginning with V7.2 of Aspen HYSYS, the OLI MSE model will also be available.

FEATURES

- **Electrolytes OLI Property Package** — Built on OLI's aqueous thermodynamic framework and available in Aspen HYSYS along with all other fluid packages.

- **Electrolytes Component Database** — Access to the complete OLI aqueous component databases in addition to Aspen HYSYS traditional databases

- **Electrolyte Properties** — Calculation and display of thermodynamic and selected transport properties specific to aqueous electrolyte systems such as pH, osmotic pressure, ionic strength and electrical conductivity.

- **Unit Operations** — In addition to Aspen HYSYS™ range of unit operations, HEO has three additional electrolyte operations: Precipitator, Crystallizer, & Neutralizer.

- **Electrolyte Column** — OLI's column solution method for solving electrolyte towers.

APPLICATIONS

- pH control
- Trace metal removal
- Brine handling
- Produced water management
- Regulatory and environmental limits
- Amines
- Sour gas
- Gas sweetening

- Chlor-alkali brines
- Acid stream neutralization
- Solids deposition
- Organic acid removal in brines
- Scrubbers
- Caustic wash tower
- Foul feed stripper
- Multi-effect evaporator
- Waste water treatment

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OLI FRAMEWORK ADVANTAGE

OLI's proprietary thermodynamic framework allows accurate predictions for mixtures of virtually any chemistry in water, based on the underlying binary (and ternary) interaction parameters.

Thus, when a "surprise" component appears in a system, it is likely that the OLI methods will include that component in the system without requiring additional data or lab tests. This is in contrast to more interpolative models that require action whenever a new component is added

CAPABILITIES

OLI Engine in Aspen HYSYS 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.

- Robust standard state framework — Based on the Helgeson equation of state, parameter regression and proprietary estimation techniques

- Activity coefficients for complex, high ionic strength systems. — Based on the combined work of Bromley, Zemaitis, Meissner, Pitzer and OLI technologists

- 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 aqueous mixtures.

RELATED PRODUCTS

Stream Analyzer: in-depth chemistry studies of your electrolyte chemistry
Corrosion Analyzer: the electrochemistry of aqueous corrosion