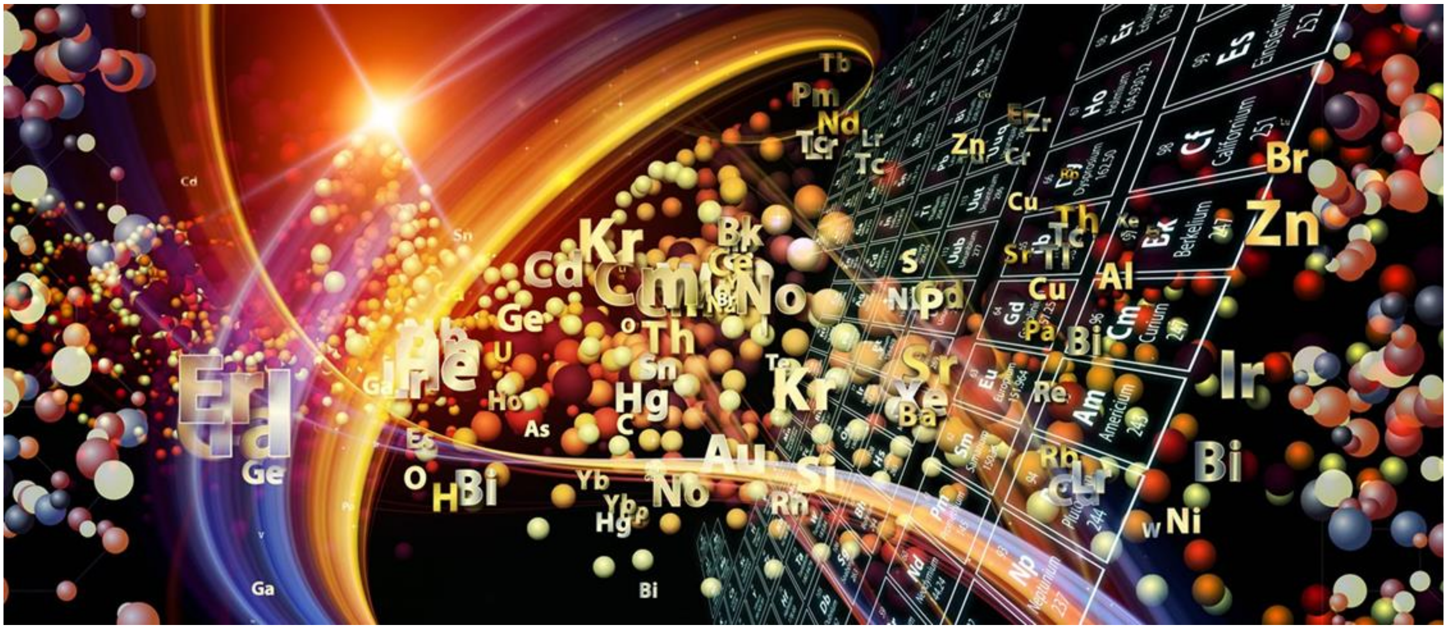

OLI Software Release Notes V12.x

OLI, Inc.

10/22/25

Contents

Introduction

Each version will be listed in reverse chronological order. Within each version, update to the products will be listed in this order:

- Databank updates
- Databank fixes
- Engine/solver
- OLI Studio/Analyzer
- OLI Flowsheet: ESP
- OLI Chemistry Wizard
- OLI Developer Edition
- OLI Alliance products
    - Aspen HYSYS
    - Aspen Plus
    - gProms
    - IDEAS
    - Petro-SIM
    - PRO/II
    - UniSim Design
- OLI Security/License Manager

Version 12.5.32

General Information

Version 12.5 of the OLI Software was officially released on 5 October 2025

Product	Release Date
OLI Studio/Analyzer (x64)	5 October 2025
OLI Flowsheet: ESP / ESP FS[1] (x64)	5 October 2025
Chemistry Wizard	5 October 2025
OLI Developer Edition (x64)	5 October 2025
OLI Engine 12.5 for Aspen Hysys (x64 bit)	5 October 2025
OLI Engine 12.5 for Aspen Plus (x64 bit)	5 October 2025
OLI Engine 12.5 for Petro-Sim (x64 bit)	5 October 2025
OLI Engine 12.5 for Proll (x64)	5 October 2025
OLI Engine 12.5 for Unisim Design	5 October 2025
OLI License Manager[2] (x64 bit)	5 October 2025

[1] The product ESP FS is for Asia releases. It is functionally identical to OLI Flowsheet: ESP.

[2] This product does not follow the same versioning scheme as the other products. The current version is 5.8.9.0

Databank Updates

New Species – MSE Database

IUPAC Name	OLI Tag Name
1,2,4-Trimethylbenzene	TMEBNZ124
1,2-Butadiene	BUTADIEN12
1,3-Butadiene	BUDIENE13
1-Octene	C8H16
Antimony(III) sulfide ion (-2)	SB2S4ION
Benzoic Acid	BNZACID
Benzoic acid ion(-1)	BENZOATION
Cadmium sulfide	CDS
Cadmium telluride	CDTE
Calcium Di(Hydrogen D-Malate)	CAHDMALATE2
Calcium Di(Hydrogen D-Malate) Hexahydrate	CAHDMAL2.6H2O
Calcium Di(Hydrogen L-Malate)	CAHLMALATE2
Calcium Di(Hydrogen L-Malate) Hexahydrate	CAHLMAL2.6H2O
Calcium DL-Malate	CAMALATE
Calcium DL-Malate Hydrate	CADLMALATE.H2O
Calcium D-Malate	CAMALATED
Calcium D-Malate (1/3)Hydrate	CADMAL.0.33H2O
Calcium D-Malate Dihydrate	CADMALATE.2H2O
Calcium D-Malate Hexahydrate	CADMALATE.6H2O
Calcium D-Malate Trihydrate	CADMALATE.3H2O
Calcium Hydrogen D-Malic Acid ion(+1)	CAHMALADION
Calcium Hydrogen L-Malic Acid ion(+1)	CAHMALALION
Calcium L-Malate	CAMALATEL
Calcium L-Malate (1/3)Hydrate	CALMAL.0.33H2O
Calcium L-Malate Dihydrate	CALMALATE.2H2O
Calcium L-Malate Hexahydrate	CALMALATE.6H2O
Calcium L-Malate Trihydrate	CALMALATE.3H2O
Cerium(III) EDTA ion(-1)	CEEDTAION
Cerium(III) hydrogen EDTA	CEHEDTA
Cesium sulfate	CS2SO4
Chloro(methyl)mercury	CH3HGCL
Dimercury(I) dioxalate ion(-2)	HG2C2O42ION
Dimercury(I) formate	HG2HCOO2
Dimercury(I) formate ion(+1)	HG2HCOOION
Dimercury(I) glycolate	HG2GLYCOLAT
Dimercury(I) glycolate ion(+1)	HG2GLYCOLION
Dimercury(I) hydroxide oxalate ion(-1)	HG2OHC2O4ION
Dimercury(I) oxalate	HG2C2O4
Dimercury(I) oxalate monohydrate	HG2C2O4.1H2O
Dimethylmercury	HGCH32

Dimethylmercury hydroxide ion(+1)	C2H6HG2OHION
D-Isoleucine	DILEUCINE
D-Isoleucine hydrochloride	DILEUHCL
D-Isoleucine hydrochloride hydrate	DILEUHCL.H2O
D-Isoleucine ion(-1)	DILEUCNION
Disulfuric acid	H2S2O7
DL-Isoleucine	DLILEUCINE
Dysprosium(III) EDTA ion(-1)	DYEDTAION
Dysprosium(III) hydrogen EDTA	DYHEDTA
Erbium(III) EDTA ion(-1)	EREDTAION
Erbium(III) hydrogen EDTA	ERHEDTA
Europium(III) EDTA ion(-1)	EUEDTAION
Europium(III) hydrogen EDTA	EUHEDTA
Gadolinium(III) EDTA ion(-1)	GDEDTAION
Gadolinium(III) hydrogen EDTA	GDHEDTA
Holmium(III) EDTA ion(-1)	HOEDTAION
Holmium(III) hydrogen EDTA	HOHEDTA
Hydrogen antimony(III) sulfide	H2SB2S4
Hydrogen antimony(III) sulfide ion (-1)	HSB2S4ION
Hydrogen D-isoleucine ion(+1)	HDILEUCNION
Hydrogen L-isoleucine ion(+1)	HLILEUCNION
Lanthanum(III) EDTA ion(-1)	LAEDTAION
Lanthanum(III) hydrogen EDTA	LAHEDTA
L-Isoleucine	LILEUCINE
L-Isoleucine hydrochloride	LILEUHCL
L-Isoleucine hydrochloride hydrate	LILEUHCL.H2O
L-Isoleucine ion(-1)	LILEUCNION
Lutetium(III) EDTA ion(-1)	LUEDTAION
Lutetium(III) hydrogen EDTA	LUHEDTA
Mercuric nitrate	HGNO32
Mercuric nitrate mercuric oxide	HGNO32HGO
Mercuric nitrate monohydrate	HGNO32.1H2O
Mercury(II) formate	HGCOOH2
Mercury(II) glycolate	HGGLYCOL2
Mercury(II) monoformate ion(+1)	HGCOOHION
Mercury(II) monoglycolate ion(+1)	HGGLYCOLION
Mercury(II) oxalate	HGC2O4
Methylmercuric ion(+1)	CH3HGION
Methylmercury hydroxide	CH3HGOH
Methylmercury nitrate	CH3HGNO3
Mg(+2)[Cyanex272(-1)]2 complex	MGCYN272
Mg-DEHPA2	MGDEHPA2
N,N,N,N Tetraoctyl Diglycolamide	TODGA

Neodymium(III) EDTA ion(-1)	NDEDTAION
Neodymium(III) hydrogen EDTA	NDHEDTA
Neodymium(III) nitrate	NDNO33
Neodymium(III) nitrate hexahydrate	NDNO33.6H2O
Neodymium(III) nitrate monohydrate	NDNO33.H2O
Neodymium(III) nitrate tetrahydrate	NDNO33.4H2O
Neodymium(III) TODGA nitrate dodecane	NDTGANO3
Neodymium(III) tri-TODGA nitrate	NDTODGA3NO3
Nitric acid monohydrate	HNO3.1H2O
Nitric acid N,N,N,N Tetraoctyl Diglycolamide	HNO3TODGA
Nitric acid trihydrate	HNO3.3H2O
Potassium benzoate	KBNZAT
Potassium Hydrogen benzoate	HKBNZA
Potassium oxalate	K2C2O4
Potassium oxalate monohydrate	K2C2O4.1H2O
Praseodymium(III) EDTA ion(-1)	PREDTAION
Praseodymium(III) hydrogen EDTA	PRHEDTA
Rubidium sulfate	RB2SO4
Samarium(III) EDTA ion(-1)	SMEDTAION
Samarium(III) hydrogen EDTA	SMHEDTA
Sodium benzoate	NABNZAT
Sodium D-isoleucinate	DILEUNA
Sodium D-isoleucinate hemihydrate	DILEUNA.H2O
Sodium L-isoleucinate	LILEUNA
Sodium L-isoleucinate hemihydrate	LILEUNA.H2O
Sodium neodymium(III) fluoride	NANDF4
Sulfuric acid dihydrate	H2SO4.2H2O
Sulfuric acid hemihexahydrate	H2SO4.6.5H2O
Sulfuric acid monohydrate	H2SO4.1H2O
Sulfuric acid tetrahydrate	H2SO4.4H2O
Sulfuric acid trihydrate	H2SO4.3H2O
Terbium(III) EDTA ion(-1)	TBEDTAION
Terbium(III) hydrogen EDTA	TBHEDTA
Thulium(III) EDTA ion(-1)	TMEDTAION
Thulium(III) hydrogen EDTA	TMHEDTA
Ytterbium(III) EDTA ion(-1)	EYBEDTAION
Ytterbium(III) hydrogen EDTA	EYBHEDTA
Yttrium EDTA ion(-1)	EYEDTAION
Yttrium hydrogen EDTA	EYHEDTA

New Species – MSE Geochemical

IUPAC Name	OLI Tag Name
Cobalt oxyhydroxide	COOOH

Cobalt(II) diselenide	COSE2
Cobalt(II) ditelluride	COTE2
Cobalt(II) selenite dihydrate	COIISEO3.2H2O
Cobalt(II) sulfide	COIIS2
Cobalt(III) arsenide	COAS
Cobalt(III) arsenide '2.92'	COAS3
Cobalt(III) diarsenide	COAS2
Nonacobalt octasulfide	CO9S8

New Species – MSE-SRK

IUPAC Name	OLI Tag Name
Argon	AR
Carbon Monoxide	CO
Hydrogen	H2
Oxygen	O2

Updated Species - MSE

IUPAC Name	OLI Tag Name	Reason for change
1,2-Ethanediol	ETHEGLYCOL	Reference State Thermodynamics update
Ammonium 0.22cobalt(II) 0.78nickel(+2) sulfate	NH4CONISO4	Aspen Plus ID name change
Ammonium 0.22cobalt(II) 0.78nickel(+2) sulfate hexahydrate	NH4CONIS.6H2O	Aspen Plus ID name change
Ammonium cobalt(II) sulfate	NH4COSO4	Aspen Plus ID name change
Ammonium cobalt(II) sulfate hexahydrate	NH4COSO4.6H2O	Aspen Plus ID name change
Ammonium hexafluoroaluminate	NH43ALF6	Aspen Plus ID name change
Ammonium tetrafluoroaluminate	NH4ALF4	Aspen Plus ID name change
Antimony(III) sulfide	SB2S3	Reference State Thermodynamics update
Argon	AR	Reference State Thermodynamics update
Cadmium bisulfide	CDHS2	Reference State Thermodynamics update
Cadmium bisulfide ion(+1)	CDHSION	Reference State Thermodynamics update
Cadmium tetra(hydrogen sulfide) ion(-2)	CDHS4ION	Reference State Thermodynamics update
Cadmium tri(hydrogen sulfide) ion(-1)	CDHS3ION	Reference State Thermodynamics update
Calcium sulfate dihydrate	CASO4.2H2O	Aspen Plus ID name change
Carbon monoxide	CO	Reference State Thermodynamics update
Cobalt(III) monohydroxide ion(+2)	COIIIOHION	Aspen Plus ID name change
Dipotassium oxide	K2O	Added solid component
Disodium oxide	NA2O	Added solid component
Di-zinc borate trihydrate	ZN2B6O11.3H2O	Aspen Plus ID name change
Europium tributylphosphate nitrate	EUNO33TBP	Aspen Plus ID name change
Hydrogen	H2	Reference State Thermodynamics update
Hydroxysodalite dihydrate	HYDSOD.2H2O	Updated EPA name
Lithium ammonium sulfate(VI)	NH4LISO4	Aspen Plus ID name change
Magnesium carbonate	MGCO3	Removed solid transition temperatures

Magnesium chloride	MGCL2	Aspen Plus ID name change
Manganese(II) perchlorate	MNCLO42	Aspen Plus ID name change
Mercury(II) oxide	HGO	Reference State Thermodynamics update
Neodymium(III) oxide	ND2O3	Aspen Plus ID name change
Nitric acid	HNO3	Added solid component
Sodium diuranate	NA2U2O7	Aspen Plus ID name change
Sodium uranyl(VI) oxyhydroxide	NAUO2OOH	Aspen Plus ID name change
Strontium hydroxide monohydrate	SROH2.1H2O	Aspen Plus ID name change
Strontium monoxide	SRO	Added solid component
Sulfuric(VI) acid	H2SO4	Added solid component
Tetrazinc diborate monohydrate	ZN4B2O7.1H2O	Aspen Plus ID name change
Thiosulfuric acid	H2S2O3	Inflow Only species changed to actual data

All Products Network & Security (Bugs)

OLI Bug Number	Summary	Descriptions
1458	Login Information Now Visible in Admin Tool.	Version 5.5 of the OLI Network License Admin Tool now displays the number of products and logged-in users in the Help | About Dialog, addressing the previous issue. An investigation revealed that earlier security versions, particularly the x64 variant, incorrectly referenced registry settings, impacting login-count reporting. Adjustments have been made to ensure accurate information is presented to clients.
4528	Improved Login Dialog Display for Named Users.	Previously, some users experienced issues where the login screen did not appear on certain computers when attempting to log in with named user credentials. We have added an additional standard dialog for login, which will be used if the HTML dialog fails to display or if a specific registry setting is configured. The parent logic for the login dialog was updated for better handling. Additionally, we enhanced the security options dialog, allowing users to save server name and port settings without needing a new serial number.
4540	Improved Error Handling for Invalid Password Attempts.	When users repeatedly entered an incorrect password three times while trying to log in to the desktop software, an error message indicating 'Unable to initialize engine security' appeared. This issue has been addressed to enhance the clarity of error notifications during failed login attempts.

All Products Network & Security (Features)

OLI Bug Number	Summary	Descriptions

3981	Configuration tool updated for AVEVA PRO/II 2026.	The OLI Configuration tool was updated to support AVEVA PRO/II 2026, as testing for this new version has begun. The configuration file was enhanced to include the necessary details, and the ProductList.xml version was updated to 36 to accommodate the addition of AVEVA PRO/II 2026 product information.

Alliance Products (All) - Bugs

OLI Bug Number	Summary	Descriptions
1448	Program name alignment with menu item for security settings.	The program name for OLI Security Settings and Test was updated to match the menu item, resolving an inconsistency. The title bar of the program was adjusted to ensure it aligns with the menu item, preventing potential confusion for users. This change aims to provide a more cohesive and user-friendly experience.

Alliance Products (Aspen HYSYS, Aspen Plus) – Bugs

OLI Bug Number	Summary	Descriptions
2693	AspenPlus-OLI Licensing Transition Issues Resolved.	Users experienced issues running AspenPlus-OLI models after a licensing system update. Upon executing models, error messages appeared, prompting users to confirm actions before re-running. The issue arose from inactive legacy databank options in serial numbers. Updating the serial number in the OLI Chemistry Wizard for compatibility resolved the problem.
2694	AspenPlus-OLI Model Execution Error Post-Licensing Change.	We addressed an issue where existing AspenPlus-OLI models encountered errors after a licensing system update. Users were unable to run models, receiving error messages during execution. To resolve this, users needed to incorporate the new license by updating the serial number using the OLI Chemistry Wizard for AspenPlus.

OLI Chemistry Wizard (all products) – Bugs

OLI Bug Number	Summary	Descriptions

2064	Fixed issue adding species from private database in Chemistry Wizard.	Resolved a problem with integrating species from a private database into the Chemistry Wizard for Aspen Plus, where specific species were not loading during a search. The issue stemmed from Databank data structures in case files lacking proper setup, causing query failures. Additional code was introduced to retrieve required database codes from the databank catalog, enabling the successful addition of species like ET2HXNOL1 alongside NaCl.
3030	Resolved Menu and Typographical Issues in Chemistry Wizard.	We addressed an issue where the 'About...' menu in the Chemistry Wizard was not responsive. Additionally, a typographical error that appeared on the assay screen within the Chemistry Wizard was corrected.
4510	Resolved Issue with Named User Tab Display in Chemistry Wizard.	In the Chemistry Wizard, the Named User tab in the about dialog no longer disappears after three incorrect password attempts or a canceled login. When logged in successfully, the tab displays as expected. Additionally, the incorrect labels for various tabs were corrected, and the unnecessary tab previously containing the MFC Grid Ctrl was removed.

OLI Cloud, API (Bugs)

OLI Bug Number	Summary	Descriptions
2284	Resolved JSON Parsing Anomalies.	Addressed issues related to stream naming conventions that resulted in errors, such as renaming 'Concentrated Slurry' to 'ConcSlurry' and 'SpG=1.3' to 'SpG13' resolving the problem. Additionally, identified a related issue with the downstream heat exchanger configuration contributing to errors. Updated the common package by modifying JSON with nlohmann library enhancements. Resolved errors from 'getObject' functions acquiring copies instead of pointers. Updated 'ArrayJSONObject' to adopt unique pointers through revised range-based loop practices, replacing raw pointers. Adapted function calls to 'getString' and 'getJSONString' to use updated conventions over deprecated 'char*'. Implemented changes for 'getArray' functions to return true when arrays are empty and adjusted 'setpArray' methods to overwrite existing content. Transitioned 'ArrayJSONObject' to utilize unique pointers, preventing double deletion issues, and

		made private 'JSONObject(Json)' constructor public to resolve build errors with 'std::make_unique' usage.
3829	Improved Cloud Simulation for Column Restarts.	Cloud simulations now correctly run and converge like desktop versions by enhancing the support for column restart data in API packages. Data files for column restarts are included with binary data, and availability is marked in API JSON. Unwanted characters are excluded from file names, and unspecified block inputs are omitted from JSON settings. Initially, the column restart is derived from exported files, switching to previous convergence data for subsequent cycles.
4102	User Name Mapping in ProcessAPI.	The output JSON from ProcessAPI now includes mapping information between user-entered names and internal names for user-defined property names. This update ensures that user-defined variables are accurately represented in the JSON input to maintain consistency and clarity.

OLI Databook – Bugs

OLI Bug Number	Summary	Descriptions
3308	Resolved export and import issue with private databank.	An issue was resolved where exporting interactions from a private databank to another database was unsuccessful due to specific name checks. This improvement corrected the method managing reversed names, ensuring seamless export and import between the databases.

OLI Engine API, Corrosion Rates – Bugs

OLI Bug Number	Summary	Descriptions
3349	Corrosion Calculation API Returned Empty Results without Error.	When executing certain corrosion calculations, the API returned an empty result set without providing any error message. This could be rectified by introducing small amounts of water to the input flows. The API was updated to return meaningful error messages if the Engine calculations did not yield results, particularly in cases of zero water content.

OLI Flowsheet, ESP-FS – Bugs

OLI Bug Number	Summary	Descriptions
3907	Discrepancy in Sensitivity Analysis Results with Manipulator Block.	When conducting a sensitivity analysis using a manipulator block, the results differed from manually changing the manipulator factor. A simple test showed variations in pH levels when toggling between manual adjustment and sensitivity analysis modes. In the manual adjustment, pH values changed based on the factor from 0.7619 at 0 to -0.514905 at factor 4. Meanwhile, the sensitivity analysis demonstrated a gradual increase from 0.761888 at 0 to 1.09596 at factor 4. This inconsistency should be addressed to ensure both methods provide the same results. The issue was noted as a recurrent problem and needs further investigation to confirm if increments affect outcomes.
4646	Significant pH Drop Noticed Between Versions 12.0 and 12.5.	A notable issue was reported where the pH level decreased significantly from 3.9 to 0.19 between version 12.0 and 12.5, impacting certain CCUS scenarios, particularly involving CO_2 injection and corrosion rates. The OLI Flowsheet file contained three chemistry models with various compounds. The problem may stem from discrepancies in thermo/database interactions or over-adjustment of parameters in the MSE model following the inclusion of new interaction parameters for CO_2 in version 12.5. A case was observed where these adjustments led to unexpectedly low pH values, raising concerns about their realism in actual applications. It was necessary to verify modifications concerning Mg and CO_2, and four test cases were updated to accommodate these changes.
1434	External stream changes now reset calculator state.	When adjustments were applied to an external stream, the system now correctly invalidated the calculation state of calculators and feedforward controllers relying on the stream's computed data. This ensures the calc state properly reflects stream changes, optimizing the restart process.
1437	Report section visibility preference clarified.	Previously, report sections in the customization interface seemed to be disabled even though they were not. The visibility settings primarily used 'ShowSectionIfHasData' as a default for most sections, but the user interface incorrectly displayed this state as simply 'on' or 'off.'

1446	Improved handling of disconnected streams in F-ESP.	F-ESP now correctly stores calculation results for disconnected streams. Previously, calculations could fail when restart optimizations were enabled and only disconnected streams required recalculation. Unlike connected streams, which had their results retrieved using a specific callback, disconnected streams now properly retrieve results through an alternative method.
1449	Total Dissolved Solids Missing in Global Property Window.	The global User-Defined Property window did not show Total Dissolved Solids (TDS) as an available option. However, in the Calculator Block, TDS was accessible. This occurred because the optional-calc TDS property identifier was missing in the JSON input for the global variables catalog query.
1465	Fixed Global Property Unit Manager Time Unit Issue.	Resolved an issue where changing the time unit from hours to days in the global property settings did not update the unit display in the properties dialog. This inconsistency led to a run-time error and corrupted the simulation file upon attempting to run the model again. An update was made to allow users the option to apply the changed unit set to existing properties. The logic was adjusted to correctly change units when requested by the user, preventing the model corruption.
1490	Enhanced Error Message for Stream Flow Rate in F-ESP.	The error message shown when setting a stream's total flow rate in F-ESP has been improved. Previously, if a user removed the total flow rate in mass units while the inflows were in fractional units, an unclear error message was displayed. Now, the message clearly indicates that the total flow rate cannot be empty when inflows use fractional units. Additionally, when the total stream amount is cleared in the grid, it is interpreted as setting it to zero unless 'auto' is selected, maintaining consistency with inflow behavior. A validation error is displayed in the errors window when the stream amount is zero.
1493	Energy Transfer Renaming Update Issue Resolved.	Renaming an energy transfer in the navigator panel now correctly updates the displays in the flowsheet view, ensuring consistency across the interface.
1494	Crash Fixed When Using Sensitivity and Custom Database.	Resolved an issue where the software crashed during sensitivity analysis with a custom database and unconverged controllers. This fix ensures that the flowsheet remains stable even when the controller does not meet the target pH during sensitivity studies. Users can now conduct these studies without encountering unexpected software termination.

1518	New Toolbar Reset Feature Added.	A convenient option was added to reset the toolbar and docking pane layout. This makes it easier for users to restore the default interface setup when needed.
1522	Corrected logic for sensitivity parameter comparison.	The logic for comparing sensitivity parameter specifications was updated to fix a typo. This correction ensures that restarts now correctly verify changes in sensitivity parameters.
1524	Improved scrolling for key component display in F-ESP.	The grid framework was adjusted to address issues with scrolling when tall rows were present, like the key-component selection row with vertically arranged radio buttons. By using multiple merged rows for the selection, the display now scrolls smoothly and correctly.
2104	Issue with PDF Printing Resolved.	There was a persistent issue where printing to the Microsoft PDF printer would intermittently fail, displaying an error message. Even though the printer appeared in the menu, once an error occurred, it would persist until the workaround of switching printers was used. This involved selecting a different printer and then reselecting the original one to successfully print. We addressed this by fixing the memory management of specific data members in our code, making sure temporary working copies are created during Windows API calls that might alter or release their memory, thereby preventing the error.
2105	TDS Value Missing After Calculation.	In the Water Analysis feature, the Total Dissolved Solids (Estimated) value did not display for a water sample after calculation. Initially, the TDS value appeared as approximately 64K mg/L. However, upon recalculating, this value was absent. This issue was observed in two comparison cases labeled 'Before' and 'After,' where only the 'Before' case correctly showed the TDS value.
2109	Updated reaction kinetics management in multiple models.	Previously, changing a kinetic value in one chemistry model inadvertently updated the same value in another, leading to unexpected results for users managing multiple models. We resolved this by allowing the creation of multiple kinetic reactions with identical equations, but only one can be active per model. This ensures that the same kinetic reaction can have unique rate specifications across different models. Additionally, we implemented code to guarantee that only a single kinetic reaction with a given equation is enabled per model, preventing unintended automatic updates.

2113	Resolved empty message issue during sensitivity analysis.	An issue was resolved where users encountered an empty message when attempting to view a sensitivity plot before the first iteration was completed. This message appeared prematurely, as data was not yet available, which could cause confusion. The message no longer appears once data populates the plot. Additionally, plots now correctly display a blank view after sensitivity removal, addressing the previous problem where plot control incorrectly attempted to gather data from each axis.
2258	Resolution for Water Analysis Discrepancy with ASH Component.	A discrepancy was noted in water analysis using the ASH component within F-ESP, where an unspecified runtime error occurred, unlike in Studio where the analysis converged successfully, even with solids enabled. This issue stemmed from the 'SharedData' class in the chemistry model not copying inert species data. The solution involved modifying the 'SharedData' class declaration to allow the compiler to generate a default assignment operator, thus eliminating the need for manual implementation. Furthermore, adjustments were made to ensure the root class had an explicit, though empty, assignment.
2497	Simulation Results Require Clearing for Mass-Transfer Coefficients.	Users encountered an issue with manually specifying mass-transfer coefficients in stripper columns. To ensure the user-specified coefficients were considered, it was necessary to clear previous simulation results each time before running the simulation. This step should have been unnecessary, indicating a bug. Previously, the system mistakenly used calculated values instead of user inputs. The issue arose because tags for user input values were identical to those for calculated values. This has been corrected by assigning distinct tags for user input values, preventing the problem from happening again.
2509	Resolved runtime error with virtual stream simulations.	The issue causing an "Unspecified run-time error" during simulations with virtual streams was addressed. The correction involved updating the logic in restart optimizations to properly handle virtual streams when the corresponding source stream was not part of the calculating fragment.
2847	Improved Copy-Paste for Streams with Water Analysis.	Enhanced the handling of streams backed by water analysis during copy-paste operations. Ensured that user-defined species, including assays and pseudocomponents, are stored and accurately resynchronized with internal data structures. Assured proper initialization of pasted fragments. Implemented fixes to prevent repeated

		pasting in the same document environment, improving stability and accuracy.
3036	Fixed issue with sensitivity on disabled controller.	The program now checks if a sensitivity parameter belongs to a disabled controller and reports an error message when an attempt is made to run a simulation under these conditions.
3148	Corrected Phase Labeling in Flowsheet Using MSE Framework.	Phase labeling in the flowsheet interface for controllers using the MSE framework was improved. The software previously used terms like 'Aqueous' and 'Organic' even for CCUS-related chemistry, causing confusion as a dense CO_2 phase was mislabelled as 'Organic'. The correct term 'Liquid-2' is now used for the second liquid phase, ensuring consistent phase classification. This update replaces 'Organic' with 'Liquid-2' where applicable, maintaining uniform terminology across the interface, particularly in controllers and separator outlets. This enhancement prevents user confusion and improves clarity for CCUS applications.
3150	Rounding Error in Kinetics Editor Corrected.	When transferring reactions from Studio to Flowsheet, a rounding issue in the Kinetics Editor caused mass balance errors. Elemental sulfur reactions had stoichiometric coefficients truncated, leading to inaccuracies. To address this, the precision of coefficients in Flowsheet has been enhanced to prevent rounding errors, ensuring consistency between the applications. This update improves the accuracy of kinetic reactions, particularly in CCUS chemistry, by maintaining significant figures and preventing mass balance issues.
3327	Corrected Mass Percentage Display in Water Analysis Stream.	Previously, when a water analysis was conducted with 60 mass% of a specific compound as the sole input, the Flowsheet workspace incorrectly displayed a total mass percentage over 100% in the 'Definition' section. This issue did not arise when exporting a Water Analysis as a Stream in OLI Studio. The display logic has now been adjusted to ensure that the mass percentage correctly reflects the true composition, preventing any misleading information. This adjustment aims to eliminate user confusion despite the accuracy of the underlying calculations. The corrected display now accurately reports electroneutrality balanced inflow values from the water analysis.

3357	Plot Object Deletion Issue Fixed in OLI Flowsheet.	Resolved an issue where users could not delete a plot object in OLI Flowsheet after removing a sensitivity calculation. Previously, deleting a sensitivity could result in a plot without data that could not be removed, as the plot control incorrectly attempted to gather data from each axis. Now, associated plots will display a blank view after sensitivity removal, allowing for proper deletion.
3979	Transfer Limitations on Portal-Attached Streams in Flowsheets.	Users could not copy or paste inlet streams attached to portals between subflowsheets or between main and subflowsheets. However, it was possible to transfer outlet streams connected to portals. Including the portal was necessary when copying a proxy stream entering a subflowsheet, otherwise it would fail to copy correctly.
4008	Fixed Calculator Display Issue with Non-Converging Feedback Controller.	Resolved an issue where calculators ceased to display values when a feedback controller was enabled but did not converge. Despite being set to continue calculations during non-convergence, the calculators failed to show results, causing unexpected behavior for users. The underlying logic was corrected to ensure that calculators remain operational and display results irrespective of the feedback controller's convergence status.
4010	Resolved UI issue in Units Manager with mixed stream units.	Addressed an issue in FESP where selecting streams with different units in the Units Manager resulted in an unclear 'Different Options' choice in the dropdown menu. This option is now consistently displayed at the top of the list to prevent confusion. The 'Customize' button is properly disabled when this option is chosen to prevent unintended actions. Additionally, the units dropdown list has been sorted to enhance overall usability.
4200	Added Access to Outlet Streams in Calculator.	Previously, outlet streams from a subflowsheet were not accessible in the Calculator's property selection dialog. This limitation has been addressed, allowing users to connect an outlet stream and have its properties available for selection in the Calculator block. This improvement enables a more seamless integration between subflowsheets and Calculators, enhancing the overall user experience.
4224	Addressed Disconnected Stream Error in Subflowsheet.	Creating an unconnected stream in a subflowsheet led to a 'Solver Exited' error and halted the simulation. This issue has been resolved by ensuring that any unconnected virtual stream now prompts a clear error message, preventing confusion and maintaining simulation flow.

4316	Detach Stream Without Losing Original Properties.	When attaching a feed to a subflowsheet's outlet by mistake, it adopted the properties of that feed, causing inconvenience when detaching. Now, detaching the stream restores its original properties, preventing the need to re-enter input details.
4390	Subflowsheet Portal Icons No Longer Show Exclamation Mark.	The subflowsheets' outlet portal icons no longer display an exclamation mark in the Navigator pane when the simulation is running successfully. The issue was connected to a virtual stream anomaly, which has now been addressed along with other related concerns.
4549	Adjusted 'Murphree' Capitalization in Tray Screens.	Ensured that 'Murphree' is capitalized in the tray efficiency screens, aligning with standard practices used in other publications and sites.
1440	Standard Liquid Volume Issue Near Splitter Block Resolved.	An issue was identified where the standard liquid volume appeared incorrect near a splitter block in callouts and reports. The expected different volumes for specific streams were not reflected, showing the same volume instead. This anomaly was thoroughly investigated and has now been resolved, ensuring accurate volume representations for streams around splitter blocks.
1443	Corrected pH2 Calculation for Two-Phase Stream.	Previously, the pH2 value of a two-phase liquid stream was incorrectly calculated to be the same as the pH, resulting in both values being 3.186. Upon recalculation, it was determined that pH1 should be 3.186 and pH2 should be adjusted to 5.629, correcting the disparity.
1459	Fixed Controller Target Value Update Issue.	Resolved an issue in F-ESP where the controller did not update the target value when connected to another controller. Previously, even though the calculator sent the correct value, the target value would not turn green or update the callout display. This enhancement ensures the target value and its feedback are accurately represented when overridden by a calculator.
1461	Corrected Dew Point and Vapor Target Calculations.	In the previous version, the dew point calculation for the Tower Top Mixer inaccurately returned the hydrocarbon dew point temperature instead of the water dew point temperature. This issue was rectified in the latest version. Similarly, the vapor target calculation mode initially produced inconsistent results, returning a lower temperature than expected. Adjusting the vapor percentage to a slightly lower value delivered accurate temperatures that surpassed both dew points. These issues were addressed in the new release.

1475	Inconsistency Fixed in Adiabatic Mixer Results.	We addressed an inconsistency issue in the results between adiabatic and isothermal conditions in mixers. Previously, setting the injection to adiabatic at minimum inlet pressure converged to a temperature of 164.956°F with only a vapor and one liquid phase present. Adjusting the temperature slightly to 165°F or 164°F resulted in three phases being formed. This anomaly was even observed when running the case as an isothermal one at the adiabatic temperature. The issue has been resolved to ensure consistent phase results under these conditions. The engine was updated and now requires the latest package version to prevent further discrepancies.
2093	Improved MBG Phase Handling in Kinetic.	Enhanced the feedback controller to accurately converge with specified MBG phase by incorporating new material codes. This change ensures more reliable mole fraction adjustments in kinetic simulations.
2592	Resolved Crash When Adding Multiple Assays in FESP.	A simulation crash occurred when users attempted to add a specific type of assay to the Inflows list and run the simulation, often resulting in an 'Intel Visual Fortran run-time error'. The issue was prevalent even if the assay had not been added to a stream. We have addressed this problem by allowing the addition of multiple assays without causing crashes, thus enhancing simulation stability. Previously, the exact workaround was unknown, but users considered combining assays if more than five were needed. This update significantly improves the flexibility and reliability of handling assays in simulations.
2787	Enhanced Density Check for Liquid Phases.	The system occasionally displayed a negative density for a liquid phase during stream checks. To address this, additional verifications were incorporated, ensuring accurate phase information handling.
3910	Input Stream Failure in Alpha Test.	The input stream failed during the Alpha test on Webtools for version 12.5.4, whereas it worked correctly in version 12.0.0.11. The input stream should converge without issues.

OLI Flowsheet, ESP-FS – Features

OLI Bug Number	Summary	Descriptions

3975	Added Tooltip for Stream Names in Navigator Panel.	The portals on the subflowsheet tree in the Navigator Panel now display the corresponding main flowsheet stream name through a tooltip. This enhancement provides clarity by indicating connected stream names when hovering over the tree item.
4205	Simulation Completion Now Includes Warnings.	In the 12.5 Beta version of the OLI Flowsheet, simulations previously indicated as completed, even when some blocks remained unconverged or uncalculated, have been updated. The completion message now appropriately reflects when a simulation finishes with outstanding warnings, enhancing clarity for users.

OLI Studio (All products) – Bugs

OLI Bug Number	Summary	Descriptions.
1479	Save As Stream Exported H_3O^+ Incorrectly in Water Analysis.	In certain cases, when performing a water analysis reconcile using Save As Stream, the system incorrectly included H_3O^+ as a molecular species. This issue occurred when using Add as Stream, reflecting non-molecular species wrongly in the molecular export stream.
1500	Auto Contour Option Adjusted Color Issue.	In Studio, selecting 'Auto' in the Contour Options unintentionally altered the color scheme alongside setting minimum and maximum values. This feature has been refined to ensure that only the values are adjusted, preserving the user's color selection within the contour settings.
1533	Copy and Paste Stream Issue in Studio.	Previously, copying and pasting a stream with a survey or single point did not automatically renumber the objects, causing issues when accessing the objects description tab. This behavior differed from older versions, where objects were renumbered automatically. The recent update ensures pasted objects have unique names for all parent and child elements, resolving this inconsistency.
1551	Issue with Survey Calculation on Total Stream Adjustment.	Previously, if users set the total stream amount to a specific value, such as 100 moles, the survey did not compute results correctly. Adjusting the total stream amount was not meant to alter the survey outcome. The issue was linked to a critical bug, which has been addressed, ensuring the composition used in surveys remains consistent with the original assignment.

2123	Log Autorange in Plots Now Displays Full Range of Species.	In pH surveys, Y-axis variables ranged from E+2 to E-144, but species such as S(+6) at approximately 33 g/L were not displaying. Previously, adjusting the range manually was unreliable. This was due to a 1% ceiling rule that restricted the range's extension to the next decade if the difference was within 1%. We have overridden this function and removed the rule, ensuring plots automatically cover the entire range.
2133	Contour Plot Color Retention Improvement.	In Studio, when adjusting pH contour plots, selecting the 'automatic' option no longer resets user-defined colors. Previously, enabling automatic scale adjustments inadvertently altered user-customized color settings, which could be counterintuitive for those displaying low pH as red and high pH as blue. This update ensures that choosing to automatically adjust scales will maintain the existing user-defined color preferences.
2141	Removed Unneeded Fields from Solids Yield Specs.	Streamlined the Solids Yield specifications window in Studio by removing redundant fields. Now, users only need to define the solid to synthesize, the relevant subsystem, and the fractional yield. The system calculates the conditions for synthesizing the solid from initial species with yields above the specified threshold. Previously, extra fields were used for experimental design, but are no longer necessary.
2651	Studio Failed to Open After Changing System Databanks Location.	Studio experienced a failure to launch after users altered the system databanks location to a non-standard path, such as the desktop. This change led to an error message indicating a database initialization issue, causing the application to terminate abruptly. To resolve this, users needed to adjust the SQLDatabasePath in the Registry Editor back to the default path. Going forward, Studio offers an option to remove invalid databank paths, and provides a warning to reinstall if any databank files are found to be corrupted.
2817	Weight Factor Bug in SKIT Optimizer Tool Fixed.	The issue where adjusting the weight factor in the SKIT optimizer tool in Studio did not alter the regressed results has been resolved. Previously, changing the weight factor for brine samples failed to produce different regression outputs. Users can now expect distinct regressed values when modifying weight factors for brines in the optimizer tool, ensuring the intended variance based on weight adjustments.

2825	Resolved Copy/Paste Functionality in Studio Mixer.	Copy and paste functionality within the mixer section of the Studio program had an issue, where attempting to copy and paste values in temperature and pressure fields did not work, regardless of method used. This affected both right-click and keyboard shortcuts. This issue has been fixed, restoring the expected functionality.
2844	Unified Plot Symbol Colors for Better Clarity.	Previously, a plot with a double salt in the attached file displayed inconsistent symbol colors, with a brown/green appearance at low temperatures and blue at high temperatures, leading to confusion. This change ensured consistent colors across all temperatures for each species, preventing misinterpretation as a different solid.
3180	Database Order Issue in OLI Studio Model Generation.	In OLI Studio, the specified database order was not honored during the model generation process. The issue arose when the private database included a species, COOHION, with different data from another database. Although the summary box displayed the correct order of databases, the actual reading sequence differed, leading to errors in the model creation. As a result, an error was generated during the simulation run, indicating the absence of COAQ in the species list. This error occurred due to discrepancies during the input phase, causing the process to halt. The issue was fixed to ensure the model was built correctly according to user-defined database order.
3420	Fixed Stream Data Loss When Copying a Mixer.	Previously, in Studio, copying a Mixer using the right-click > Copy function resulted in the loss of calculated stream data for the copied mixer. This issue was observed during training sessions and disrupted data consistency and workflow efficiency. Now, when a Mixer is copied, its calculated streams remain intact in the copied instance, preserving data and maintaining workflow integrity. The solution ensures that the Tree view and the child elements are correctly updated without needing a manual refresh.
3524	pH Variances in Water Analysis Reconciliation.	In Water Analysis Reconciliation, users observed differences in pH values depending on whether a make-up ion was entered directly in parts per million (ppm) or left at zero.
3852	Update Issue with Volume Unit in Plot.	In OLI Studio, after users adjusted the volume unit using the Units Manager, the Plot did not display the change correctly. To view the updated units, users needed to exit and re-enter the Plot tab. This issue affected some users and necessitated manual steps to see changes take effect.

OLI Studio (All products) – Features

OLI Bug Number	Summary	Descriptions
4225	Aligned Calculation Output with Report Headers.	In a specific high-pressure scenario within OLI Studio Beta, the calculation output window displayed 'Fugacity-Vapor' instead of 'Fugacity,' resulting in confusion. Although both the report and output shared identical fugacity values, their headers differed. We aligned the report and calculation output headers for clarity, confirming no vapor data was present as expected.

OLI Studio Corrosion Analyzer – Bugs

OLI Bug Number	Summary	Descriptions
1453	Fixed Composition Issues for Alloy 600 in Pourbaix Diagram.	In the Pourbaix Diagram feature, the composition for Alloy 600 displayed incorrectly, while the Corrosion Rate calculation remained accurate. A user reported an unexpected composition for Alloy 600, particularly a discrepancy in nickel content. To resolve this, normalization of alloy compositions was adjusted by moving the normalization function outside the loop, ensuring it applied correctly to groups rather than individual elements. Additional enhancements included adding constants for element count and using explicit molecular-weight tables to accurately compute and adjust mole fractions, thereby correcting the residual errors.
1535	Improved Visibility of ORP on Pourbaix Diagram.	The visibility of the ORP feature on Pourbaix diagrams in Studio has been enhanced. Previously, the representation was a small dot that was difficult to see. This has been addressed by increasing its size and updating the radius dynamically when users adjust the zoom or scale, ensuring the ORP is easily noticeable.
3276	Added time summation to corrosion rate calculation summary.	Previously, the corrosion rate calculation in OLI Studio did not display the total time spent on the calculation in the summary box, unlike other Studio calculations which included time summation for debugging slow processes. The underlying calculations within the survey displayed time summation. This issue occurred when the calculation status was valid with warnings, which

		incorrectly hid the elapsed time display. This has been addressed to ensure that time summation now appears in the corrosion rate calculation summary for consistency and better debugging.
3725	Resolved REDOX Inconsistencies Between Models.	When conducting corrosion calculations, switching between AQ and MSE thermodynamic models previously led to certain REDOX species like chlorine being inaccurately enabled by default. This has now been corrected to ensure that REDOX settings remain consistent. For instance, if only iron was activated in the MSE model, iron will also remain the sole activated species upon switching to the AQ model. This was essential to maintain consistency as more alloys join the MSE model, and comparisons between AQ and MSE become more common.
3763	Localized Repassivation Current Density Setting.	The repassivation current density (irp) setting in Studio, previously a global parameter, has been adjusted to be file-specific. This change allows users to modify the repassivation potential predictions (Erp) based on their data without affecting default values for new files. Studio now clearly indicates if the irp option is altered from the default. Previously, any changes made persisted globally across new sessions, which no longer occurs.
4432	Enhanced Zoom Functionality in Pourbaix Diagrams.	The zoom feature in Pourbaix diagrams has been improved to allow for repeated use. The issue was addressed by updating the user-defined ranges to serve as initial values for the plot, ensuring smoother functionality.
2570	Resolved Scale Induction Time Calculation Discrepancy in Studio.	We addressed an issue where the calculation of scaling induction time in Studio varied with different stream amounts. This calculation should depend on the concentration of species rather than the stream amount. The problem occurred when users modified the mole stream value, leading to unexpected changes in scaling induction time. This update ensures consistent results, regardless of changes in stream settings, such as batch or flowing configurations.
2910	Resolved temperature adjustment issue in corrosion rate calculation.	Previously, users could not change the temperature for a Single Point Corrosion Rate calculation. This issue has been fixed, allowing the temperature to be set during the calculation process.

OLI Studio ScaleChem – Bugs

OLI Bug Number	Summary	Descriptions
1521	Corrected Mass Balance in ScaleChem Report.	Previously, ScaleChem reports displayed inconsistencies in mass balance calculations for saturator objects, incorrectly reporting brine composition. The brine report showed 62.3781 kgmol/day, but calculations of all carbonate species amounted to only 14.9 kgmol/day, leading to confusion. The issue stemmed from the brine composition report generator inaccurately translating elemental composition to water analysis due to an assumption that reporting units were always based on mass. This logic error has been corrected to ensure accurate mass balance representation.
4513	Label Correction for Facilities Calculation in ScaleChem.	In OLI Studio ScaleChem, the facilities calculation previously misidentified MSE-SRK objects as MSE objects. This issue has been resolved, and now the software correctly treats these objects as MSE-SRK, ensuring accurate calculations.

OLI Studio ScaleChem – Features

OLI Bug Number	Summary	Descriptions.
2654	Reintroduction of Saturator Button with Warnings.	Users can now quickly add saturation to brine, streamlining flowsheet creation and result interpretation. A warning has been integrated for instances where brine has high salinity, addressing previous concerns. This warning appears when the saturated water amount exceeds zero. The 'Saturate With' option for oil and gas will always be visible, and the preference setting to toggle this option has been removed.

Version 12.0.0.11

General Information

Version 12 of the OLI Software was officially released on May 29, 2024

Product	Release Date
OLI Studio/Analyzer (x64)	May 29, 2024
OLI Flowsheet: ESP / ESP FS[3] (x64)	May 29, 2024
Chemistry Wizard	May 29, 2024
OLI Developer Edition (x64)	May 29, 2024
OLI Engine 12.0.1.11 for Aspen Hysys (x64 bit)	May 29, 2024
OLI Engine 12.0.1.11 for Aspen Plus (x64 bit)	May 29, 2024
OLI Engine 12.0.1.11 for Petro-Sim (x64 bit)	May 29, 2024
OLI Engine 12.0.1.11 for ProII (x64)	May 29, 2024
OLI Engine 12.0.1.11 for Unisim Design	May 29, 2024
OLI License Manager[4] (x64 bit)	May 29, 2024

[3] The product ESP FS is for Asia releases. It is functionally identical to OLI Flowsheet: ESP.

[4] This product does not follow the same versioning scheme as the other products. The current version is 5.5.0.10

Databank Updates

Mixed-solvent electrolyte (MSE) databank thermophysical properties

Complexes between Fe and organic species

Fe (II, III) – acetate
Fe (II, III) – diethylenetriamine
Fe (II, III) – ethylenediamine
Fe (II, III) – glycine
Fe (II, III) – pyrozole
Fe (II, III) – catechol
Fe (II, III) – gallic acid
Fe (II, III) – humic acid
Fe (II, III) – phenol

Butyric acid revision, including Ca and K butyrate and butyric + propionic acids

Butyric acid – H_2O (revised)
Butyric acid – propionic acid – H_2O (revised)
Calcium butanoate – H_2O (revised)
Potassium butanoate – H_2O (revised)

NH_3 + K_2CO_3 + MDEA and related systems

NH_3 – K_2CO_3 – H_2O (revised)
NH_3 – K_2CO_3 – $(NH_4)_2CO_3$ – H_2O (revised)
MDEA – K_2CO_3 – H_2O
MDEA – NH_3 – K_2CO_3 – H_2O
MDEA – CO_2 – K_2CO_3 – H_2O
MDEA – K_2CO_3 – CO_2 – NH_3 – H_2O
MDEA – NH_3 – H_2O
MDEA – CO_2 – NH_3 – H_2O
MDEA – NH_4HCO_3 – H_2O
MDEA – NH_3 – NH_4HCO_3 – H_2O

Piperazine + CO_2 +H_2S +H_2O + MDEA

Piperazine – H_2O
Piperazine – CO_2 – H_2O
Piperazine – MDEA – H_2O
Piperazine – CO_2 – MDEA – H_2O
Piperazine – H_2S – H_2O
Piperazine – H_2S – MDEA – H_2O

Revision of properties of selenium species: Se^0 and SeO_4^{2-}

Se – NaCl – H_2O

Crystalline calcium silicates moved from CRMSE databank to GEMSE

Afwillite, $Ca_3Si_2O_4(OH)_6$
Foshagite, $Ca_4Si_3O_9(OH)_2.0.5H_2O$
Gyrolite, $Ca_2Si_3O_7(OH)_2.1.5H_2O$
Hatrurite, Ca_3SiO_5
Hillebrandite, $Ca_2SiO_3(OH)_2.0.17H_2O$
Okenite, $CaSi_2O_4(OH)_2.H_2O$
Rankinite, $Ca_3Si_2O_7$
Tobermorite11A, $Ca_5Si_6H_{11}O_{22.5}$
Tobermorite14A, $Ca_5Si_6H_{21}O_{27.5}$
Tobermorite9A, $Ca_5Si_6H_6O_{20}$
Xonotlite, $Ca_6Si_6O_{17}(OH)_2$

Clinochrysotile, $Mg_3Si_2O_5(OH)_4$

Cobalt chemistry: $CoSO_4$ $(NH_4)_2SO_4$, $Ni_{0.78}Co_{0.22}(NH_4)_2(SO_4)_2$, Co-$NH_3$ complexes
$(NH_4)_2SO_4$ – $CoSO_4$ – H_2O
$CoSO_4(NH_4)_2SO_4$ – H_2O
$NiSO_4(NH_4)_2SO_4$ – $CoSO_4(NH_4)_2SO_4$ – H_2O
System where $Ni_{0.78}Co_{0.22}(SO_4)_2(NH_4)_2{\cdot}6H_2O$ precipitates

$MnSO_4 + (NH_4)_2SO_4 + H_2O$
$MnSO_4$ – $(NH_4)_2SO_4$ – H_2O

Nd citrate entropy and Cp: correction

Al phosphates
$AlPO_4$ – H_3PO_4 – H_2O
Al_2O_3 – P_2O_5 – H_2O

NH_4 phosphates
$NH_4H_2HPO_4$ – NH_3 – H_3PO_4 – H_2O
$(NH_4)_2HPO_4$ – NH_3 – H_3PO_4 – H_2O
$(NH_4)_2HPO_4{\cdot}2H_2O$– NH_3 – H_3PO_4 – H_2O
$(NH_4)_3PO_4{\cdot}3H_2O$– NH_3 – H_3PO_4 – H_2O

Mn phosphates
MnO – P_2O_5 – H_2O
$Mn_3(PO_4)_2$ – H_3PO_4 – H_2O

Fe phosphates
$FePO_4$ – H_2O
$FePO_4$ – H_3PO_4 – H_2O

Zn phosphates
$Zn_3(PO_4)_2$ – H_3PO_4 – H2O

$Na_2HPO_4 + NaNO_3 + H_2O$
Na_2HPO_4 – $NaNO_3$ – H_2O

H_3BO_3 + sulfates (Na, K, Li, Mg, Ca)
H_3BO_3 – Na_2SO_4 – H_2O
H_3BO_3 – K_2SO_4 – H_2O
H_3BO_3 – Li_2SO_4 – H_2O
H_3BO_3 – $MgSO_4$ – H_2O
H_3BO_3 – $CaSO_4$ – H_2O
HBO_2 (aq, vap) removed – only HBO_2(s) remains

Rare earth element hydroxycarbonates, carbonates and REE fluorocarbonates
$YOHCO_3$ – (CO_2) – H_2O
$LaOHCO_3$ – (CO_2) – H_2O
$CeOHCO_3$ – (CO_2) – H_2O
$PrOHCO_3$ – (CO_2) – H_2O
$NdOHCO_3$ – (CO_2) – H_2O
$SmOHCO_3$ – (CO_2) – H_2O
$EuOHCO_3$ – (CO_2) – H_2O

$GdOHCO_3 – (CO_2) – H_2O$
$TbOHCO_3 – (CO_2) – H_2O$
$DyOHCO_3 – (CO_2) – H_2O$
$HoOHCO_3 – (CO_2) – H_2O$
$ErOHCO_3 – (CO_2) – H_2O$
$TmOHCO_3 – (CO_2) – H_2O$
$YbOHCO_3 – (CO_2) – H_2O$
$LuOHCO_3 – (CO_2) – H_2O$

$Y_2(CO_3)_3 – H_2O$
$La_2(CO_3)_3 – H_2O$
$Ce_2(CO_3)_3 – H_2O$
$Pr_2(CO_3)_3 – H_2O$
$Nd_2(CO_3)_3 – H_2O$
$Sm_2(CO_3)_3 – H_2O$
$Eu_2(CO_3)_3 – H_2O$
$Gd_2(CO_3)_3 – H_2O$
$Tb_2(CO_3)_3 – H_2O$
$Dy_2(CO_3)_3 – H_2O$
$Ho_2(CO_3)_3 – H_2O$
$Er_2(CO_3)_3 – H_2O$
$Tm_2(CO_3)_3 – H_2O$
$Yb_2(CO_3)_3 – H_2O$
$Lu_2(CO_3)_3 – H_2O$

$YFCO_3 – H_2O$
$LaFCO_3 – H_2O$
$CeFCO_3 – H_2O$
$PrFCO_3 – H_2O$
$NdFCO_3 – H_2O$
$SmFCO_3 – H_2O$
$EuFCO_3 – H_2O$
$GdFCO_3 – H_2O$
$TbFCO_3 – H_2O$
$DyFCO_3 – H_2O$
$HoFCO_3 – H_2O$
$ErFCO_3 – H_2O$
$TmFCO_3 – H_2O$
$YbFCO_3 – H_2O$
$LuFCO_3 – H_2O$

Rare earth element oxyfluorides and oxychlorides

$YOCl – H_2O$
$LaOCl – H_2O$
$CeOCl – H_2O$
$PrOCl – H_2O$
$NdOCl – H_2O$
$SmOCl – H_2O$
$EuOCl – H_2O$
$GdOCl – H_2O$
$TbOCl – H_2O$
$DyOCl – H_2O$
$HoOCl – H_2O$
$ErOCl – H_2O$
$TmOCl – H_2O$
$YbOCl – H_2O$
$LuOCl – H_2O$

$YOF - H_2O$
$LaOF - H_2O$
$CeOF - H_2O$
$PrOF - H_2O$
$NdOF - H_2O$
$SmOF - H_2O$
$EuOF - H_2O$
$GdOF - H_2O$
$TbOF - H_2O$
$DyOF - H_2O$
$HoOF - H_2O$
$ErOF - H_2O$
$TmOF - H_2O$
$YbOF - H_2O$
$LuOF - H_2O$

Crystalline rare earth hydroxides moved from MSEPUB to GEMSE and CRMSE

$Y(OH)_3cr$
$La(OH)_3cr$
$Ce(OH)_3cr$
$Pr(OH)_3cr$
$Nd(OH)_3cr$
$Sm(OH)_3cr$
$Eu(OH)_3cr$
$Gd(OH)_3cr$
$Tb(OH)_3cr$
$Dy(OH)_3cr$
$Ho(OH)_3cr$
$Er(OH)_3cr$
$Tm(OH)_3cr$
$Yb(OH)_3cr$
$Lu(OH)_3cr$

Lithium chemistry (Li + Na + K + Cl + SO_4 + H_2O) (revision)

$Na_2SO_4 - Li_2SO_4 - H_2O$
$NaCl - LiCl - H_2O$
$Li_2SO_4 - Na_2SO_4 - K_2SO_4 - H_2O$
$LiNO_3 - KNO_3 - H_2O$
$Li_2SO_4 - K_2SO_4 - H_2O$
$LiCl - KCl - H_2O$
$Li_2SO_4 - H_2O$ density
$Li_2SO_4 - LiCl - H_2O$
$Li_2SO_4 - K_2SO_4 - H_2O$
$Li_2SO_4 - MgSO_4 - H_2O$
Li_2SO_4 (LiCl) – $CaSO_4(CaCl_2)$ – H_2O
$Li_2SO_4 - MnSO_4 - H_2O$
$Li_2SO_4 - CoSO_4 - H_2O$
$Li_2SO_4 - (NH_4)_2SO_4 - H_2O$
$Li_2SO_4 - NiSO_4 - H_2O$

Co hydrolyzed species – conventional and non-conventional species

$Co(OH)_2 - H_2O$
$Co(OH)_2$ – NaOH(KOH) – H_2O
$Co(OH)_2$ – HCl – H_2O

EuO + H_2O

EuO – NaOH – H_2O

$LiBF_4$ + organic carbonates
$LiBF_4$ – Dimethyl carbonate (Lithium tetrafluoroborate hemidimethyl carbonate, Lithium tetrafluoroborate dimethyl carbonate)

Co and Ni solvent extraction chemistry
CYANEX272 – H_2O
CYANEX301 – H_2O
DEHPA – H_2O
PC88A – H_2O
VERSATIC10 – H_2O
Co and Ni extraction using CYANEX272 extractant and isooctane as solvent
Co and Ni extraction using CYANEX272 extractant and high boiling kerosene (KEROSENE) as solvent
Co and Ni extraction using CYANEX272 extractant and low boiling kerosene (KEROSENUN) as solvent in the presence of Tributyl phosphate (TRIBUTPHOS)
Co and Ni extraction using CYANEX272 extractant and Toluene as solvent
Co extraction using CYANEX272 extractant and n-Heptane as solvent
Co extraction using PC88A extractant and n-Heptane as solvent
Co and Ni extraction using D2EHPA extractant and low boiling kerosene (KEROSENUN) as solvent in the presence of Tributyl phosphate (TRIBUTPHOS)
Li and Co extraction using D2EHPA extractant and high boiling kerosene (KEROSENE) as solvent
Li, Co, and Ni extraction using PC88A extractant and high boiling kerosene (KEROSENE) as solvent
Li, Co, and Ni extraction using PC88A extractant and low boiling kerosene (KEROSENUN) as solvent
Li, Co, and Ni extraction using PC88A extractant and low boiling kerosene (KEROSENUN) as solvent in the presence of Tributyl phosphate (TRIBUTPHOS)

$MnCO_3$ and $Mn(ClO_4)_2$ systems
$MnCO_3$ – NaCl – $NaClO_4$ – Na_2CO_3 – H_2O
$MnCO_3$ – NaCl – $NaClO_4$ – HCl – H_2O

$MgCl_2$ – adding anhydrous species
$MgCl_2$ – H_2O

KOH revision + related systems
KOH – H_2O (revised)
KOH – Ag_2O – H_2O (tested)
KOH – $Be(OH)_2$ / BeO – H_2O (tested)
KOH – CH_4 – H_2O (tested)
KOH – GaOOH – H_2O including potassium gallate (tested)
KOH – H_3BO_3 – H_2O including potassium borates (tested)
KOH – Np(IV) – K_2CO_3 ($KHCO_3$) – H_2O (tested)
KOH – $PbCO_3$ – CO_2 ($KHCO_3$) – H_2O (tested)
KOH – Pu(IV) – K_2CO_3 ($KHCO_3$) – H_2O (tested)
KOH – tannic acid – H_2O (tested)
KOH – U(IV) –K_2CO_3($KHCO_3$) – H_2O (tested)
KOH – ZnO – H_2O (tested)
KOH (K_2O) – B_2O_3 – H_2O (revised)
KOH – $Zn(OH)_2$ / ZnO – H_2O (revised)

Density of $NaHCO_3$ + H_2O and $NaHCO_3$ + Na_2CO_3 + H_2O
$NaHCO_3$ – H_2O
$NaHCO_3$ – Na_2CO_3 – H_2O

KBr + H_2O

KBr – H_2O

$Ca(OH)_2$ + NaOH and LiOH + H_2O

$Ca(OH)_2$ – NaOH – H_2O
$Ca(OH)_2$ – LiOH – H_2O

Cl_2 – HCl – chloride salts

Cl_2 – HCl – H_2O
Cl_2 – NaCl – H_2O
Cl_2 – KCl – H_2O
Cl_2 – $MgCl_2$ – H_2O
Cl_2 – $CaCl_2$ – H_2O
Cl_2 – $SrCl_2$ – H_2O
Cl_2 – $BaCl_2$ – H_2O
Cl_2 – $NiCl_2$ – H_2O
Cl_2 – H_2SO_4 – H_2O

Mixed-solvent electrolyte (MSE) databank transport properties

Cl_2 (HClO) – H_2O	(revised, electrical conductivity)
LiCl – H_2O	(revised, electrical conductivity)
LiCl – H_2O	(thermal conductivity)
LiCl – H_2O	(revised, viscosity)
LiCl – methanol – H_2O	(revised, electrical conductivity)
KOH – H_2O	(revised, electrical conductivity)
KOH – H_2O	(thermal conductivity)
KOH – H_2O	(revised, viscosity)
KOH – ZnO – H_2O	(electrical conductivity)

Mixed-solvent electrolyte (MSE) databank Scaling inhibition kinetics

$SrSO_4$	(revised)
$BaSO_4$	(revised)
$CaSO_4 \cdot 2H_2O$	(revised)
$CaCO_3$ (Calcite)	(revised)
SrSO4-HEDP	(revised)
SrSO4-DTPMP	(revised)
BaSO4-HEDP	(revised)
BaSO4-NTMP	(revised)
BaSO4-DTPMP	(revised)
$CaSO_4 \cdot 2H_2O$-HEDP	(revised)
$CaSO_4 \cdot 2H_2O$-NTMP	(revised)
$CaSO_4 \cdot 2H_2O$-DTPMP	(revised)
$CaSO_4 \cdot 2H_2O$-EDTMP	
$CaSO_4 \cdot 2H_2O$-PBTC	(revised)
$CaCO_3$(Calcite)-HEDP	(revised)
$CaCO_3$(Calcite)-NTMP	(revised)
$CaCO_3$(Calcite)-DTPMP	(revised)
$CaCO_3$(Calcite)-PMLA	(revised)

HEDP: 1-hydroxyethane 1,1-diphosphonic acid
NTMP: Nitrilotris(methylenephosphoric acid)
DTPMP: Diethylenetriamine penta(methylene phosphonic acid)
EDTMP: Ethylenediamine tetra(methylene phosphonic acid)
PBTC: 2-phosphono-butane-1,2,4-tricarboxylic acid
PMLA: Poly maleic acid

MSE Corrosion: Electrochemical kinetics databank

MSE Alloy 2507

Corrosive environments:

NaCl
Seawater – O_2
$MgCl_2$ – NaCl
NaCl – O_2
H_2S – NaCl
CO_2 – NaCl
CO_2 – H_2S – NaCl
NaCl – acetic acid – H_2S – CO_2
NaOH
NaOH – NaCl
Formic acid
Acetic acid
Formic acid - acetic acid
H_2SO_4
HCl
HNO_3
H_3PO_4
HCl – H_2SO_4
HCl – HNO_3
HF
H_2SO_4 – HNO_3
HCl – H_3PO_4
HNO_3 – H_3PO_4
H_2SO_4 – HF
HF – HNO_3
HF – H_3PO_4
HCl – HF
HBr – H_3PO_4
H_2SO_4 – acetic acid
H_2SO_4 –formic acid
NaCl – acetic acid
NaCl –formic acid
$CuCl_2$
$FeCl_3$
$FeCl_3$ – $FeCl_2$ – NaCl – HCl
$CuCl_2$ – CuCl – NaCl – HCl
H_2SO_4 – $Fe_2(SO_4)_3$
H_2SO_4 – $Fe_2(SO_4)_3$ – NaCl

Repassivation potential parameters:

Cl^-
H_2S
SO_4^{2-}

NO_3^-
OH^-
VO_4^{3-}
MoO_4^{2-}
NO_2^-

MSE Alloy 2205

Corrosive environments:

NaCl
Seawater – O_2
$MgCl_2$ – NaCl
NaCl – O_2
H_2S – NaCl
CO_2 – NaCl
CO_2 – H_2S – NaCl
NaCl – acetic acid – H_2S – CO_2
NaOH
NaOH – NaCl
Formic acid
Acetic acid
Formic acid - acetic acid
H_2SO_4
HCl
HNO_3
H_3PO_4
HCl – H_2SO_4
HCl – HNO_3
HF
H_2SO_4 – HNO_3
HCl – H_3PO_4
HNO_3 – H_3PO_4
H_2SO_4 – HF
HF – HNO_3
HF – H_3PO_4
HCl – HF
HBr – H_3PO_4
H_2SO_4 – acetic acid
H_2SO_4 –formic acid
NaCl – acetic acid
NaCl –formic acid
$CuCl_2$
$FeCl_3$
$FeCl_3$ – $FeCl_2$ – NaCl – HCl
$CuCl_2$ – CuCl – NaCl – HCl
H_2SO_4 – $Fe_2(SO_4)_3$
H_2SO_4 – $Fe_2(SO_4)_3$ – NaCl

Repassivation potential parameters:

Cl^-
H_2S
SO_4^{2-}
NO_3^-
OH^-
VO_4^{3-}

MoO_4^{2-}
NO_2^-

Aqueous (AQ) thermophysical property databank

Crystalline calcium silicates moved from the CORROSION databank to GEOCHEM:

Afwillite, $Ca_3Si_2O_4(OH)_6$
Foshagite, $Ca_4Si_3O_9(OH)_2.0.5H_2O$
Gyrolite, $Ca_2Si_3O_7(OH)_2.1.5H_2O$
Hatrurite, Ca_3SiO_5
Hillebrandite, $Ca_2SiO_3(OH)_2.0.17H_2O$
Okenite, $CaSi_2O_4(OH)_2.H_2O$
Rankinite, $Ca_3Si_2O_7$
Tobermorite11A, $Ca_5Si_6H_{11}O_{22.5}$
Tobermorite14A, $Ca_5Si_6H_{21}O_{27.5}$
Tobermorite9A, $Ca_5Si_6H_6O_{20}$
Xonotlite, $Ca_6Si_6O_{17}(OH)_2$
Clinochrysotile, $Mg_3Si_2O_5(OH)_4$

AQ Corrosion: Electrochemical kinetics databank

AQ Alloy 304 – revision

Corrosive environments:

O_2
$NaCl – O_2$
$Seawater – O_2$
$MgCl_2 – O_2$
$Na_2SO_4 – O_2$
$NaCl – HF – O_2$
$HF– O_2$
$H_2O_2 – H_2 – O_2$
$H_2O_2 – H_2 – O_2 – NaCl – FeCl_3$
$Cl_2 – O_2$
$NaOH – O_2$
$LiOH – O_2$
$B(OH)_3 – O_2$

AQ Alloy 316 – revision

Corrosive environments:

NaCl
HCl
$HCl - HNO_3$
$HCl - H_3PO_4$
$HCl – H_2SO_4$
$FeCl_3$
$FeCl_2$
$CuCl_2$
CuCl

AQ Alloy 2205 – revision

Corrosive environments:

O_2
HF
Seawater – O_2
NaCl – O_2
NaOH– O_2

AQ Alloy 2507 – revision

Corrosive environments:

O_2
HF
NaCl-NaF-O_2
Seawater – O_2
NaCl – O_2
NaOH– O_2
H_3PO_4 - HF

OLI Databook – Bugs & Features & Resolved issues.

Bug ID	Problem	Resolution
3308	Resolved export and import issue with private databank.	An issue was resolved where exporting interactions from a private databank to another database was unsuccessful due to specific name checks. This improvement corrected the method managing reversed names, ensuring seamless export and import between the databases.
4392	$MgCO_3$ Transitioned to Geochemical Database. sfas	$MgCO_3$ had been transitioned from the public database to the geochemical database. This change may affect users with existing simulations as there is no longer an inflow in the public database for $MgCO_3$. Users may notice its absence when accessing specific case libraries configured with pH control. This has been reverted.
4393	Corrected Typographical Errors and Cleaned up Tools.	Improved text accuracy by correcting a spelling error, ensuring 'Matches' displays correctly when searching for species. Removed an unnecessary message box in the configuration tool for a streamlined process. Enhanced product compatibility by updating the product list to support version 12.5.

Engine/Solver – Features

Bug ID	AREA	Problem	Resolution

		No new features were added for version 12.0.1.11	

Engine/Solver - Bugs

Bug ID	AREA	Problem	Resolution
2535	ScaleChem	Updated Induction Time Model with Electrolyte Correction.	The induction time model was updated to include ionic strength and molality corrections. This enhancement improves the accuracy by accounting for the effects of supporting electrolytes on the induction time.
2557	ScaleChem	Adjusted Induction Time Curve Behavior for Water Mixing.	We refined the calculation of induction times during the mixing process for water to address unusual trend patterns. Specifically, the formation kinetics of barite displayed inconsistencies at specific concentrations of seawater. Improvement ensures accurate representation of induction time effects, enhancing the reliability of training materials related to mixing kinetics.
2909	Corrosion Analyzer	Resolved Corrosion Rate Calculation Issue.	We addressed a problem where corrosion rate calculations did not execute when additional components were included in the chemistry without any inflow. This ensures that users can now successfully perform corrosion calculations under these specific conditions.
3349	Corrosion Analyzer	Corrosion Calculation API Returned Empty Results without Error.	When executing certain corrosion calculations, the API returned an empty result set without providing any error message. This could be rectified by introducing small amounts of water to the input flows. The API was updated to return meaningful error messages if the Engine calculations did not yield results, particularly in cases of zero water content.
3907	OLI Flowsheet	Discrepancy in Sensitivity Analysis Results with Manipulator Block.	When conducting a sensitivity analysis using a manipulator block, the results differed from manually changing the manipulator factor. A simple test showed variations in pH levels when toggling between manual adjustment and sensitivity analysis modes. In the manual adjustment, pH values changed based on the factor from 0.7619 at 0 to -0.514905 at factor 4. Meanwhile, the sensitivity analysis demonstrated a gradual increase from 0.761888 at 0 to 1.09596 at factor 4. This inconsistency should be addressed to ensure both methods provide the same results. The issue was noted as a recurrent problem and needs further investigation to confirm if increments affect outcomes.
4392	OLI Databook	MgCO3 Transitioned to Geochemical Database.	MgCO3 has been transitioned from the public database to the geochemical database. This change may affect users with existing simulations as there is no longer an inflow in the public database for MgCO3. Users may notice its absence when accessing specific case libraries configured with pH control.
4646	OLI Studio, OLI Flowsheet	Significant pH Drop Noticed Between Versions 12.0 and 12.5.	A notable issue was reported where the pH level decreased significantly from 3.9 to 0.19 between version 12.0 and 12.5, impacting certain CCUS scenarios, particularly involving CO2 injection and corrosion rates. The OLI Flowsheet file contained three chemistry models with various compounds. The problem may stem from discrepancies in thermo/database interactions or over-adjustment of parameters in the MSE model following the

			inclusion of new interaction parameters for CO2 in version 12.5. A case was observed where these adjustments led to unexpectedly low pH values, raising concerns about their realism in actual applications. It was necessary to verify modifications concerning Mg and CO2, and four test cases were updated to accommodate these changes.

OLI Studio/Analyzer – Features

Bug ID	AREA	Problem	Resolution
2654	ScaleChem	Reintroduction of Saturator Button with Warnings.	Users can now quickly add saturation to brine, streamlining flowsheet creation and result interpretation. A warning has been integrated for instances where brine has high salinity, addressing previous concerns. This warning appears when the saturated water amount exceeds zero. The 'Saturate With' option for oil and gas will always be visible, and the preference setting to toggle this option has been removed.
4225	Reporting	Aligned Calculation Output with Report Headers.	In a specific high-pressure scenario within OLI Studio Beta, the calculation output window displayed 'Fugacity-Vapor' instead of 'Fugacity,' resulting in confusion. Although both the report and output shared identical fugacity values, their headers differed. We aligned the report and calculation output headers for clarity, confirming no vapor data was present as expected.

OLI Studio/Analyzer – Bugs

Bug ID	AREA	Problem	Resolution
DT-534	Report	Selected species to report not honored, all species displayed.	Logic updated.
DT-556	ScaleChem Report	Exporting a facility calculation to a CSV file has a maximum of 14 nodes.	This restriction has been removed.
DT-564	Chemistry Model	Redox subsystem missing tag in UI	Subsystem not properly tagged in database
DT-565	Chemistry Model	Redox subsystem for Pb (AQ framework) missing an oxidation state.	Subsystem not properly tagged in AQ PUBLIC database.
DT-574	UI	Copying data from an inflow grid to another file crashed the program.	A deadlock in the UI was found and resolved.
DT-575	Chemistry Model	The interaction matrix did not report transport properties (e.g., viscosity)	The calls to the generator were updated to include transport properties
DT-740	Report	The program crashed when clicking on the report tab.	A private database was used in this case that did not have the MATC records completely filled out. The report code was enhanced to trap this condition and display blanks.
DT-764	Chemistry Model	A user entered reaction kinetic parameter had a stray character. This caused the program crash when running.	Stray characters which are normally permitted in FORTRAN equations, e.g., "*", are now trapped and a warning provided.
DT-803	UI	Using gauge pressure (BARG or PSIG) was entered as "0" but returned a very small non-zero value after calculation, sometimes negative	Updated logic properly displays gauge pressure.
DT-813	UI	A case saved in a previous version with custom calculations enabled shows a blank screen when opened with the option not enabled	Custom calculations are now enabled by default.
DT-923	UI	Water Analysis in MSE using expanded species results in invalid species (e.g., HION)	Expanded species updated for MSE

OLI Flowsheet: ESP / ESP-FS – Features/Improvements

Bug ID	AREA	Problem	Resolution

DT-54	UI	There is a limit of 50 controllers	Limit increased to 100. Older files that are opened in V12 may display a momentary error which will resolve itself.
DT-84	UI	The convergence monitor drop-down menu is to narrow.	Field was widened.

OLI Flowsheet: ESP / ESP-FS – Bug

Bug ID	AREA	Problem	Resolution
DT-127	Optimizer	An optimized final value was negative, but the report shows a positive value	The report captured a value just before the final iteration of the optimizer. The logic was updated to capture the final value.
DT-377	Chemistry/Reactor	A reaction rate does not have a reverse reaction (KR=0) yet the report shows a reverse reaction.	An very small value was entered to indicate a zero reaction (1E-300). This is now explicitly made zero in the report.
DT-515	Sensitivity	Sensitivity calculation reports errors about species missing in the chemistry model.	The chemistry model removed species which were monitored or adjusted in the sensitivity block. Logic was enhanced to warn about such situations.
DT-523	Chemistry/Reactor	Reaction Kinetics does not work with ion-exchange reactions	The OLI Reaction Kinetics was not designed to work with SOL species. For this version, the reactor is allowing to run without kinetics till a permanent solution is found.
DT-578	Units Manager	ScaleChem units are appearing in OLI Flowsheet	ScaleChem units have been removed.
DT-584	Sensitivity	The range (when decremented) was not being honored	The range is now honored.
DT-586	UI	The call out for a flow split reports flows as mole % when the actual splitter units were in mass %	Units are now being honored.
DT-591	UI/Report	Pre-scaling tendencies are enabled but do not show up in all streams that have solids eligible for pre-scaling calculations.	The restart option did not always save post-calculation variables such as pre-scaling tendencies. The logic was updated to save this information and other post-calculations values (e.g., TDS, Alkalinity, etc.)
DT-657	UI	Opened report tabs are not saved when reopening a saved file	Logic enhanced to remember which tabs are open when being saved.
DT-676	Units Manager	For MSE the units manager should use Liquid-1 instead of Aqueous	Table was updated.
DT-758	Chemistry Model	Error when entering a species from the drop-down menu	The species was previously entered but deleted. The UI did not understand that the species had been removed. The logic was updated.
DT-889	Solver/UI	Dew Point calculation does not work when calculating the dew point pressure	The block was originally set to bubble point pressure but then changed to dew point pressure. The UI did not update the call to the solver to indicate that it is now a dew point.
DT-893	Solver	An adiabatic mixer has a different phase split (VLE) than an isothermal calculation at the same converged temperature.	The adiabatic mixer used a poor initialized temperature. Other changes to the solver fixed the initialized variable.
DT-926	Solver	The case file, previously saved in an earlier version, fails to open with two private database	The memory stack was exceeded due to new features having been added. The stack was reduced in size.

Alliance Products – Features

Bug ID	Program	Problem	Resolution
		No new features were added for version 12.0.1.11	

Alliance Products – Bugs

Bug ID	Program	Problem	Resolution
DT-725	Unisim Design	Case crashes with S(O) redox enabled.	OLI Engine updated to prevent crash.

OLI Chemistry Wizard (all products)

Bug ID	Program	Problem	Resolution
DT-771	All	Oil assay fails to generate with then name HSP2	Cross-referencing name logic was updated.

OLI Developer Edition – General

Bug ID	Program	Problem	Resolution
		No new features were added for version 12.0.1.11	

OLI Framework – General

Bug ID	Program	Problem	Resolution
		No new features were added for version 12.0.1.11	

OLI License Manager / Security

Bug ID	Program	Problem	Resolution
DT-582	License Manager	Trailing space at the end of the server name in the OLI Software is not recognized as a valid name	Trailing spaces trimmed
DT-887	License Manager	Previous log files are autodeleted when rolling over to a new file	Previous log files are not deleted.