

Differences in component aggregation between ScaleChem Standard and Analyzer Studio: ScaleChem¹

There are some fundamental differences between ScaleChem Standard and Studio ScaleChem with respect to adding individual components such as Brine, Gas etc. to aggregate objects such as Scenarios and Saturators. The following table illustrates those differences:

ScaleChem Standard	Analyzer Studio: ScaleChem
<p>Brine:</p> <p>The Brine is reconciled according to the reconciliation options selected in the Brine's input specification. The molecular representation of all inflows (including the titrant amounts added for reconciliation, if applicable²) are added to the aggregate object after applying a proportion factor that is based on the specified volume and the calculated aqueous phase density.</p>	<p>The Brine is reconciled according to the reconciliation options selected in the Brine's input specification. The molecular species in the aqueous phase of the reconciled Brine are added after applying a proportion factor that is based on the specified volume and the calculated aqueous phase density.</p>
<p>Oil:</p> <p>All inflows specified in the Oil object are added to the aggregate object after applying a proportion factor based on the specified volume and the density specified by the user.</p>	<p>The Oil is reconciled according to the reconciliation options specified. The molecular species in the 2nd liquid (oil) and vapor (gas) phase of the reconciled Oil are added after applying a proportion factor based on the specified volume and the calculated 2nd liquid phase density.</p> <p>Depending on the units of volume specified by the user, the density used is either the density calculated for the conditions specified for the Oil or standard oil conditions³ if std. volume units are used.</p>
<p>Gas:</p> <p>All inflows specified in the Gas object are added to the aggregate object after applying a proportion factor based on the specified volume and a fixed molar density of 44.6 mol/m³.</p>	<p>The Gas is reconciled according to the reconciliation options specified. The molecular species in the vapor and 2nd liquid phase of the reconciled Gas are added after applying a proportion factor based on the specified volume and the calculated vapor phase density.</p> <p>Depending on the units of volume specified by the user, the density used is either the density calculated for the conditions specified for the Gas or standard gas conditions³ if std. volume units are used.</p>

- 1 Version 9.0.1 of both ScaleChem Standard and Analyzer Studio: ScaleChem were used for this comparison.
- 2 The old Brine reconcile screen (which can be enabled from the program's options) allows the user to specify whether reconciled amounts should be applied or not.
- 3 Standard oil and gas conditions are defined in program options. Standard oil conditions default to 15 °C and 1 atm. Standard gas conditions default to 60°F and 14.73 psia.