

Agilent Solvent Calibration Tables

Technical Note

Agilent Solvent Calibration Tables provide an algorithm for the pump to automatically determine the correct compressibility associated with the current system pressure.

Solvent definition tables for most common solvents are now available for download.

<https://www.agilent.com/en-us/firmwareDownload?whid=62265>.

How it Works

The compressibility of the mobile phase has an effect on the performance of the pump. For best flow accuracy and mixing performance, the compressibility parameter in the Method Settings of the pump shall be chosen according to the mobile phase being used. This method setting activates the algorithm associated with the Agilent Solvent Calibration Tables.

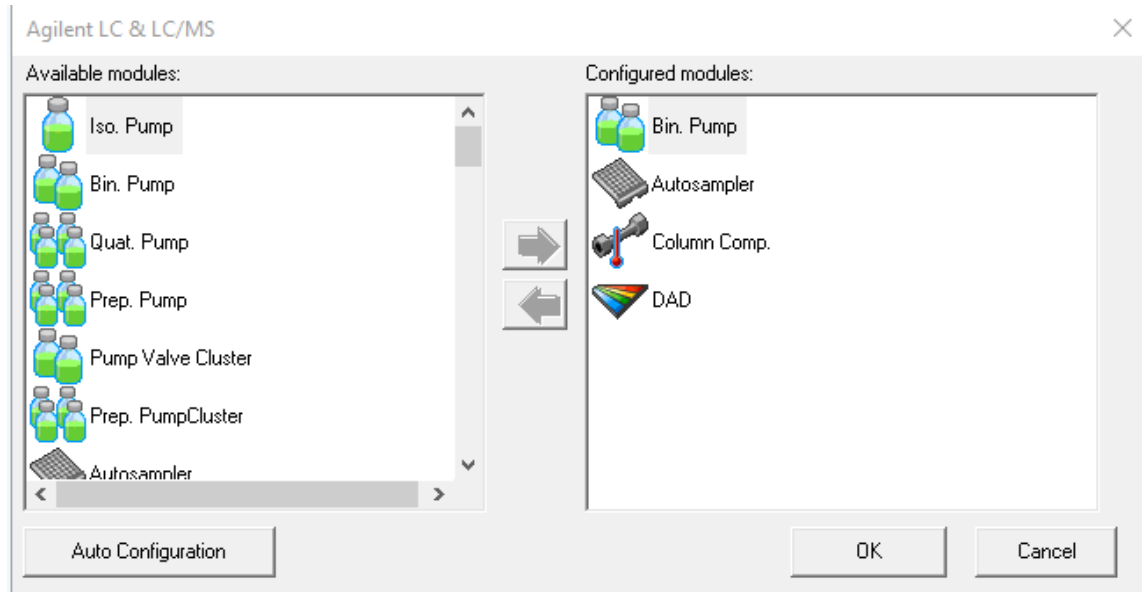
If your solvent is neither available in the user interface nor in the library, please use generic solvents. "Generic aqueous" gives good results for most solvent mixtures with at least 50 % water, which have similar properties as pure water. For other solvents with high organic percentage, "Generic organic" gives a good approximation.

How to Import the Latest Solvent Calibration Tables

It might be necessary to import new Agilent Solvent Calibration tables that were not previously available with the system. This will then provide the most accurate algorithm in determining the compressibility of the mobile phase.

The procedure for importing the latest solvent calibration tables is as follows:

- 1 Enter the Instrument configuration of the Agilent LC Driver.



How to Import the Latest Solvent Calibration Tables

- 2 Click on the module that needs the latest solvent calibration table (ie G7120A). Then choose configure, launching the additional configuration of the pump module.

Binary Pump Configuration ✕

Communication

Device name

Type ID

Serial number

Firmware revision

Options

Pressure Unit

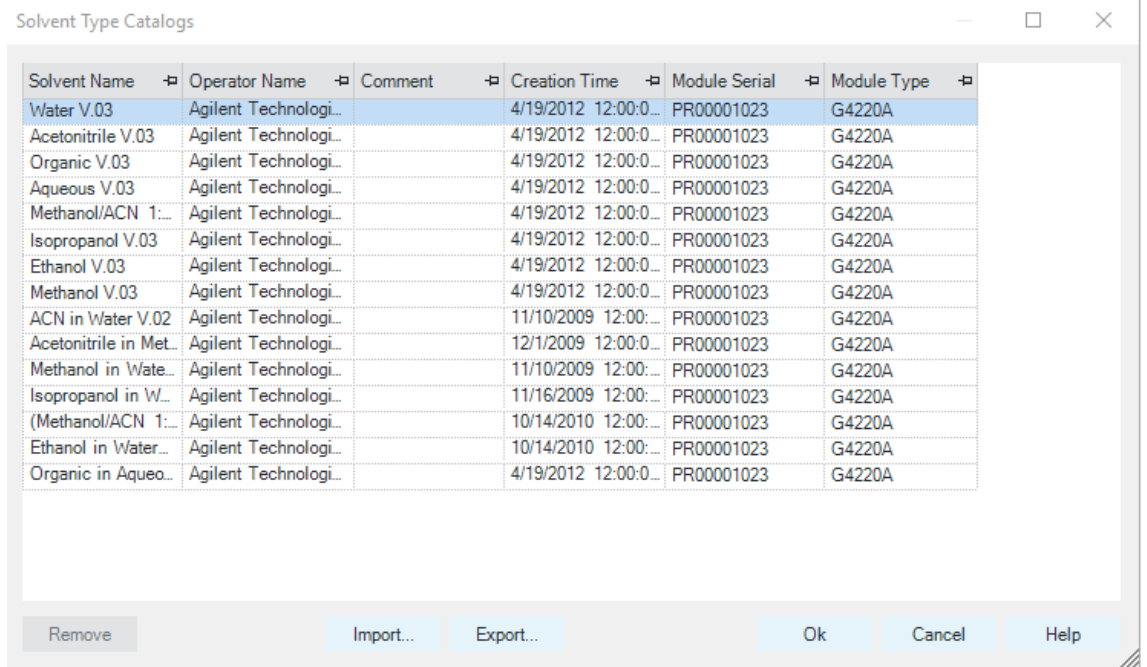
Installed mixer

Custom mixer

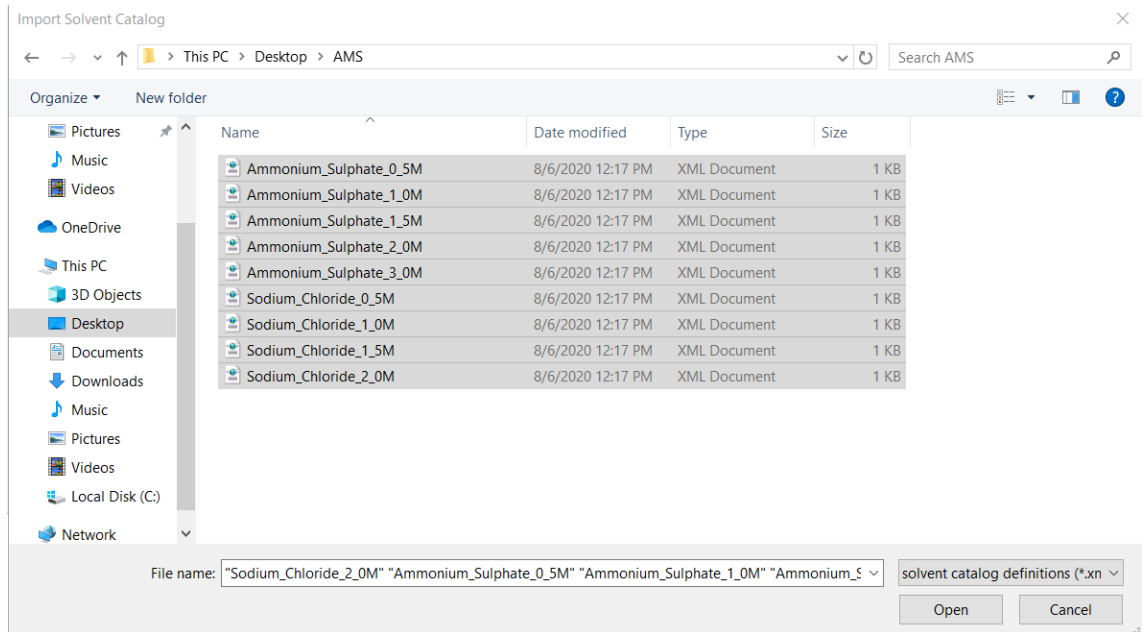
ISET installed

How to Import the Latest Solvent Calibration Tables

- 3 In the additional configuration of the pump module, choose **Configure Solvent Type Catalogs...**

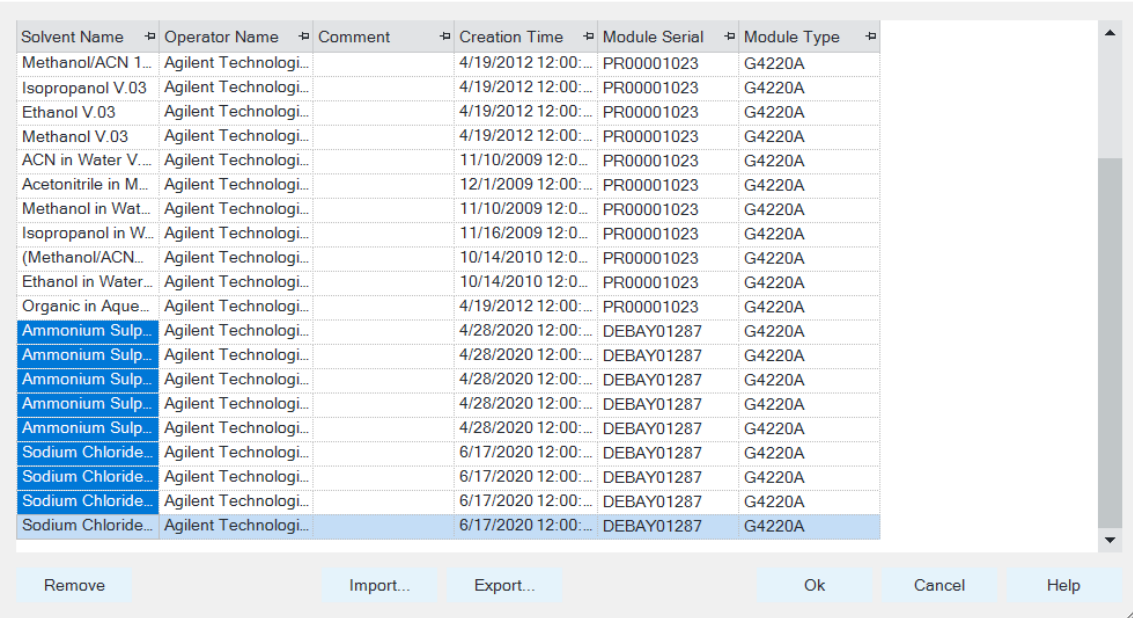


- 4 In the **Solvent Type Catalogs**, press the **Import** button.
- 5 Navigate to the location of the downloaded **Agilent Solvent Calibration Table** and click the **Open** button. Keep in mind multiple solvent calibration tables may be imported at the same time.



Recommendations for Setting up Methods Using Salt-Containing Eluents

6 The imported solvent table will now appear in the **Solvent Type Catalogs**.



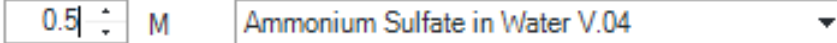
The screenshot shows a window titled "Solvent Type Catalogs" with a table of solvent definitions. The table has columns for Solvent Name, Operator Name, Comment, Creation Time, Module Serial, and Module Type. The last 10 rows of the table are highlighted in blue, indicating they are the newly imported entries.

Solvent Name	Operator Name	Comment	Creation Time	Module Serial	Module Type
Methanol/ACN 1...	Agilent Technologi...		4/19/2012 12:00:...	PR00001023	G4220A
Isopropanol V.03	Agilent Technologi...		4/19/2012 12:00:...	PR00001023	G4220A
Ethanol V.03	Agilent Technologi...		4/19/2012 12:00:...	PR00001023	G4220A
Methanol V.03	Agilent Technologi...		4/19/2012 12:00:...	PR00001023	G4220A
ACN in Water V...	Agilent Technologi...		11/10/2009 12:0...	PR00001023	G4220A
Acetonitrile in M...	Agilent Technologi...		12/1/2009 12:00:...	PR00001023	G4220A
Methanol in Wat...	Agilent Technologi...		11/10/2009 12:0...	PR00001023	G4220A
Isopropanol in W...	Agilent Technologi...		11/16/2009 12:0...	PR00001023	G4220A
(Methanol/ACN...	Agilent Technologi...		10/14/2010 12:0...	PR00001023	G4220A
Ethanol in Water...	Agilent Technologi...		10/14/2010 12:0...	PR00001023	G4220A
Organic in Aque...	Agilent Technologi...		4/19/2012 12:00:...	PR00001023	G4220A
Ammonium Sulp...	Agilent Technologi...		4/28/2020 12:00:...	DEBAY01287	G4220A
Ammonium Sulp...	Agilent Technologi...		4/28/2020 12:00:...	DEBAY01287	G4220A
Ammonium Sulp...	Agilent Technologi...		4/28/2020 12:00:...	DEBAY01287	G4220A
Ammonium Sulp...	Agilent Technologi...		4/28/2020 12:00:...	DEBAY01287	G4220A
Ammonium Sulp...	Agilent Technologi...		4/28/2020 12:00:...	DEBAY01287	G4220A
Sodium Chloride...	Agilent Technologi...		6/17/2020 12:00:...	DEBAY01287	G4220A
Sodium Chloride...	Agilent Technologi...		6/17/2020 12:00:...	DEBAY01287	G4220A
Sodium Chloride...	Agilent Technologi...		6/17/2020 12:00:...	DEBAY01287	G4220A
Sodium Chloride...	Agilent Technologi...		6/17/2020 12:00:...	DEBAY01287	G4220A

The imported solvent table is now available for selection in the Method Settings of the pump module.

Recommendations for Setting up Methods Using Salt-Containing Eluents

For LC Drivers 3.4 or newer, please use Ammonium Sulfate in Water V.04 and Sodium Chloride in Water V.04 and manually input the molarity (0.5M-3.0M or 0.5M-2.0M respectively) as shown in the example below.



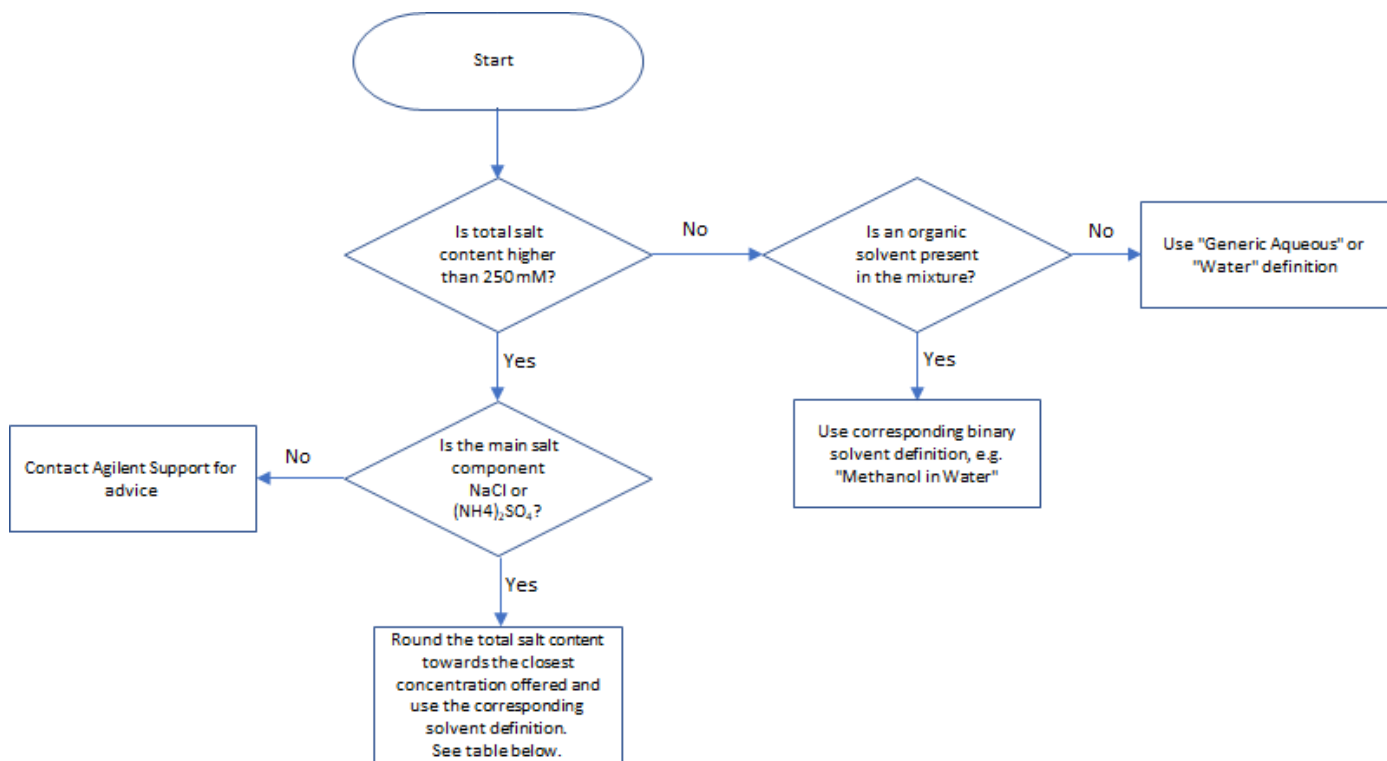
0.5 M Ammonium Sulfate in Water V.04

With the 1290 Infinity II Bio LC System Agilent offers a dedicated instrument for running applications that are typical for the (Bio)pharma market, such as IEX (Ion Exchange Chromatography) or HIC (Hydrophobic Interaction Chromatography), and applications in Academia, Government and Applied Markets, using concentrated salt solutions as eluents.

For LC Drivers 3.3 or older, please choose the solvent definition most suitable for the application according to the chart below.

NOTE

Ammonium Sulphate V.03 and Sodium Chloride V.03 only properly characterize the G7132A High-Speed Pump. Do not use these with any quaternary/flexible pump configurations.



Main salt component	Total salt content (c, mol/L)	Select solvent definition
NaCl	0.25 < c ≤ 0.75	Sodium Chloride 0.5M V.03
	0.75 < c ≤ 1.25	Sodium Chloride 1.0M V.03
	1.25 < c ≤ 1.75	Sodium Chloride 1.5M V.03
	c > 1.75	Sodium Chloride 2.0M V.03
(NH ₄) ₂ SO ₄	0.25 < c ≤ 0.75	Ammonium Sulphate 0.5M V.03
	0.75 < c ≤ 1.25	Ammonium Sulphate 1.0M V.03
	1.25 < c ≤ 1.75	Ammonium Sulphate 1.5M V.03
	1.75 < c ≤ 2.5	Ammonium Sulphate 2.0M V.03
	c > 2.5	Ammonium Sulphate 3.0M V.03