



Fisher Chemical Aqualine Reagents

Your solution for water content
determination by Karl Fischer titration

Coulometric Titration
Volumetric Titration
Water Standards

Aqualine Reagents

Our Fisher Chemical™ Aqualine™ Karl Fischer Reagents portfolio is designed to meet the needs of the analytical chemist by providing accurate water content determination using volumetric or coulometric titration with unique benefits.

Aqualine coulometric range: for low water content at ppm level

Fisher Chemical Aqualine coulometric reagents are ideal for use in coulometric Karl Fischer titrations for detecting low concentrations of water. Our Aqualine anolyte and catholyte solutions have been reformulated to offer better performance. The improved formulation increases both the speed and accuracy of titration when determining water content at the microgram level.

Highlights:

- **Fast** – Reach the endpoint quickly
- **Convenient** – Long product shelf life
- **Reliable** – Very stable endpoint



Aqualine coulometric range performance

The performance of Fisher Chemical Aqualine Electrolyte A coulometric reagent was tested in terms of water recovery and titration. Results indicate that Aqualine coulometric reagents are fast and accurate with a stable endpoint.

Speed titration performance

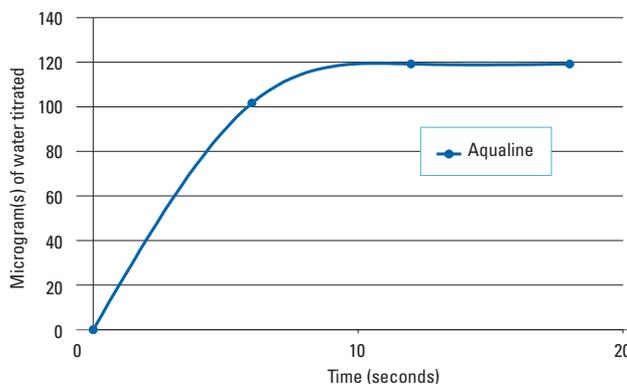


Figure 1: The speed of titration of a 1mL injection of methanol with Aqualine Electrolyte A was measured.

Aqualine water standards for coulometric and volumetric ranges

We offer a series of long-shelf-life Aqualine water standard reagents that support the calibration of the Karl Fischer titrator instrument. Our water standard reagents are packaged in glass ampoules for your convenience.





Aqualine volumetric range: for high water content

For Karl Fischer titration by volumetry, we offer you the choice of single-component reagents, two-component reagents, and reagents designed for aldehydes and ketones. Our Aqualine reagents for Karl Fischer titration by volumetry have comparable performance to other Karl Fischer reagents on the market.

Highlights:

- **Reliable** – Fast and stable endpoints ensure reliable and accurate results
- **Safe** – Low toxicity and pyridine-free
- **Convenient** – Available as a one- or two-component solution

Aqualine volumetric range performance

Fisher Chemical Aqualine Complete 5 water recovery and speed titration performance were tested, using imidazole as base.

Speed titration performance

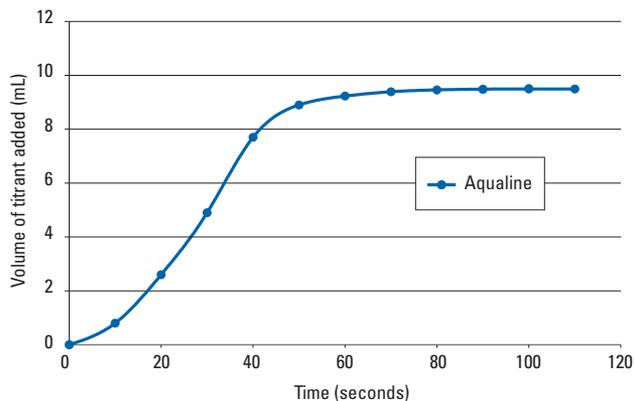


Figure 3: The titration speed of 50µg water with Aqualine Complete 5 was recorded using an automated volumetric moisture meter.

Results of tests on actual samples

Sample	Working Medium	Aqualine	
		Titration Time Min. (Std. Dev.)	Water Content % (Std. Dev.)
Acetic acid (water added)	Methanol	3:23 (0:12)	1.51 (0.00)
Triethylamine	Methanol	1:24 (0:17)	1.39 (0.01)
Dichloroacetic acid	Methanol + Imidazole	1:11 (0:13)	1.90 (0.01)
Vegetable oil	50% Methanol + 50% Xylene	1:39 (0:28)	0.03 (0.00)
Shower gel	Methanol	2:01 (0:02)	81.09 (0.06)
Acetone	Ketosolver	1:50 (0:13)	1.01 (0.01)
Hand cream	50% Methanol + 50% Chloroform	1:24 (0:08)	84.80 (0.03)
Coffee	50% Methanol + 50% Formamide	5:30 (0:01)	5.44 (0.01)
Chocolate	50% Methanol + 50% Chloroform	4:26 (0:31)	1.75 (0.02)

Select the Suitable Fisher Chemical Aqualine Reagent for Your Karl Fischer Titration

Cat. No.	Description	Size
Aqualine Coulometric Range: for Low Water Content at PPM Level		
Anolyte Solutions		
AL2500500	Aqualine Electrolyte A — For general use in conventional cells with a diaphragm, contains methanol and chloroform as solvents	500mL
AL2520500	Aqualine Electrolyte AG — For general use in conventional cells with diaphragm, contains methanol as a solvent	500mL
Catholyte Solutions		
AL256025	Aqualine Electrolyte CG — For general use in conventional cells with a diaphragm, contains methanol as a solvent	25mL
Aqualine Water Standards		
AL271040	Aqualine Standard 1.0 — 1 mg/mL H ₂ O standard	10 x 4mL (amber glass ampules)
AL2730500	Aqualine Standard 5.0 — 5 mg/mL H ₂ O standard	500mL
AL272080	Aqualine Standard 10.0 — 10 mg/mL H ₂ O standard	10 x 8mL (amber glass ampules)
AL2770100	Aqualine Sodium Tartrate Dihydrate Standard — Solid standard for volumetric analysis, contains 15.66 ± 0.05% water	100g
Aqualine Volumetric Range: for High Water Content Analysis		
Single-Component Reagents		
AL19001	Aqualine Complete 1 — Water equivalent: 1mg H ₂ O/mL	1L
AL1900212		2.5L
AL19501	Aqualine Complete 2 — Water equivalent: 2mg H ₂ O/mL	1L
AL1950212		2.5L
AL20001	Aqualine Complete 5 — Water equivalent: 5mg H ₂ O/mL	1L
AL2000212		2.5L
AL20004		4L
Reagents for Aldehydes and Ketones		
AL2250R1	Aqualine Complete 5K — Water equivalent: 5mg H ₂ O/mL	1L
AL2300R1	Aqualine Matrix K — Matrix K should be used in conjunction with Complete 5K	1L
Two-Component Reagents		
AL22001	Aqualine Titrant 5 — Water equivalent: 5mg H ₂ O/mL	1L
AL2200212		2.5L
AL21001	Aqualine Solvent	1L
AL2100212		2.5L
AL2110212	Aqualine Solvent CM — Solvent for samples with high hydrocarbon content	2.5L

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