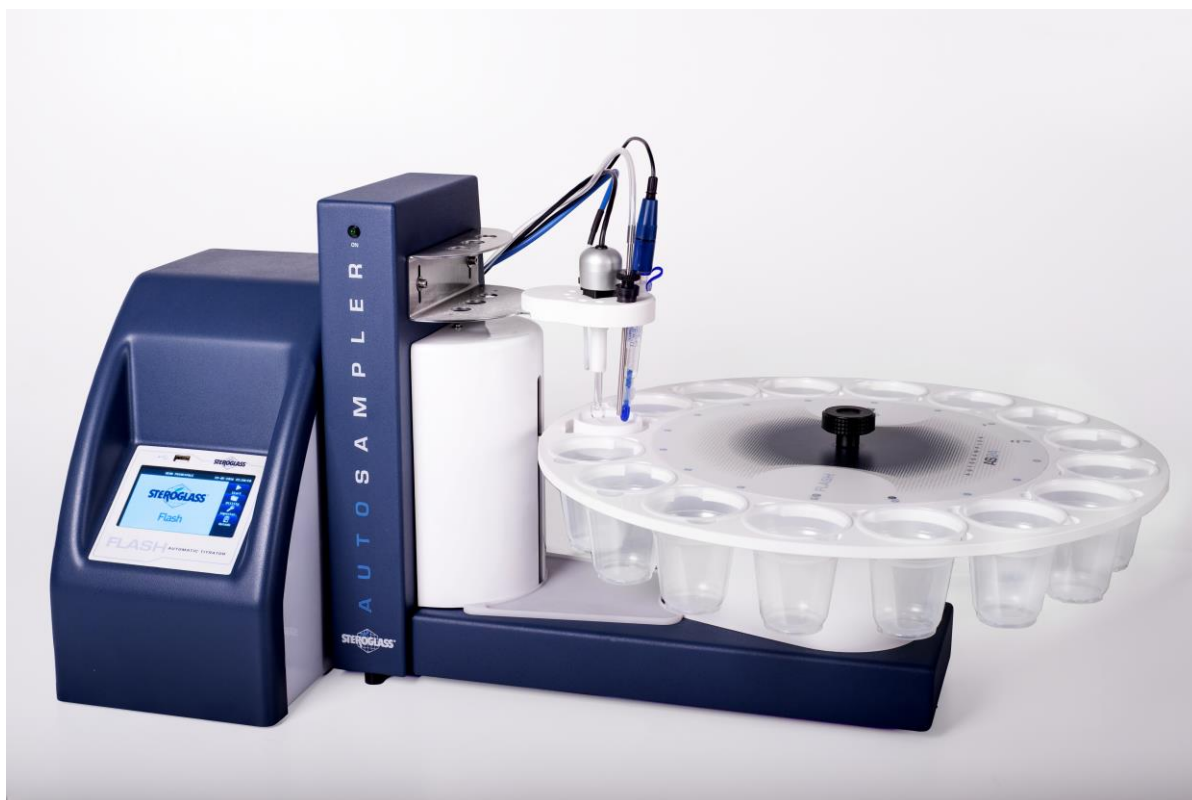




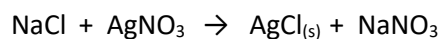
FLASH TITRATOR

Standardization of AgNO₃ with Sodium Chloride



PRINCIPLE OF THE METHOD

Silver Nitrate solutions can be standardized by titrating a known aliquot of sodium chloride (NaCl - primary salt), using the stoichiometric precipitation of chloride ions such as AgCl according to the reaction:



The titration takes place in an acidic environment for HNO₃ and a silver combined metal electrode is used as the sensor.

PREPARATION OF THE STANDARD

To standardize **1 M AgNO₃** solutions: weigh 0.3 g (± 0.0001 g) of NaCl directly into the titration vessel and add about 40 ml of distilled water.

To standardize **0.1 M AgNO₃** solutions: weigh 0.03 g (± 0.00001 g) of NaCl directly into the titration vessel and add about 40 ml of distilled water.



PROCEDURE

In the Samples screen, enter the weight value measured with the scale in the “weight” field.

It is recommended that this standardization procedure be carried out on 3 NaCl samples: the standardization tests can be accessed from *Utility*, *Results*, and *Standard* and the average can be calculated. The average concentration value obtained can be saved in the test methods of interest that use AgNO_3 as a titrant.

A specific STD AgNO_3 standardization method can be created with the following parameters:



Method Type	<i>Inflection</i>
Method Name	<i>AgNO3 STD</i>
Descript./Sample no.	<i>Sample</i>
Degassing sec:	<i>0</i>
Pump A N:	<i>1</i>
Pump A sec:	<i>2</i>
Pump B N:	<i>0</i>
Pump B sec:	<i>0</i>
Pump C N:	<i>0</i>
Pump C sec:	<i>0</i>
Stirrer speed	<i>6</i>
Pre-stirring time	<i>20 sec</i>
Measurement type	<i>mv</i>
Initial auto-stability (mv)	<i>1</i>
Initial auto-stability time (s)	<i>3</i>
Initial addition	<i>4.00</i>
Initial stirring	<i>5</i>
Titration burette	<i>1</i>
Addition type	<i>Progressive</i>
Addition (ml)	<i>0.10</i>
Limit volume (ml)	<i>30.0</i>
Polarization value	<i>NA</i>
Auto-stability (mv)	<i>5</i>
Auto-stability time (s)	<i>3</i>
Max. stability time (s)	<i>60</i>
Factor	<i>17.1116</i>
Concentration (mol/l)	<i>1.000</i>
Sample volume (ml)	<i>0.0</i>
Result unit	<i>Factor</i>
Number decimals	<i>2</i>
Approaching factor	<i>50</i>
Blank (ml)	<i>0.000</i>
Washing type	<i>Washing position</i>
Washing time (s)	<i>5</i>
Reagent standardization	<i>NO</i>
Equation type	<i>DEFAULT</i>
Titration direction	<i>Increasing</i>
Minimum derivative	<i>10</i>

Result in mol/l=:

factor x titrant concentration x sample weight (g)/ equivalent V dispensed (ml)

NOTES:

- Some parameters of the program shown here have been compiled as an indication: they can be optimized according to the operating conditions and the samples analyzed, in order to improve the accuracy and/or speed of the analysis.

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