

# Titration goes digital

## Automatic data transfer from titration solutions & standards to the titrator

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### Introduction

Safe and precise titration results will be achieved with a new technology of transferring the data automatically from the reagents and standards to the titrator software.

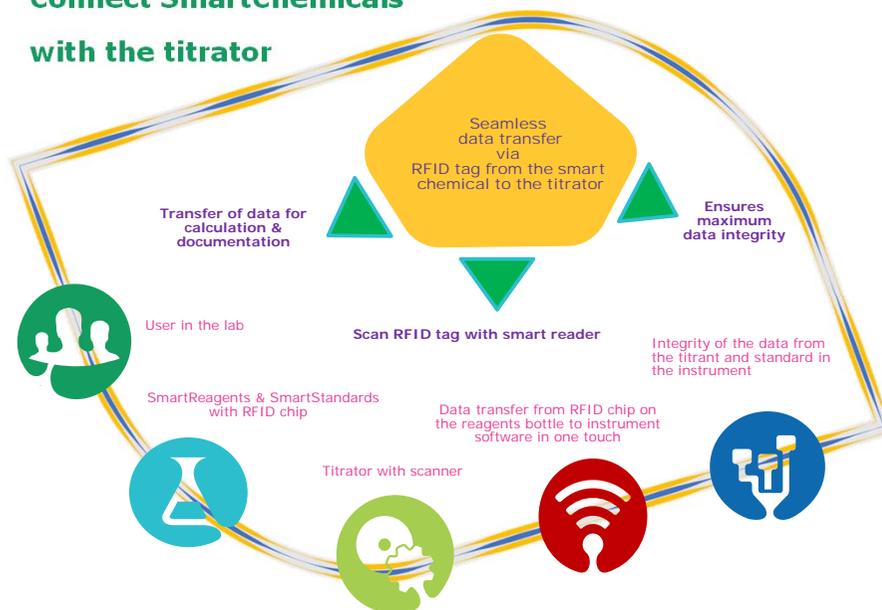
Copying data from certificates of analysis is slow and creates chances for errors. SmartChemicals eliminate time consuming steps and human errors by transferring all data wireless and instantly to the titrator software. Volumetric Solutions, Karl Fischer Titrants and all standards are embedded with an RFID (Radio Frequency Identification) tag. All relevant data from the Certificate of Analysis are stored on the RFID tag of the SmartChemical. All information needed for method execution, result calculation and documentation are seamlessly transferred – product name, article number, lot/batch no, concentration, shelf life. For standards additionally molecular weight, supplier, uncertainty, compliance according to Pharmacopeias and ISO Guide 34.

Previously opened chemicals are also recognized, the initial opening date is stored in the RFID tag and is shown on the touchscreen. Expired chemicals are automatically locked from use.

### Methods

General Titration and Karl Fischer Titration

### Connect SmartChemicals with the titrator



### Just a simple touch transfers all data in seconds

RFID tag on the Chemical and Standard label



Smart Reader



### Summary

Secure data transfer – ensures complete and correct reagent & standard data in the titration software

Ease of use – intuitive operation and convenient data transfer in one touch

Extended quality management – titer determination, shelf life, compliance data, initial opening date

Boosted efficiency – fast data transfer - saves time - no manual writing and no four eye principle necessary

### Data transfer

#### SmartTitrant

Name  
Concentration  
Lot/batch no  
Article no  
Shelf life  
Initial operation date



#### SmartStandard

Name  
Purity/Assay  
Molecular weight  
Lot/batch no  
Article no  
Supplier  
Compliance  
Uncertainty  
Expiry date  
Initial operation date



The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada