

## **WORKING STANDARDS**

Introducing Simson chemie's commitment to quality and safety through our adherence to ICP, UV, TOC & KF Working Standards. Our products are meticulously crafted to meet the highest industry benchmarks.

## **ICP (Inductively Coupled Plasma)**

ICP is a powerful analytical technique used to determine the concentration of trace elements in a sample. The instrument ionizes the sample into plasma using radiofrequency induction, and the emitted light from the excited ions is measured to identify and quantify the elements present.





### **ICP CALIBRATION STANDARDS**

For ICP analysis, a set of calibration standards containing known concentrations of the elements of interest is used. These standards are prepared by diluting stock solutions of the individual elements to generate a series of standard solutions with different concentrations. The ICP instrument measures the emission intensities of the standards, creating a calibration curve that correlates the emission intensity to the concentration. This curve is then used to quantify the unknown concentrations in the sample.



### **UV (ULTRAVIOLET-VISIBLE SPECTROSCOPY)**

UV-Vis spectroscopy is a widely used technique to determine the concentration of a compound in a sample by measuring its absorbance of ultraviolet and visible light.





#### **UV CALIBRATION STANDARDS**

Calibration standards for UV-Vis spectroscopy consist of solutions with known concentrations of the analyte of interest. These standards cover a range of concentrations to establish a calibration curve. The instrument measures the absorbance of these standards, and the resulting calibration curve is used to calculate the concentration of the analyte in the sample based on its absorbance.



### **TOC (TOTAL ORGANIC CARBON)**

TOC analysis is employed to measure the amount of organic carbon present in a sample, often used in water quality testing to assess the level of organic pollutants.





#### **TOC CALIBRATION STANDARDS**

Calibration standards for TOC analysis are prepared using solutions of known concentrations of an organic compound, typically a standard solution of potassium hydrogen phthalate (KHP). The instrument analyzes these standards to create a calibration curve relating the instrument response (usually measured as the signal from the combustion or oxidation process) to the concentration of organic carbon. This calibration curve is then used to determine the organic carbon content in the sample.



#### KARL FISCHER TITRATION

Karl Fischer titration is a technique used to quantify the moisture content in a sample.





### KARL FISCHER CALIBRATION STANDARDS

For Karl Fischer titration, calibration standards with known concentrations of water (moisture) are used. These standards are prepared by accurately weighing and diluting a primary standard substance with a known water content. The titrator then uses these standards to establish a calibration curve, which relates the titrant consumption to the moisture content in the sample.

#### **SUMMARY**

Calibration standards are critical in ensuring the accuracy and reliability of analytical measurements. By using these standards, the instrument response can be correlated to the analyte concentration, allowing for precise and consistent analysis of various samples.

#### **ORDERING INFORMATION**

### ICP STD Solutions, Traceable to NIST

Code No.	Product Name	Pack Size
NII-009	Calcium (Ca) ICP Standard solution 1 gm/L in dilute HNO3,traceable to NIST	100 ml/ 50 ml
NII-016	Iron (Fe) ICP Standard solution 1 gm/L in dilute HNO3,traceable to NIST	100 ml/ 50 ml
NII-035	Sodium (Na) ICP Standard solution 1 gm/L in dilute HNO3,traceable to NIST	100 ml/ 50 ml
NII-042	Zinc (Zn) ICP Standard solution 1 gm/L in dilute HNO3,traceable to NIST	100 ml/ 50 ml
NII-001	Aluminum (Al) ICP Standard solution 1 gm/L in dilute HNO3,traceable to NIST	100 ml/ 50 ml
NII-031	Potassium (K) ICP Standard solution 1 gm/L in dilute HNO3,traceable to NIST	100 ml/ 50 ml
NII-026	Nickel (Ni) ICP Standard solution 1 gm/L in dilute HNO3,traceable to NIST	100 ml/ 50 ml
NII-008	Cadmium (Cd) ICP Standard solution 1 gm/L in dilute HNO3,traceable to NIST	100 ml/ 50 ml
NII-018	Lead (Pb) ICP Standard solution 1 gm/L in dilute HNO3,traceable to NIST	100 ml/ 50 ml
NII-034	Silver (Ag) ICP Standard solution 1 gm/L in dilute HNO3,traceable to NIST	100 ml/ 50 ml

### **UV Calibration STD solution**, Traceable to NIST

Code No.	Product Name	Pack Size
NIS-027	Holmium Oxide Solution in Perchloric Acid for UV (Traceble to NIST)	30 ml

### TOC STD solution, Traceable to NIST/ USP

Code No.	Product Name	Pack Size
NISS-028	TOC Standard Solution 1000 mg/l TOC in H₂O (Traceable to NIST)	100 ml
NISS-029	TOC Standard Solution 100 mg/l TOC in H₂O (Traceable to NIST)	100 ml
SC7732U	1,4 benzoquinone TOC Standard Solution 0.5 mg/l TOC in H <sub>2</sub> O (Reference to USP)	100 ml

## Karl Fisher STD, Reference to USP

Code No.	Product Name	Pack Size
SC7584U	Sodium Tartrate Dihydrate (Certified Reference Standards for karl fischer)	60 gm

