CPAchem
The experts in custom-made Certified Reference Materials

# Certificate of Analysis

## CERTIFIED REFERENCE MATERIAL

***Solution for Determination of Colour***
***Pt-Co/Hazen/APHA Colour Standard***

Lot N: XXXXXX
Barcode: XXXXXXXX

Ref N: HZN20.L1.L1

Certification Date:XXXXXX

**Certified value:** 20.00 mg/l +/- 0.11 mg/l Pt [y]

[y] *WQP 5.15.1/34 The certified value was obtained gravimetrically and confirmed experimentally by ICP/OES*

**Concept of Certification and traceability statement:**

*This certified reference material is produced by volumetric dilution of stock solution corresponding to 500 mg/l Pt in Water acc. to ISO 7887:2011 p. 7.3.2 and ASTM D1209-05 p. 6.2.*
*The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA 4/02 and incorporates the uncertainties of the raw-material purity, the mass and the volume.*
*Property of the result of a measurement whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties (ISO VIM)*
*The measurement results are traceable to SI. All analytical balances used for the preparation of the solution are calibrated yearly under an in-house procedure with class E1 and class E2 analytical weights, traceable to SI (DKD), and are checked daily.*
*Class A laboratory glassware is used.*
*The results from temperature measurement are traceable to SI. The thermometers used for solution's calibration are calibrated from an ISO 17025 accredited laboratory. The ambient conditions are controlled with a hygrometer calibrated from an ISO 17025 accredited laboratory.*
*Both, purity of the starting materials and solvent, were checked using appropriate analytical instrument.*

| Starting Material | Batch |
|---|---|
| $CoCl_2.6H_2O$ | 82102265 |
| $K_2[PtCl_6]$ | 82109608 |

Shelf-life: XXXXXXXXXX
*(Recommended period of use should not exceed 12 month from date of opening)*

**Intended use:**

**For Laboratory Use Only**

This CRM is intended for:

- The examination of coloration of liquids related to ISO 7887, ASTM D1209-05, APHA (2120B), EPA (110.1), ACS and USP
- Validation of analytical methods
- Preparation of "working reference samples"
- Detection limit and linearity studies
- This statement is not intended to restrict the use for other purposes.

**Instructions for the correct use of this reference material:**
This certified reference material can be used directly or can be diluted. Only a clean class A glassware should be used. Do not pipet from container. Obtained concentration (in mg/l Pt) after dilution is a result from the multiplication of certified value of CRM concentration and the CRM's volume used for dilution and divided into the flask's volume used for dilution.

**Stability and storage:**
This CRM is with a guaranteed stability until +/-1% of the certified concentration within its shelf life. Stability is guaranteed provided that the solution is kept in its original packaging, tightly closed and stored protected from light. The laboratory performs stability tests according to MQP 5.14.1 therefore solutions with one and the same bar-code number might have different expiration dates.

SAMPLE



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**Hazardous situation:**
The normal laboratory safety precautions should be observed when working with this CRM. Further details for the handling of this CRM are available as safety data sheet.

**Level of homogeneity:**
The material was tested for homogeneity by analyzing randomly selected samples according to an in-house procedure. The material was judged to be homogeneous. The level of homogeneity proved satisfactory for a sample volume of 10 ml. The uncertainty incorporates the sample standard deviation combined with the uncertainty calculated from homogeneity and stability studies.
To ensure sufficient homogeneity of the sample follow the Instruction for the correct use.

**Names of certifying officers:**
Laboratory: Ognyan Todorov

Manager: Krassimira Taralova

*This document is designed and the certified value(s) and uncertainty(ies) are determined in accordance with ISO Guide 31, ISO Guide 35,and Eurachem / CITAC Guides*

*This certificate relates solely to the lot number given above.*
*All processes (including generating of this certificate) are completely controlled by the specialized Computer-Aided-Manufacturing (CAM) software.*

*This Certified Reference Material was produced under a quality management system that is:*
*- Registered to ISO 9001 Quality Management System (Lloyd's Register Quality Assurance Ltd Cert No 0039638)*
*- Accredited according to ISO/IEC 17025 - Testing (ANAB Cert No AT-1836)*
*- Accredited according to ISO 17034 - Reference Material Producer (ANAB Cert No AR-1835)*

*Signed by:* Taralova *, Chemical Production Manager*