



CPAchem - UP TO NEW HORIZONS

December 2017

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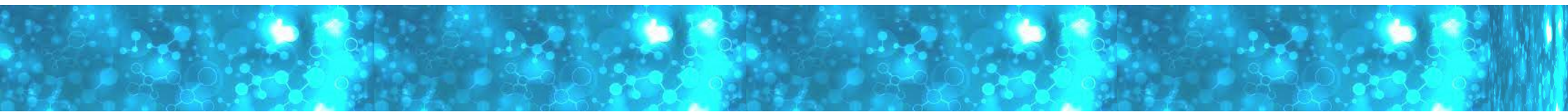
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The Experts in Custom-made Inorganic and Organic Standards



CPAchem's Overview



Intro

 CPAchem is a Bulgarian-French company, found in 2001 when it invented the custom-made standards, prepared to specific customer requirements;

 Nowadays more than 5,000 laboratories worldwide have trusted us and have used products manufactured both under our own brand name or under the private labels;

 Among our biggest clients are VWR, Fisher, LGC, Carlo Erba, and others which rely on the excellent quality of our products.



CPAchem's product range



CPAchem's product range

Custom-made and Stock
Inorganic solutions for AAS,
ICP, ICP-MS and Ion
Chromatography

Custom-made and Stock
Organic solutions for HPLC,
HPLC/MS, GS and GS/MS

Custom-made and Stock
Volumetric Solutions,
Karl Fischer standards,
Turbidity standards

High-Purity Inorganic
Compounds

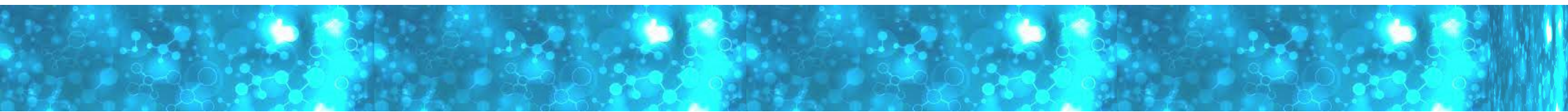
High-Purity Organic
Substances

Custom-made and Stock pH
and Conductivity Buffers,
Primary pH buffers (Harned
Cell)

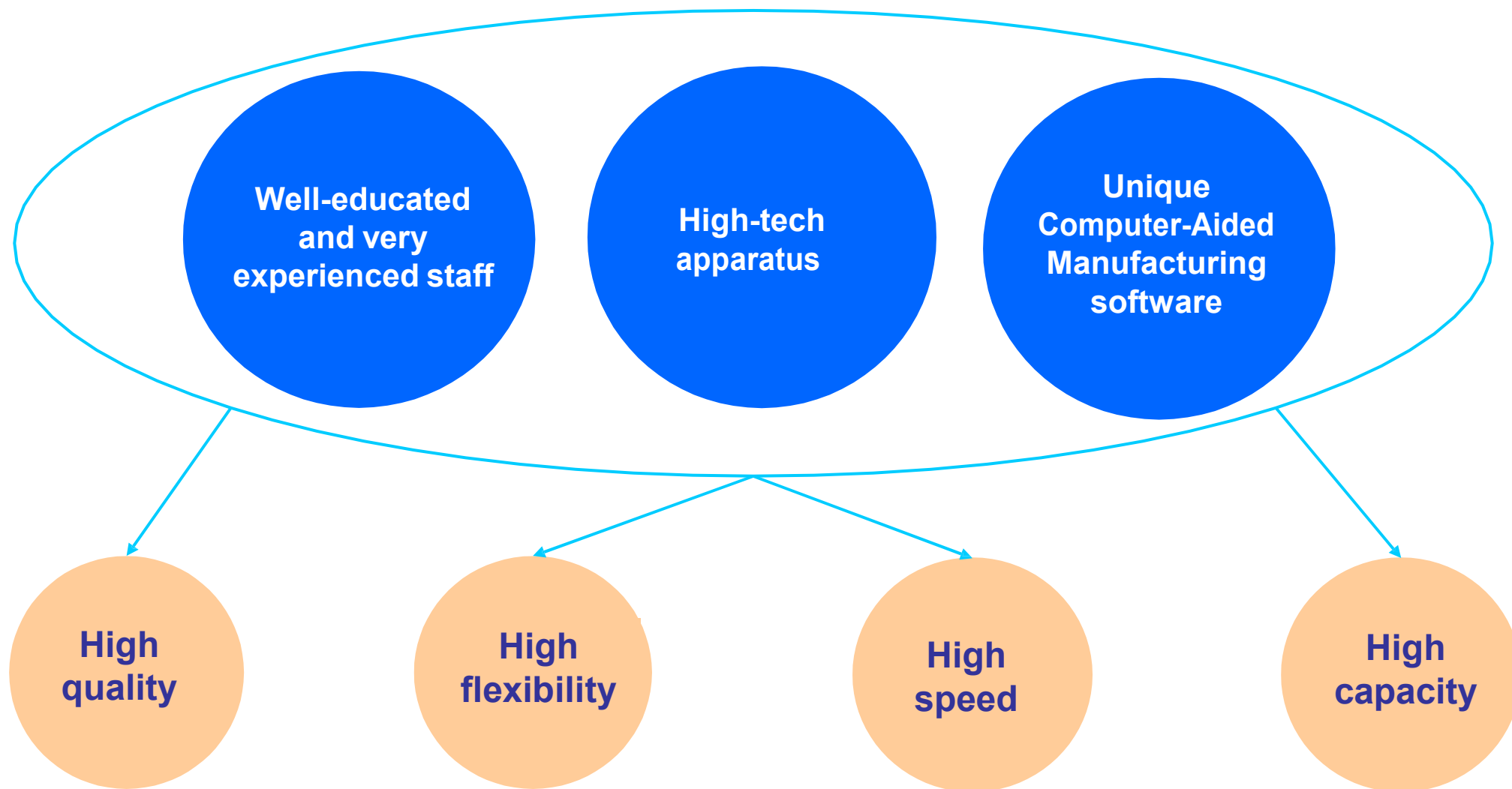
Certified Reference Materials

Pharmacopoeia Products


Reagents according to European, US, British,
Indian, Japanese, and International
Pharmacopoeia




Which are our main advantages?

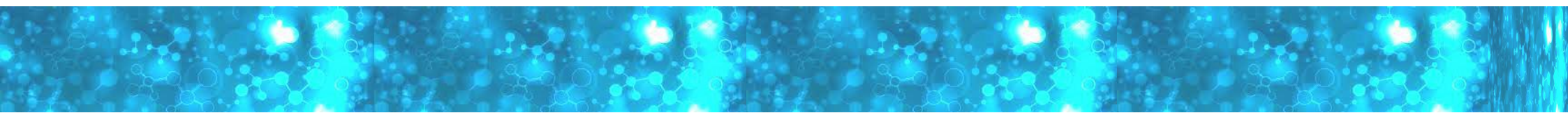


What makes us different as a CRM producer?

 The control of all the processes is fully automated by our dedicated Computer Aided Manufacturing (CAM) software, in addition to the modern network SQL-based data collecting system.

 The software system performs and controls the whole working process starting from the raw materials' incoming control through products preparation,


certified values and uncertainties budget calculation, certificates generation, packaging and expedition.



What we are specialists in?

CPAchem is an expert in the production of Custom-made standards:




 **The custom-made standards are prepared to exactly match clients' needs and give them opportunities to quickly achieve their goals;**

 **They are very cost-effective;**

 **Short lead time for preparation:**

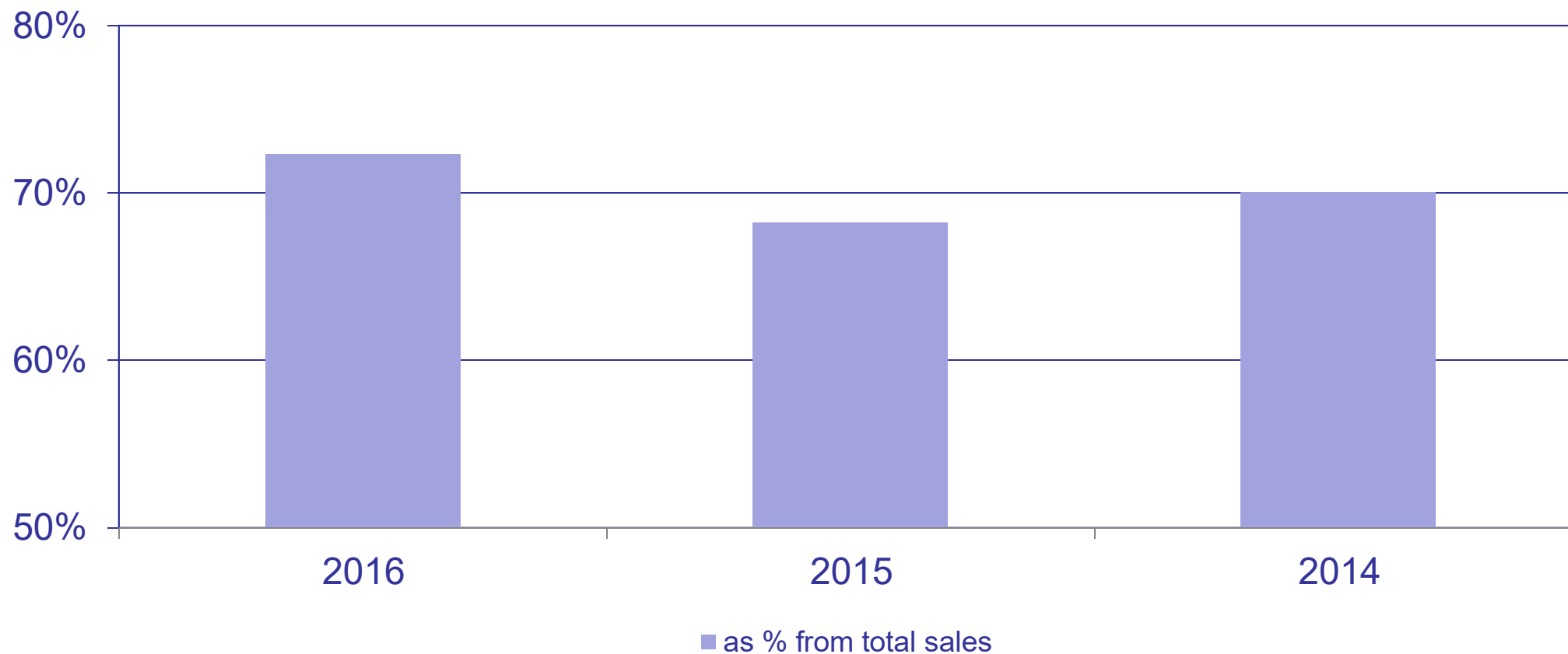
✓ **2 to 5 business days usually;**

✓ **Emergency orders within 24 hours.**






 **The CPAchem's annual number of orders for custom-made standards has been constantly increasing.**

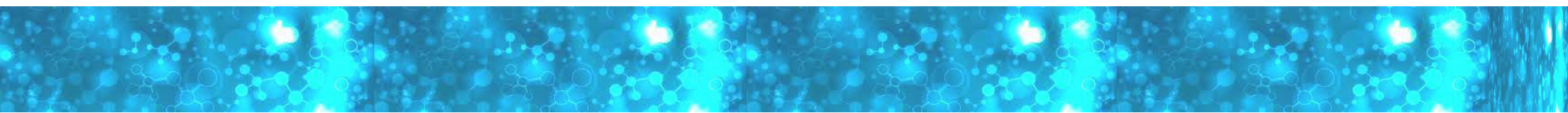
What we are specialists in?

CPAchem custom orders statistics



Custom-made standards – Benefits for End-Users

-  Save place as they do not have to stock many raw-materials;
-  Save labour time as they do not have to mix raw-materials/ single element solutions in order to create solutions they need for their purposes;
-  Minimize the risk of obtaining solutions with wrong concentrations or incompatible elements;
-  Save time to document all the processes to assure traceability;
-  Save time for all types of control (incoming, intermediate, final).

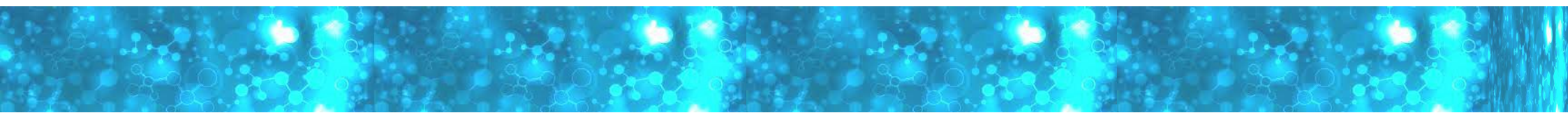


Custom-made standards – Benefits for Distributors

 **Custom-made standards allow bigger profit margins;**

 **Once a customer becomes persuaded to use and buy a custom standard, this customer stays “chained” to the distributor;**

 **Alongside custom product/s the end-users buy many stock solutions and increase their purchases.**

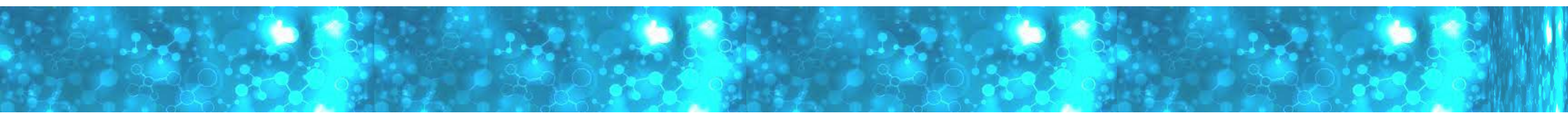





The Experts in Custom-made Inorganic and Organic Standards



Certified Reference Materials








What is called a Certified Reference Material (CRM)?

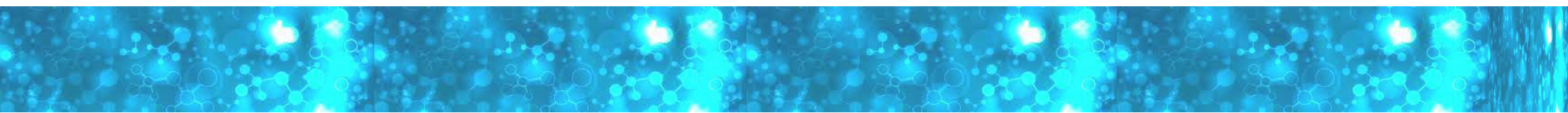
 Certified Reference Material (CRM) is a material, produced by a laboratory, accredited to ISO Guide 34 (ISO 17034 from 2018), by strictly observing the approved validated procedures;

 It has a Certificate of Analysis (CoA) that provides the value/s of the specified property/ies and their associated uncertainties;

 The certified value/s is/are obtained by one or two independent measurement methods and provide full traceability to the highest metrological level of internationally accepted standards - NIST, BAM.

Certified Reference Materials - intended use

-  Calibration of ICP and ICP/MS, AAS, Ion Chromatograph, GC and GC/MS, HPLC and HPLC/MS, pH and conductivity meters depending on the solution type;
-  Validation of analytical methods;
-  Preparation of “working reference samples”.
-  Detection limit and linearity studies;
-  Other.



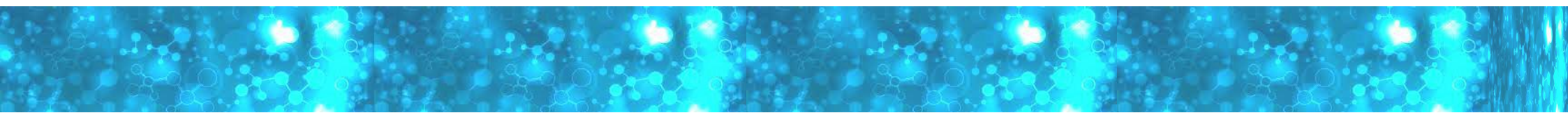
Certified Reference Materials - where are they used?

The Certified Reference Materials (including custom-made ones):

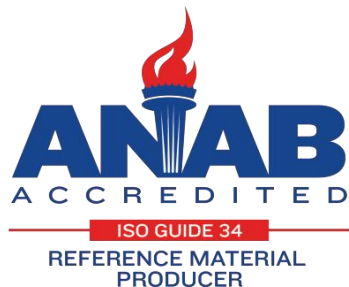
 are used in all chemical laboratories working with ICP and ICP/MS, AAS, Ion Chromatograph, GC and GC/MS, HPLC and HPLC/MS, pH-meters and conductivity meters, as well as all labs performing classical volumetric analyses;

 especially in the labs engaged in environmental studies and protection, health care, mining industry, energy plants, pharmaceutical, cosmetics, agriculture, food supply, wine and spirits, petroleum, electronics, etc.

Note: The labs which are ISO 17025 accredited are obliged to use CRMs.



CPAchem Accreditations



🧪 ISO Guide 34 (CRM producer), from January 2018 - ISO/IEC 17034;

🧪 ISO/IEC 17025 (Testing Laboratory);

🧪 The accreditation scope is one of the largest ones in the world;

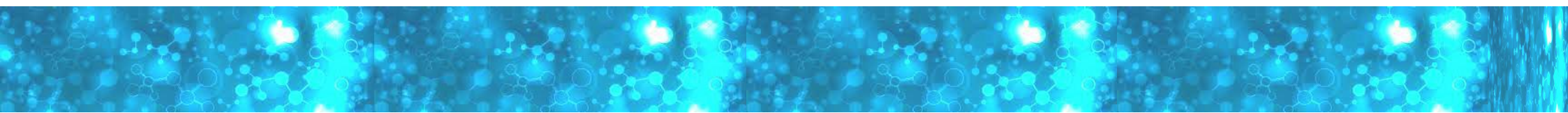
🧪 ISO 9001 certified since 2001, from 2017 – ISO 9001:2015 certified.



The Experts in Custom-made Inorganic and Organic Standards



Inorganic Certified Reference Materials



Inorganic - ICP&ICP-MS

CPAchem produces Certified Reference Materials (including custom-made ones):



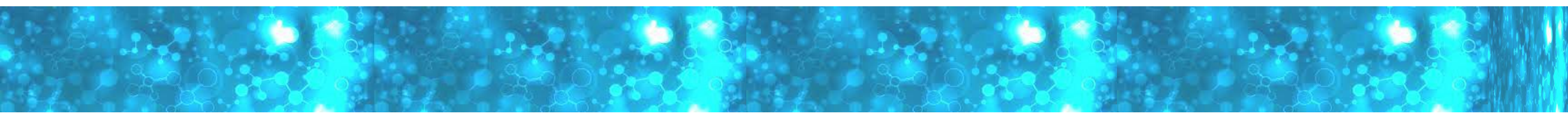
Single-element Standards for ICP

- **1000 mg/l for ICP - the most ordered, various volumes;**
- **10000 mg/l - various volumes including 30 ml bottles to meet the accepted quantity rule under DOT and IATA regulations which do not require hazardous shipping fees and declarations. Bigger quantities packaging also available.**



Single-element Standards for ICP/MS

- **10 mg/l and 100 mg/l for ICP/MS - the most ordered because there is no need of many dilutions (normal working concentration - below 1 mg/l)**
- **1000 mg/l and 10000 mg/l**



Inorganic - ICP&ICP-MS

CPAchem produces Certified Reference Materials (including custom-made ones):



Speciation standards

- **Some Ion standards intended for ICP/MS usage - As³⁺, As⁵⁺, Se⁴⁺, Se⁶⁺ and others;**

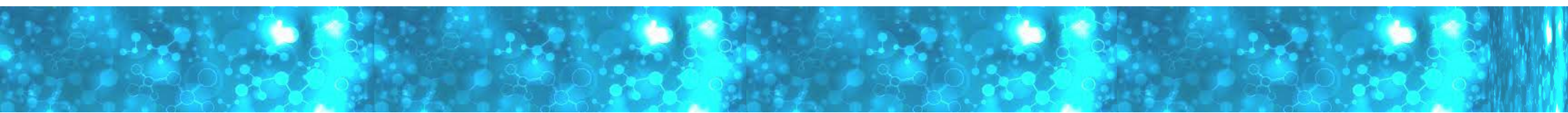


Blanks and dilution matrix



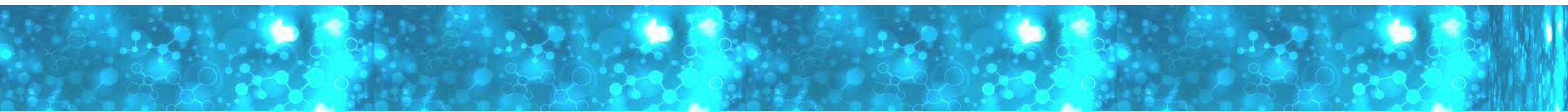
ICP and ICP/MS multi-element standards. Used for calibration, quality control samples, instrument checks, etc.

- **Standard 28 elements solution - the most popular one. Developed by our lab, includes 28 elements at 100 mg/l concentration for calibration of ICP and at 1mg/l for quality control standard – reference numbers MB56A.K1.5N and MB56A.1.2N respectively.**




Inorganic - Standard equivalent to the most sought standards of equipment producers and/or very popular CRM producers

Equivalents	Agilent	Dionex	Jobin Yvon	Merck	Methrom	NIST	Perkin Elmer
Most popular Standards Ref. numbers	5185-5959	P/N05693 ₂	JYICP-MIX23	111355	REAIC1035 N10202011	1643	
	8500-6940	P/N05759	JYICP-	109498			
	5188-6526						N9307805 N9300233



Inorganic - Ion Chromatography

CPAchem produces Certified Reference Materials (including custom-made ones):

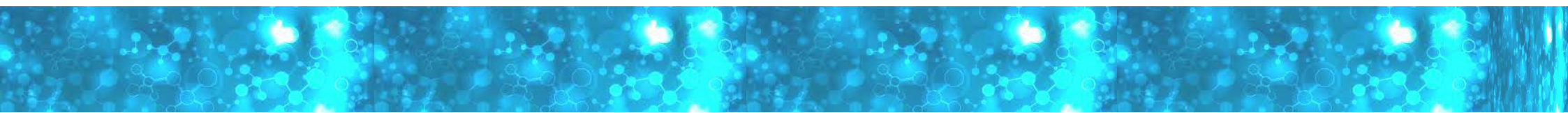
 **Single-Ion Standards at 1000 mg/l. Custom-made standards at 100 mg/l are very popular, too.**

- **CPAchem developed a broad range of Ion standards prepared by High-Purity salts. The purities and chromatographic conditions are indicated on Certificates;**

 **Multi-Ion Standards**

- **The most popular ones are the 7-anions (ref. Number – 1521.1K.W) and 6-cations (ref. Number – 725B.1K.W and 7A40.K5.W) standards;**

 **Eluent Concentrates**



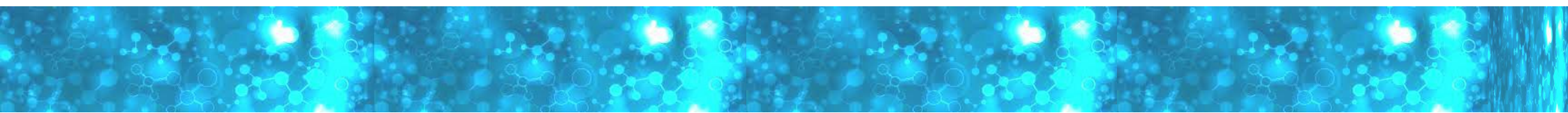
Inorganic - AAS

CPAchem produces Certified Reference Materials (including custom-made ones):



Single-Element Standards for AAS

- **1000 mg/l for AAS Flame - the most ordered;**
- **10000 mg/l for AAS Flame - 20 ml bottles to meet the accepted quantity rule under DOT and IATA regulations which do not require hazardous shipping fees and declarations;**
- **Concentrate for AAS Flame - for all traditionalists used to work with Titrisol. We supply them in plastic bottles to avoid the need of ampoule break, Designed to be quantitatively transferred and brought to volume. These are certificated, but not CRMs.**



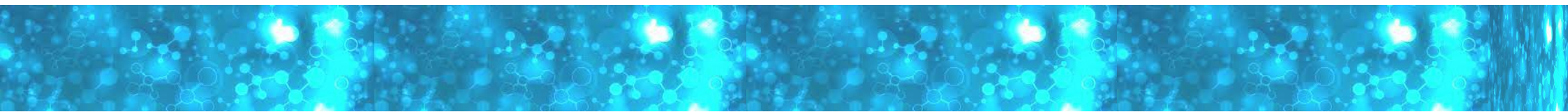
Inorganic - AAS

CPAchem produces Certified Reference Materials (including custom-made ones):







Single-element Standards for AAS

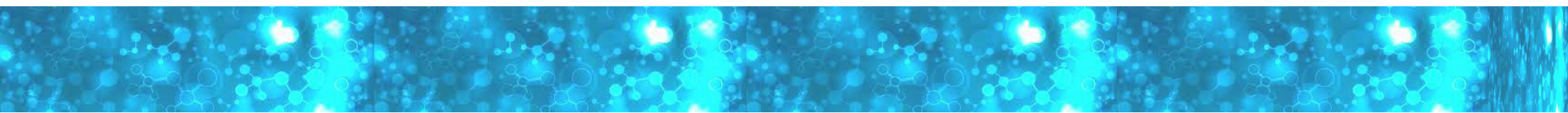
- **Single-element Standard in Alcohol. Especially for labs testing alcohols - forensic, wine and spirit producers;**
- **Single-element Standards in KCN. Mining industry;**
- **Single and multi-element Standards for Graphite Furnace. Offer very low elements concentration (ppb levels);**
- **Modifiers, Buffers & Reagents;**
- **Mercury standards for vapor generation accessory - VGA-AAS**



Inorganic standards Certification

Main benefits of our certification in comparison to the ones given by other producers are to be found in the following:

-  **The Certificate of Analysis, reports the actual values and not simply the calculated ones;**
-  **Created in accordance with ISO Guide 31 and ISO Guide 35;**
-  **Certified values and uncertainties are obtained on the basis of two independent methods when possible (even for multi-element solutions);**
-  **The uncertainties refer to each of the components separately and not to the uncertainty of the whole mixture.**

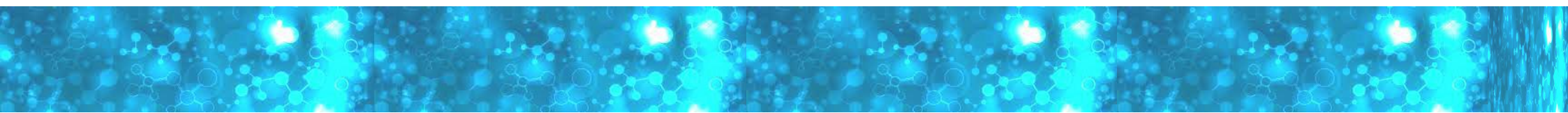




The Experts in Custom-made Inorganic and Organic Standards



Organic Certified Reference Materials



Organic CRMs

CPAchem produces Certified Reference Materials (including custom-made ones):



Single Component Organic Solutions - 10 mg/l and 100 mg/l in various solvents;



Multi-Component Organic Solutions:

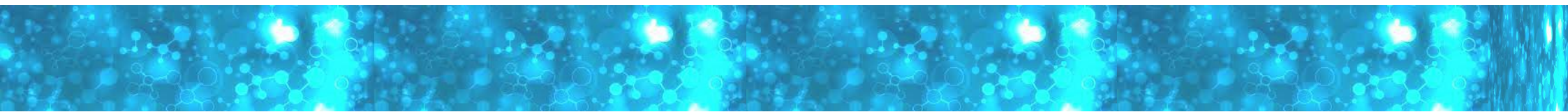
- **ISO, European and US Pharmacopoeia methods, EN Methods and International Regulations, EPA & ASTM Methods;**
- **CPAchem's Most Popular Organic Mixtures**




High-Purity compounds - most of them do not have a substitute as CRM;




BDEs synthesis - we have the largest range of substances (as of now – 187).

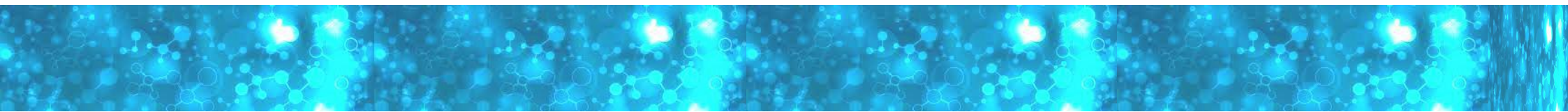


Organic standards certification

 The Certificates of analysis of organic CRM are designed and the certified value(s) and uncertainty(ies) are determined in accordance with ISO Guide 31, ISO Guide 35;

 The CoAs provide full traceability of preparation. The dissolution of the raw materials (with their purity), passing through the preparation of the intermediate solutions and reaching to the preparation of the final solutions is described in section Additional Information;

 The uncertainties refer to each of the components separately and not to the uncertainty of the mixture.

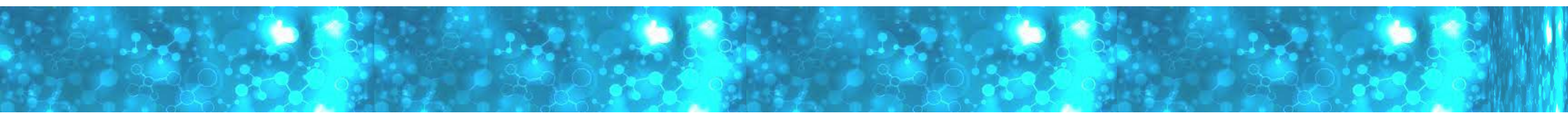




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Analytical Certified Reference Materials



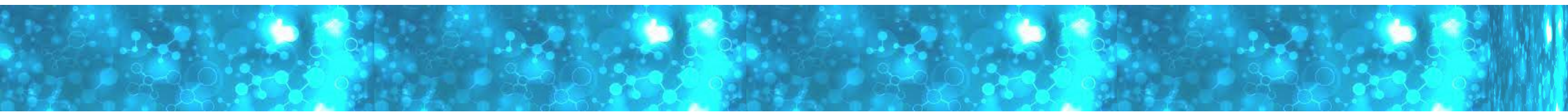
Analytical CRM

We provide:

 **pH buffers, pH solutions as per primary method for measurement – Harned Cell, Conductivity Standard Solutions, volumetric standards; Karl Fisher Standards, Turbidity Standards;**

 **The Certificates of analysis are designed and the certified value and uncertainty is determined in accordance with ISO Guide 31, ISO Guide 35;**

 **The only company we view as a competitor is Reagecon, but their range of products is quite narrow in comparison to ours.**



Other CRM

We provide:



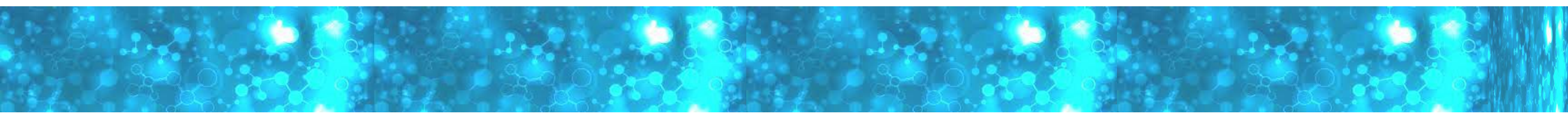
Caffeine standards



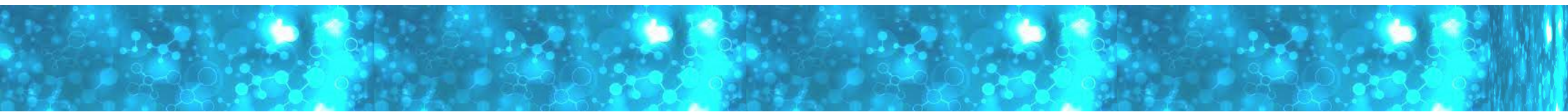
Sugar standards – Glucose, Sucrose, Fructose



E-cigarette reference standards



Products that are not produced under ISO 17034



Pharmacopoeia products (acc. to 6 different Ph)

 **Opalescence and Coloration Solutions**

 **Reagents**

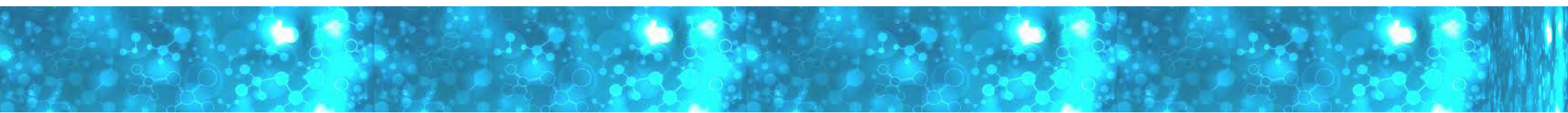
 **Standard Solutions**

 **Buffer Solutions**

 **Volumetric Solutions**

 **Indicators**

All products are prepared strictly following the latest Pharmacopoeia edition recipe.

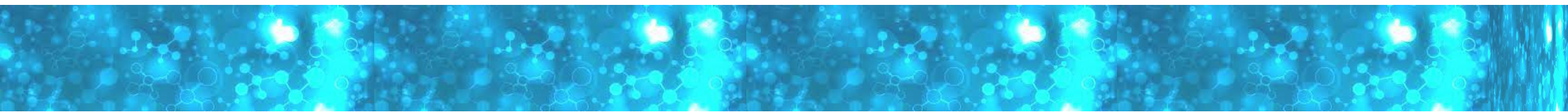




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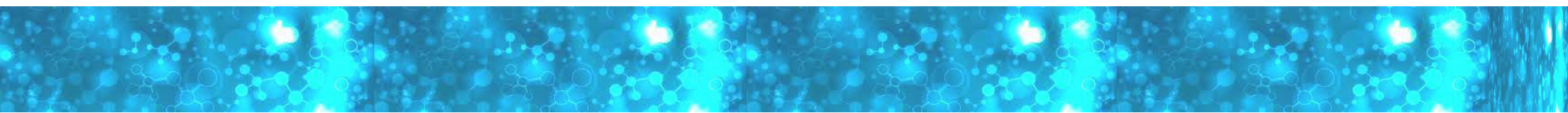
What's New?



What's new?


 **Karl Fischer water standards;**

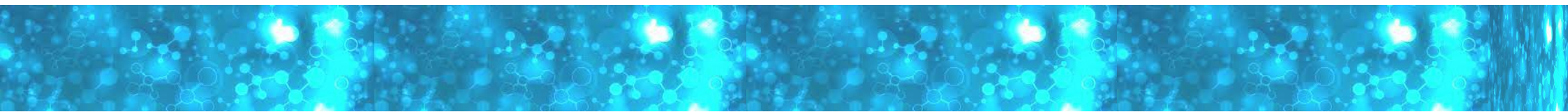
 **In 2018 we would start offering turbidity standards within the range of 0-4000 NTU (nephelometric turbidity units)**



What's new?

 We have just started new lab building construction on a 6 000 square meters terrain;

 Establishing a manufacturing facility is part of our goal to further develop our production lines and meet the increasing needs of certified reference materials and Pharmacopoeia products.



Thank you for your attention!



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