A Unique New Value Proposition for Private Label Customers
A Message from the Editor

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Reagecon
Dear Reader

Reagecon is the largest producer in the world of Chemical and Physical Standards, Certified Reference Materials and Reagents. We produce in excess of 10,000 different products, which are sold through distributors under the Reagecon brand, in 170 countries. We also sell an extensive portfolio of products through private label channels and instrument manufacturers.

Over the past 2 years, we have focused very heavily within our company on developing a new and unique value proposition for Private Label Partners and wish to extend our market reach and growth into this very important segment.

From the perspective of a potential Private Label partner there are several compelling reasons why you should offer Standards, Reagents or Certified Reference Materials including but not limited to the following:

- Continuous and repeatable revenue stream.
- Ability to offer a complete, integrated package of Standards and Reagents bearing your corporate image.
- Create a heightened sense of awareness of your company in the market, through private label branding.
- Increased competitive advantage by quoting private label products against main brands.
- Private label products create greater “lock-in” with customers; they can only buy from you.

Using these considerations as a baseline, we have developed a value proposition that contains several unique innovations that will give you significant competitive advantage in terms of your consumable offering.

Not only that, but we have added several new innovations that, when combined, will make your own value proposition unique and give you significant advantage over your competitors. Our offering to you is described in significant detail in this document but can be presented in summary form as follows:

- Your products will be produced by a highly accredited producer. These accreditations include a cluster of physical accreditations unique in the world of metrology that include:
  - Density
  - Viscosity
  - Mass
  - Temperature
  - Volume
  (A full list of Reagecon’s accreditations is included in an expanded section later in this document.)
- Extensive and complete regulatory compliance
• Extensive manufacturing capability for aqueous and non aqueous products that include:
  - Batch sizes from 10ml to 6000 litres
  - Products produced either using automated or manual technology
  - Product packs from 0.1ml up to 1000 litres in size
  - Cold chain management
  - Environmental containment (including cleanroom manufacturing)
  - EX rated manufacturing and storage capability

However, our other capabilities either singly or combined make us unique as a supplier of customised liquid chemistry and include:

• Packaging Solutions
  Private label products can offer unique features and benefits for their products by the use of bespoke or specialised Packaging Solutions. Packaging Solutions can be created to ensure that the Standards and Reagents for an analyser or application can only be sourced from the private label supplier or their approved network. Reagecon has substantial expertise in the selection and supply of correct packaging for all the Physical and Chemical Standards we manufacture. Packaging includes the container, cap and closure type, boxes to present, protect and store the products, shipping containers to allow safe, secure and compliant transit by combinations of road, sea and air, including cold chain transportation if necessary. The selection of packaging takes account, not only of the physical containment of the product, but also the container materials used, their compatibility with the products contained, culminating in negative impact from the container materials on the product performance. All packaging offered must comply with our stringent in house quality criteria. These criteria include leak testing according to IATA Dangerous Goods regulations, container composition, compatibility with chemicals used, UN approved containers, UN approved shipping cartons and all Health and Safety and handling compliance.

• Analyst Qualification Sets (AQS), a growth area for private label customer, which can be used to support instruments you supply to:
  - Assess the analytical competence of an analyst on a particular piece of equipment
  - Lock out competitors
  - Reduce service call outs
  - Deliver significant and repeatable additional revenues

• Rapid prototype kit design and production
  - We can design a kit and furnish you with a fully labelled prototype of a request

• Design and produce your marketing collateral for Standards and Reagents within seven (7) working days

From a supply chain and logistics perspective, we can offer you the following:

• Customised options – we are happy to quote for any customised product or specific formulation
• Flexibility - we will quote you for small annual quantities of product, unique for a global manufacturing company
• Standard freight costs - to UK, Europe, Middle East, India and Asia
• Savings - we can save you significant expense when combining all the above

If any of the features and benefits featured in this introductory message, make business sense; please refer to the relevant detail in the body of this document.

We hope you find the contents of this value proposition beneficial, we believe it is unique and that by using all or most of the components, we can enable you to add real additional value to your company.

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Managing Director
August 2018
The Company

Reagecon is based in Shannon, Ireland and has a sales office in Shanghai, China. The company operates from a 6000 sq. meter facility that includes a large suite of Manufacturing, Quality Control and Research and Development laboratories. We employ approximately 100 people, which includes 50 graduate or post-graduate chemists. Customised products make up a considerable part of our business portfolio. Reagecon now wishes to expand its offering to private label customers worldwide and has built a strategic value proposition that we believe will be extremely attractive to such customers. We have tried to capture the main components of that value proposition in this brochure, but in order to do full justice to the value we bring, we would like to meet with you and furnish further detail to you. Ideally, such a meeting would take place in our factory and research facilities in Shannon, where you could view our capabilities and meet our talented team of scientists.

Applications of Physical and Chemical Standards

Physical and Chemical Standards are products that may be used for 6 main applications:

1. Calibrate scientific instrumentation in preparation for testing
2. Control the entire process during testing
3. Perform instrument qualification prior to testing
4. Assist in method validation
5. Proficiency Testing
6. Analyst Qualifications Sets

The uses of Chemical and Physical Standards for Calibration, Control, Qualification, Validation and Proficiency are well documented in several publications produced by Reagecon (1, 2, 3, 4, 5, 6). The uses of Physical and Chemical Standards as Qualification Sets is an exciting and brand new innovation from Reagecon launched recently. The principle, application, features and benefits of the technique are covered later in this document and in detail in our latest publication7.
List of Products Produced

Standards/Certified Reference Materials

- Total Organic Carbon’s (TOC)
- Volatile Organic Carbon’s (VOC)
- Semi Volatile Organic Carbon’s (SVOC)
- Polycyclic Aromatic Hydrocarbons
- Phenolics
- Phthalates
- Azo Dyes
- Paraffins, Olefins, Naphthalates, Isoparaffins, Aromatics (PIANO’s)
- Oxygenates
- Thiols
- Pesticides
- Fatty Acid Methyl Esters (FAME’s)
- Fatty Acid Ethyl Esters (FAEE’s)
- Refractive Index (RI)
- Brix
- Sucrose in Water
- Density
- Viscosity
- Melting Point
- ICP-MS
- Atomic Absorption
- Titrants/Indicators
- Total Acid Number (TAN)
- Total Base Number (TBN)
- Hydrocarbons
- Solvent Residues
- Ion Chromatography

- Cryoscope
- Osmolality
- Colour
  - Saybolt
  - Hazen
  - ASTM
  - Gardner
- Turbidity
- Spectrophotometry
  - Wavelength
  - Linearity
  - Stray light
  - Band width
- pH
- Conductivity
- Ion Selective Electrode
- Flame Photometry
- Ion Chromatography
- Redox
- Pharmacopoeia
  - European
  - Chinese
  - United States
  - Japanese
  - Indian
- Eluents/Mobile Phases
- Dissolution Solutions
- Reagents for DNA Synthesis and Sequencing
Techniques & Instruments Employed

- Gas Chromatography (GC)
  - Flame Ionisation Detection (GC-FID)
  - Mass Spectroscopy (GC-MS)
- Liquid Chromatography
  - Mass Spectroscopy (HPLC-MS)
  - Ultra Violet Detection
  - Preparative
  - Reverse Phase
- Ion Chromatography (IC)
- Flame Atomic Absorption Spectroscopy (FAAS)
- Induced Coupling Plasma-Mass Spectroscopy (ICP-MS)
- Bingham Pycnometry
- Vibrational Densitometer
- Refractometer
- Polarimeter
- Osmometer
- Total Organic Carbon Analysers
  - Membrane Exclusion
  - Carbon Oxidation
- Rotational Viscometer
- Ubbelodhe Master Viscometer
- Cryoscope
- Coulometer
- Auto Titrator
- Spectrophotometer
- Fourier Transform Infrared Spectroscope (FTIR)
- Colourimeter
  - Hunter Solid/Liquid
  - Tintometer
- Volumetric Karl Fisher
- Turbidimeter
- Conductometer
- pH Meter
- Differential Scanning Calorimeter
- Chemical Oxygen Demand (COD)
- Biological Oxygen Demand Assay Unit
- Ex-rated Solvent Facility
- Radley Combinational Chemistry Synthesiser
- Buchi Rotary Evaporator
- Melting Point Apparatus
- TBN/TAN Titrator
- Class ISO7 (Class 10,000 Cleanroom)
- Solvent Manufacturing Plant

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Reagecon
New Skill Sets & Instruments Recently Commissioned

- Raw material characterisation
- Raw material purification
- Synthesis
- Preparative chromatography
- Combinational chemistry
- X-ray fluorescence spectroscopy (WD-XRF)
- Elemental analysis (C, H, O, N, S)
Traditionally, Reagecon’s manufactured products were on the lower end of the value chain and fitted into the classification of working and secondary standards. The development and production of such standards was consistent with our main technical competence (method validation/accreditation).

In recent years, we have escalated dramatically the range of working and secondary standards that we offer. Because of our recently developed ability to perform raw material characterization we are now also producing primary standards and certified reference materials. In the past the production of standards at the higher end of the value chain such as Primary Standards and Certified Reference Materials was the preserve of government funded agencies such as the National Institute of Science and Technology (NIST) in Washington, DC. Now, due to affordable technology, a number of privately funded companies have developed and are marketing primary standards and Certified Reference Materials. These companies generally have well-developed characterisation, purification and synthesis capability. Reagecon has grasped these opportunities with enthusiasm and are a leading producer of such materials.
As a producer of Metrological Standards we are concerned with enabling the end user (analyst) to achieve an analytical result that is fit for purpose and to provide proof of the correctness of that result. These two objectives are achieved through the following:

- Accreditation
- Traceability
- Accuracy
- Precision
- Sensitivity
- Limit of Detection (LOD)
- Reproducibility
- Measurement uncertainty
- Comparability

Calibration Standards are critical to ensuring that an Analysers sample measurements have the accuracy, traceability and comparability required so that actions taken based upon these sample measurements have validity. Reagecon’s metrological expertise enables us to consistently produce Certified Reference Materials and Calibration Standards that gives their users confidence in the generated sample measurements.
Manufacturing Capability

Reagecon has an extensive suite of facilities and laboratories for manufacturing and testing aqueous and non-aqueous reagents, standards and certified reference materials. We can manufacture batches down to 10mls in size and up to 6,000 litres of aqueous product (400L of non-aqueous), using either manual or automated systems. Filling, labelling and packing operations can then be performed on fill sizes ranging from 0.1mls up to 1,000 litres in ampoules, vials, bottles, barrels or IBC’s.

Large Batch Manufacturing

The following section describes some of the manufacturing facilities, but the detail presented is not exhaustive and is for illustrative purposes only. Most of our manufacturing operations, can if required, be controlled below or above ambient temperature and some of our capabilities range from -40° to 250°C.

To enable scale up of output and throughput we have designed and commissioned a fully automated, PLC controlled bulk manufacturing system in Shannon. The system consists of:

- 5 x 2000L chemical mixing tanks
- Each vessel employs a novel static venturi mixing head and a re-circulation pump – no requirement for agitators/internal baffles. This ensures thorough mixing of liquid/liquid or liquid/salt combinations but the solution does not experience excessive churning or foaming during mixing.
- PLC/SCADA control: Siemens SIMATIC WinCC SCADA system interfaced with Siemens Simatic S7-300 modular PLC controller.
- Operator interfaces with the PLC controller and SCADA systems through a customised HMI screen - this can be used to see at any time status of all chemical mixing tanks and any in process batches.
- Can mix 1000 or 2000L batches in each tank.
- Parallel manufacturing capability - up to 3 batches in process at one time (6000L).
- Final product can be filled into bulk storage vessel or routed to high speed filling line.

Reagecon has built a high speed bottle filling line to match the increased manufacturing capability already described. This automated line includes:

- King 4 head automatic liquid filler
- Kaps - All automatic bottle capper
- Combina automatic label applicator
- Automatic box assembly & tape sealing unit at end of line (Soco F100-3 Flap Folder & SIAT SK2-S Tape Sealer)

Typical bottle sizes include: 1lt, 500ml, 250ml, 100ml

Flexibility of sources for filling - the filling line head can be fed from the tank farm chemical mixing tanks directly or we can ‘plug in’ a bulk container for example an IBC.

Throughput:

- 500ml bottles – 840 per hour
- 1lt bottles – 400 per hour
Small Volume Filling Console

Small volume filling console comprises of:

**Watson Marlow 504Du peristaltic pump:**
- Delivers high accuracy, repeatable dosing of liquids of varying viscosity

**Rapid change bottle indexing table:**
- Handles bottle/volume range: 1ml - 100ml and supports custom bottle shapes/sizes in this range

**Kinex SA capping machine:**
- Can handle caps from 10mm – 130mm
- Torque range from 0.226nm – 14nm

**Labelling:**
- Bottles with diameter from 12mm upwards
- Tapered containers also supported

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Solvent Blending & Purification

Reagecon has a significant solvent mixing and organic purification capability. This operates from a laboratory scale (1L reactors) up to 400 litre glass or glass lined vessels.

The laboratory is:

- Ex-rated
- Fully bunded and fire proofed
- Has 25 air exchanges/hour
- Contains glass vessels and reactors from 1 litre to 400 litres
- Several of the vessels are temperature controlled (-40°C - 250°C)
- Is positioned beside an ex-rated, fully bunded solvent warehouse
Purified Water

Purified water is Reagecon’s most critical raw material. Reagecon has two fully-independent water purification systems providing a combined output of 2500 l/hr. The independence of the water purification systems ensures that maintenance outages do not affect supply of water to Reagecon’s manufacturing and laboratory facilities. Each system consists of particulate and carbon filtration, UV treatment, reverse osmosis and deionising modules. The water generated from these systems is circulated in a ring-main to delivery points around the facility, with the circulated water passing through the purification system for continuous polishing.

For critical applications, further purification is applied at the point of delivery and TOC, Silica and Conductivity Process Analysers are used to continually verify that the purified water is fit for its intended purpose. Reagecon’s purified water meets the requirements of Type I water according to ASTM D1193 and for bulk packaged purified water according to USP chapter 1231. Reagecon’s purified water complies with the specification limits detailed below:

- TOC <10ppb
- Conductivity <0.056 μS/cm (Resistivity >18MΩ.cm)
- Metals – none detectable by ICP-MS
- Silica <2ppb
Reagecon operates a class ISO7 (class 10,000) clean room facility. The facility contains a gowning ante-room, manufacturing laboratory and a product filling laboratory. The manufacturing area is further enhanced by the presence of a number of “wet benches” that provide both fume/particle extraction and laminar flow capability. These extra capabilities afford protection to product, operator and environment.

We operate a separate laboratory that contains microbiological containment, where operator protection is of paramount importance.

In accordance with ISO 14644-1 Cleanroom Standards, ISO 7 (Class 10,000) Clean room Specification is detailed below:

<table>
<thead>
<tr>
<th>maximum particles/m³</th>
<th>≥0.1 µm</th>
<th>≥0.2 µm</th>
<th>≥0.3 µm</th>
<th>≥0.5 µm</th>
<th>≥1 µm</th>
<th>≥5 µm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0×10³</td>
<td>2.37×10⁶</td>
<td>1,020,000</td>
<td>352,000</td>
<td>83,200</td>
<td>2,930</td>
<td></td>
</tr>
</tbody>
</table>
Accreditations

ISO 9001:2008

- Accreditation held since May 1988
- Certificate of Registration of Quality Management System covers the manufacture and distribution of chemicals, reagents, consumables, apparatus, safety and scientific equipment. The provision of IQ/OQ, equipment maintenance and calibration services. The provision of Vendor Managed Inventory (VMI) services to allow customers to outsource the management and replenishment of their consumables and equipment. Reagecon’s production of Process Analyser Calibration Standards.

ISO 17025:2005 Testing

- Accredited since May 1988 for some tests
- pH (1 – 13 pH units)
- Conductivity (1.3 – 500,000 μS/cm) Titrations
- Acid-base titrations
- Redox titrations
- Precipitation titrations
- Complexometric titrations
- Non-aqueous titrations (inc. TAN & TBN)
- Elemental Analysis (60 elements by ICP-MS)
- TOC & TIC: 500 μg/Kg – 50 mg/Kg
- Density 0.63 – 1.63 gm/l
- Viscosity (Kinematic & Dynamic)
- Refractive Index 1.3331 – 1.6581
- Brix: 5% - 60%
- Osmolality

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Accreditations OHSAS 18001:2007 Occupational Health and Safety Management System

- Accreditation held since June 2017
- Key component of our corporate social responsibility policy
- Adopts best international practice in relation to risk management
- Ensures health and wellbeing of employees, sub contractors and the public

ISO 14001 Environmental Management (application in progress)

At the time of writing, Reagecon have submitted an application for this accreditation.
Accreditation Landscape in Reagecon

ISO 9001:2009

- General Quality Management System
- Does not provide specific accreditation for analytical result
- Does not specifically address stability or homogeneity
- Raw material quality accepted on basis of COA from approved suppliers

ISO 17025:2005

- Quality Management System specific to the analytical result
- Provides independent accreditation of the certified value and reported uncertainty of measurement
- Covers analytical and physical testing systems only

Accredited by INAB as a Producer of Certified Reference Materials
Accredited by INAB as an ISO 17025:2005 Chemical Testing & Calibration Laboratory
Accredited by NSAI as an ISO 9001:2009 Facility for our Quality Management System
Regulatory Compliance: Chemical Classification & REACH

Regulatory Compliance – Chemical Classification

Reagecon uses a proprietary software package for the classification of its Chemicals.

- Provided preparations have been entered previously and are available, the generation of Safety Data Sheets (SDS’s) usually takes seconds.
- For a new preparation, the generation of an SDS starting from scratch, including the entry of new raw materials, generation of formulation, and generation of SDS’s, is a matter of a few minutes.
- Our software is fully network capable and allows data transfer in and between most platforms.
- Our software is truly international allowing us to produce SDS in a number of languages all of which are available on www.reagecon.com

In accordance with Article 31: REACH Requirements for safety data sheets. Reagecon’s safety data sheet include the following 16 headings

SECTION 1: Identification of the substance/mixture and of the company/undertaking
SECTION 2: Hazards identification
SECTION 3: Composition/information on ingredients
SECTION 4: First aid measures
SECTION 5: Firefighting measures
SECTION 6: Accidental release measures
SECTION 7: Handling and storage
SECTION 8: Exposure controls/personal protection
SECTION 9: Physical and chemical properties
SECTION 10: Stability and reactivity
SECTION 11: Toxicological information
SECTION 12: Ecological information
SECTION 13: Disposal considerations
SECTION 14: Transport information
SECTION 15: Regulatory information
SECTION 16: Other information

Regulatory Compliance - Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH)

Reagecon comply fully with the requirements of REACH and Classification, Labelling and Packaging (CLP) Regulations having completed the following steps:

- Reorganized our supply chain so that we have no registration obligations under REACH guidelines.
- The majority of substances that are used in Reagecon’s own preparations and those that we distribute for other manufacturers are sourced within the EU.
- We have received assurances from our suppliers to ensure that these substances have been preregistered where required by the obligated parties. We have not received notification that any substance we currently supply will not be available in the future.
- None of the substances that we source from outside the EU breach the 1 metric tonne import limit that would trigger the requirement for registration.
Regulatory Compliance: Globally Harmonised System (GHS)

Globally Harmonized System of Classification and Labelling of Chemicals.

- Reagecon Labels are in full compliance to GHS.
- GHS includes directions for application of the hazard communication elements on the label. In particular, it specifies for each hazard and for each class within the hazard, what signal word, pictogram, and hazard statement should be used.
- The GHS hazard pictograms, signal words and hazard statements are located together on our label.

Regulatory Compliance – Environmental

At time of publication, Reagecon have an application submitted for the award of ISO14001 accreditation in the interim period we operate full compliance with our discharge licence from Irish Water under the following parameters:

- Temperature
- BOD
- COD
- Suspended solids
- pH
- Ammonia as N
- Total Nitrogen
- Total Phosphorus
- Sulphate
- Fats, Oils and Greases
- Detergents
- Phenols
- Sulphides
- Cyanides
- Fluorides
- Heavy metals to include Cu, Ni, Cr, Pb, Cd, Zn, Ag, Hg
- Pesticides and solvents to include Atrazine, Simazine, Tributyltin, Dichloromethane, Toluene and Xylene
Packaging Solutions

Reagecon, on behalf of its Private Label Customers, invests substantially in and understand the major benefits product packaging brings not only from the functional perspective of containing products securely but they also attach considerable attention to how their Standards and Reagents are packed, shipped and presented for use by their customer. Correctly selected packaging will create a heightened sense of value in the eyes of the customer and differentiate the private label brand against their market competitors.

The packaging used, both in its design and presentation, is often unique to a particular brand, creating a brand “lock in” to the supply of that private label. Doing this ensures the continuous supply of the Standards and Reagents with the resulting revenue streams and annual growth. Reagecon have substantial experience in the selection and provision of the correct packaging solution for any specified Standard and Reagent produced. Working with all the leading packaging manufacturers worldwide, we have considerable expertise in house, which we bring to all projects where packaging solutions are required. When selecting the correct packaging solution, some key considerations would include:

- Ensuring the container and cap provide a leakproof seal. Reagecon perform in house testing of all containers and caps in accordance with IATA Dangerous Goods Regulations, 56th Edition, Section 6.3.5.3.1 Method A.
- Container volumes, covering product fills of 1ml to 1000L
- Correct container dimensions to fit an analyser where demanded
- Composition and material used in the container to ensure:
  - No effect on the Standard contained (Adsorption, Leaching of plasticisers etc)
  - Product Expiry unaffected with storage
  - Containers provided with caps and accessories designed to provide a direct connection to specific analysers
  - UN approved containers for secure containment and transport of hazardous materials
  - Containers packed into appropriate storage, shipping boxes and cartons.
- UN approved Shipping cartons with inner packaging to absorb any liquid spill or leaks.
- Containers and boxes can be provided with product barcodes which can be recognised by analysers.
- Environmentally friendly packaging produced from Biodegradable materials that can be reused and
Cold Chain Management

Maintaining the correct storage and shipping conditions of certain temperature dependent products is of paramount importance in maintaining the integrity of such products. Reagecon has significant experience of maintaining and providing data logging proof of temperature maintenance in the 2 - 8°C range.

Our approach, experience and expertise can be summarised as follows:

- Our operators are trained in preparing shipments to conform with transport regulations stipulated by groups such as IATA and IMDG.
- A wide range of packing options with full specifications and Standard Operating Procedures (SOP’s) attached to each option. Typically, these include:
  - Assembly
  - Packing
  - Precautions
  - Photos of disassembly and assembly
  - Change documentation
  - Temperature profiles (temperature at time of packing is generally between 15°C - 30°C)
  - Gel ice packs are added at a temperature of -10°C to 0°C, enabling the load at equilibrium to be maintained at +2°C - +8°C, guaranteed for a specified number of hours.

- Reagecon’s operations, premises and procedures have been certified as secure.
- Permits cargo declarations to be issued stating non-prohibited items present in shipment.
  - This speeds the transit time as logistics companies do not have to seek or prepare these documents.
- Reagecon holds ISO 17025 accreditation for the calibration of temperature data loggers which are added to the load.
- Reagecon supplies a range of cold shipper containers, data loggers and temperature calibration services to
International Shipping and Logistics

All shipments are packed and originate from our warehouse in Shannon, Ireland. Reagecon has “known consignor” status for shipping and Reagecon can if necessary, prepare and sign hazardous documentation for supply with shipments. This speeds the transit time as logistics companies do not have to seek or prepare these documents. Indicative transit times (from dispatch) by Road, Sea & Air.

- UK 48 hours
- Europe (Scandinavia through to Turkish border) 5-10 days
- USA (Air) 3-4 days

Reagecon ship products to all continents on a weekly basis, with a defined schedule of ship days by country. We currently supply our products to more than 170 countries. We use different, approved, third party logistics providers, selected to ship products based on their expertise by or within a region.
**Scope**

Analyst Qualification Sets (AQS) are designed to meet the growing demand for evidence based data of a given analyst's competence to perform specific testing methods. Reagecon have a core competence in Metrology, our ISO17025 accreditations for testing, weighing, volume and temperature, position us ideally to manufacture and certify such an important range. Analyst Qualification Sets (AQS) are flexible in their design. They can be created by measurement type, have a defined measurement value and measurement specifications as required by the instrument manufacturer and their market provider. These parameters are unknown to the analyst until they perform test and report results against the measurement value only available via the providers website. Reagecon manufacture a number of Analyst Qualification Sets under the private label. Typical examples of these sets cover the analysis of pH, Conductivity, Titration, Brix, Refractive Index, Total Organic Carbon (TOC), Ions, Gas & Liquid Chromatography and ICP, as Single or Multi element mixes. AQS are an excellent method to provide proof of correct installation, commissioning and validation of laboratory instrumentation by the user themselves. This can reduce the need for your engineer on site. It also serves as an efficient method of a provider making assessments of a measurement systems performance and identifying potential training needs for the customer, remotely.

**Operation**

Each set typically comprises a combination of high, medium and low values. The specifications and the values are defined and agreed by Reagecon and the private label standards provider. Only key personnel within each organisation know the kit specifications and compositions. On ordering, a set is built by Reagecon, which includes picking the kit bottles in a random selection, this brings complete variation to each set and avoids lot recognition or assumptions on set results by users. A spreadsheet with the test result for the specific lot number/kit identifier is issued to the standards provider on dispatch of the product.

From the customer perspective, the flow of the AQS test and reporting chain can be summarised as follows:

On receipt of an AQS, the analyst performs the measurement as per the recommended procedure. Results obtained are then loaded to the instrument provider website using an access code and the lot number/identifier of the kit used. A certificate of conformance or non-conformance is issued by the standard provider based on the test result comparison to the actual result. A non-conformance requires the test to be repeated until conformance is achieved. Repeated non-conformances require appropriate action to be implemented by the customer.
Summary

Unlike Proficiency Testing (PT) Schemes which assess a laboratories performance:

- AQS can be offered for a variety of instrument types as a method of assessing the full measuring system, which includes the analyst as well as the instrument.
- AQS can be offered and used by customers of PT Schemes and those who don’t participate in PT Schemes alike. This is a valuable new revenue stream.
- AQS are an excellent tool to provide instrument providers with proof of correct installation, commissioning and validation of the instrumentation by their own staff, the end user themselves.
- AQS Design is done on a collaborative basis between the instrument user, Private Label partner and Reagecon, making each set or series of sets, specific to that instrument.
- AQS provided under private label, generates continued revenues and little competition.
Rapid Prototype Design & Production

The capability to produce high quality prototypes quickly and accurately is an essential part of a private label value proposition. Combining expertise, experience and technology, we can generally produce a fully usable prototype kit within 72 hours of request. This includes correct bottles, caps, bottle labels, inserts, cutouts, carton/box, box label, certificate of analysis and other inserts such as marketing or bundling collateral as appropriate. We can also produce a high quality original brochure within 7 days. No other Standards or Reagents company can offer this highly innovative package which we achieve using the following technologies.

Carton Cutting Apparatus

Packaging has a critical impact on all products’ quality and user experience - Reagecon’s Chemical Standards and Reagents are no exception to this. Appropriate packaging must have the correct form and structural integrity to protect the product and the user, but must also be aesthetic to enhance the user experience.

Reagecon has a carton cutting and folding table driven by CAD software specifically configured for the design of card and cardboard cartons, including a full library of standard carton designs from FEFCO (European Federation of Corrugated Board Manufacturers). Reagecon’s carton-cutting table is capable of cutting and creasing plain card and fluted cardboard up to 8mm thick on sheets up to 1500 x 1100mm in size. In addition to designing and producing cartons, Reagecon also uses this equipment to design and produce bespoke card and cardboard inserts to securely locate the primary product containers within the packing carton.

This comprehensive packaging capability enables Reagecon to rapidly produce prototype packaging and small runs of cartons that would be prohibitively expensive and slow to outsource. Whether you require Chemical Reagents or Standards as a starter pack that must fit into your instrument’s packing box or as a stand-alone consumable for your customers then Reagecon’s packaging capability will ensure that these products are shipped in cartons that have the form, function and appearance to enhance your brand without introducing unacceptable delays or costs.
Reagecon's in-house printing press combines superb image quality, good performance and excellent colour consistency with exceptional media flexibility and finishing capabilities. This system enables us to produce high quality marketing collateral, technical documentation, product inserts or other printed material on demand to a very high quality and specification. Our final product quality is equivalent to or better than the output of many professional dedicated printing houses.

Features include:

**Output:**
- Approx. 60 A4 sheets/minute
- 3,316 A4 sheets/hour

**Resolution:**
- 1200 x 1200 dpi x 8 bit
- 1200 x 3600 dpi equivalent

**Paper weight:**
- 62 - 300 gsm

**Document feeder:**
- Automatic

Automatic collator, booklet finisher, staple finisher, 2/4 and 2 hole punchers all connected and synchronised into the main printing press.

The Reagecon in house printing press means there are no:

- Set up or plate costs
- Inventory requirements
- Obsolescence writedowns

The system provides:

- Agility
- Speed
- Flexibility

Subject to signed off customer change control, changes can be made instantly.
Business and Scientific Achievements

Reagecon is an ambitious, growth orientated, family owned business run by a dynamic leadership team. The company is well respected by all of its national and international stakeholders and has achieved several notable firsts in metrology and business. Included here is a short list for illustrative purposes that hopefully demonstrate the span and scope of some of our successes:

- First company worldwide to produce low level conductivity standards (major peer reviewed published scientific invention)
- Only company worldwide to produce low level conductivity standards in water at present
- Only company worldwide to use nanoparticles as standards for ICP Spectroscopy (patented)
- International Thermofisher Distributor of the Year (2005)
- Holder of several sole supply contracts in Ireland to blue chip companies that include -Coca-Cola (all 3 Irish sites), Amgen, Alkermes, Medtronic, Beckman Coulter and CLS
- Winner of several best in class supply awards including Eli Lilly in 2001 and 2003
- One of only 20 companies selected for the Enterprise Ireland (EI) Leadership 4 Growth programme in Stanford University
- One of 15 companies selected for the Enterprise Ireland (EI) Innovation 4 Growth programme in the Irish Management Institute (IMI) (2014-2016)
- National Winner of the Ulster Bank Business Achievers Award – as best Established SME for all of Ireland (2015)

Bibliography

Conclusion

We welcome the opportunity to quote for any Private Label and OEM business and we would be more than happy to answer any questions you may have on this proposition.

We wish to invite you to our facility in Shannon to witness first-hand the capabilities outlined in this document.

Please do not hesitate to contact us with any requests or questions.

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