Reagecon

Physical & Chemical Standards Compendium






www.reagecon.com

Contents

Dear Customer,

Welcome to the new Reagecon Physical and Chemical Standards Compendium. Since the publication of our Physical and Chemical Standards and Reagents catalogue, substantial changes have occurred in the field of analytical chemistry. Stringent regulatory demands combined with major economic implications and increased competitiveness, places necessity for validation on every analytical test performed, either in the laboratory or in the field. Not only must the correct result be obtained, but proof must also be provided of its fitness for purpose, validity and accuracy. Such proof must then be accessible, retrievable and presented in an easily understood format. Reagecon continue to respond to these challenges by presenting to its customers, an ever increasing range of highly specified, stable, traceable and certified standards.

The use of standards such as calibrators or control materials can greatly increase the possibility for the analyst to obtain the correct result and can provide definitive proof of the correctness of such a result from a technical perspective. Such materials can also be used for method validation, instrument qualification, verification and analyst qualification.

Since the beginning of 2011, we have developed a major pipeline of new products and we now have a broader and more comprehensive range of physical and chemical standards than any other producer worldwide. We are privileged to be able to present these new ranges to you here, (in excess of 8,000 product numbers)

We hope you find this new compendium beneficial; that the products on offer match your technical specifications; represent value for money and that they will greatly enhance your ability to achieve valid and correct analytical results now and in the future.

Other rapidly occurring changes in the laboratory market place include stringent regulations pertaining to the shipment of hazardous goods, the development of e-commerce and the ever increasing requirement for Scientific Knowledge.

HAZARDOUS GOODS

Products which are known to be hazardous are labelled by Reagecon in accordance with The Globally Harmonised System of Classification and Labelling of Chemicals (GHS). The GHS is a system for standardising and harmonising the classification and labelling of chemicals.

RESEARCH AND DEVELOPMENT

From a strategic perspective, Research and Development continues to be a key business driver within Reagecon, with approximately 10% of our workforce engaged in this activity. Several industry or technology specific projects with various risk profiles are currently in the development pipeline. The progress of all of these projects as they reach maturity can be viewed at www.reagecon.com

TECHNICAL AND SCIENTIFIC LITERATURE

As a producer of high quality physical and chemical standards, Reagecon employ a large number of scientists in areas of: new product development, quality, manufacturing and technical services. Our Scientists produce a large output of original technical and scientific literature and are responsible for several publications every year relating to various aspects of analytical chemistry. A selection of these papers can be viewed and downloaded at our website: www.reagecon.com . Several of the chapters in this compendium also contain detailed original technical notes.

ACCREDITATION

Reagecon holds a unique position amongst producers of Standards and Reference Materials. We have achieved ISO/IEC 17025 (INAB Ref:265C) accreditation for all of the following fundamental metrological techniques:

- Calibration of laboratory balances
- Calibration of temperature controlled enclosures covering the scope of -196°C to +1200°C
- Calibration of single and multi-channel pipettes

These fundamental techniques alone or in combination continue to form the foundation cornerstone of metrology. They have a direct bearing on the measurement uncertainty of almost all Standards and Reference Materials.

E-COMMERCE

All of Reagecon's products can be purchased online from our web based laboratory shopping facility at www.reagecon.com

BUSINESS DEVELOPMENT

Over 30% of our workforce are engaged in Sales, Marketing and Business Development activities. At the time of writing we have specific departments dedicated to the following geographic regions: Ireland, UK, Western Europe, Eastern Europe, Middle East, Asia Pacific (including China), North and South America. This includes Reagecon office in China and distributors operating in over 150 countries globally. The introductory text, cover notes and technical information contained within this compendium is available on our website in most of the major world languages.

LABORATORY LOGISTICS GROUP

Reagecon is proud to be a partner company and shareholder in a large German based purchasing company called LLG (Laboratory Logistics Group).

At the time of writing LLG has up to 30 partner companies spread throughout Europe, Australia, Asia and the Middle East. This partnership affords Reagecon access to over 60,000 products which are contained in a large catalogue (see picture). It also confers the following additional benefits:

- Substantial stocks of laboratory consumables
- An excellent output of special promotions
- Outstanding networking opportunities with growth orientated partner companies, facilitating exchange of knowledge, trends and technical development.
- Transnational and cross cultural knowledge transfer, support, encouragement and insight into strategic thinking.

John J Barron
Managing Director
May 2016

Who are Reagecon?

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 90 people, which includes 50 graduate or post-graduate chemists.

Traditionally, Reagecon's manufactured products were on the lower end of the value chain and fitted into the classification of working/secondary standards. The development and production of such standards was consistent with our main technical competencies (method validation/accreditations).

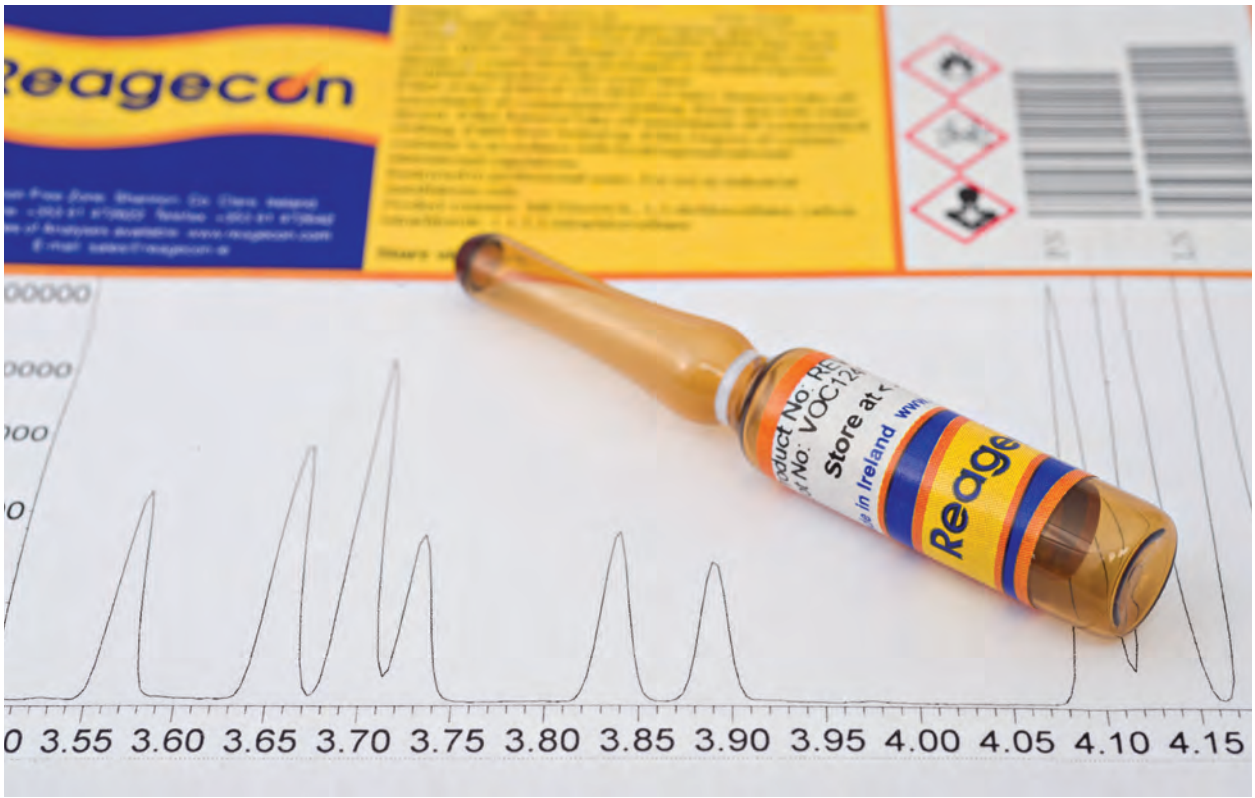
Since 2011, we have escalated dramatically the range of working and secondary standards developed and we have moved up the value chain to include primary standards and Certified Reference Materials , because of our recently developed ability to perform raw material characterisation. We are now the largest producer in the world of Physical and Chemical Standards and Certified Reference Materials.

Applications of Physical & 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 (IQ,OQ,PQ,MQ) 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. 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 compendium.



Reagecon Technical Services

Laboratories today are facing new pressures, with increased regulatory demands requiring validity on every analytical test performed. Not only must the correct result be obtained, but proof must also be provided of its fitness for purpose, comparability and accuracy.

Irrespective of whether your laboratory is involved in analytical chemistry, life sciences, biotechnology, the clinical or pharmaceutical industries, several factors play a role in these laboratory demands and the correct performance of your instruments and equipment is crucial.

Reagecon Technical Services has over 25 years experience of providing complete support solutions to laboratories. As a technical centre of excellence, we were the first company in Ireland to gain INAB (ISO/IEC 17025) Accreditation for Volume Calibration and were the first to offer INAB Accreditation across Volume, Weighing and Temperature. Services can be provided both on your site and in our dedicated metrology laboratory in Shannon (INAB Ref:265C).

Reagecon's Technical Services Department can help you to determine all of your calibration, maintenance and service requirements. We can design a full programme to meet these requirements and manage the entire schedule for you, providing the following benefits to you:

- Managing fewer suppliers - using one company to manage calibration and service needs for all your equipment
- Easier scheduling - with the need to only contact one company for all your equipment needs
- Reduce downtime of equipment - on-site engineers can perform all services and work around your schedule in your laboratory
- Obtain the most competitive prices - reduce indirect costs by less administration of purchase orders and invoices

Customer case studies have shown that a saving of 55% in support overheads can be made by using one supplier for all of your calibration, technical service, and support requirements.

VOLUME CALIBRATION SERVICES: Reagecon were the first Irish company to gain ISO/IEC 17025 (INAB Ref. 265C) accreditation for calibration of pipettes and can calibrate both single and multi channel pipettes in our dedicated calibration laboratory or on our clients' premises. Most calibration providers calibrate multi-channel pipettes one channel at a time, which does not replicate the pipettes use and so does not characterise their operational performance. Reagecon use a special-purpose balance to calibrate all channels simultaneously, resulting in a calibration certificate that fully characterises the pipette's operational performance.

WEIGHING CALIBRATION SERVICES: Reagecon offers INAB accreditation for Weighing Calibration, with all makes and models of balances catered for (Ref. 265C). This service is provided on-site to laboratories anywhere. We can provide re-certification of your check weights for daily use.

TEMPERATURE CALIBRATION SERVICES: Reagecon offers an INAB Accredited calibration service for the full range of temperature controlled enclosures and is the only company in Ireland to cover the scope of -196°C to +1200°C (INAB Ref:265C).

ELECTROCHEMISTRY INSTRUMENT CALIBRATION SERVICE: Reagecon offers the complete Electrochemistry Calibration Service. All makes and models of pH, Conductivity and DO meters are calibrated using standards tested and certified to an ISO/IEC 17025 Test Method (INAB Ref:264T).

GENERAL EQUIPMENT CALIBRATION SERVICE: In addition to its INAB Accredited Calibration Services, Reagecon offers a comprehensive range of traceable services across the entire range of laboratory equipment.

For further information please contact sales@reagecon.ie

Accreditations at Reagecon

Accreditation ISO 9001:2008

- Registration number 19.2769
- Accreditation held since May 1988
- Certificate of Registration of Quality Management System covering 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.

Accreditations ISO/IEC 17025 (INAB Ref:264T)

- Accredited since May 1988 for some products
- pH Buffers
- Conductivity Standards
- Analytical Volumetric Solutions
- Brix 5% - 60% wt/wt
- Refractive Index 1.33310 to 1.65812 $_{\eta}D$
- Density 0.65 - 1.034 g/ml
- Metal Standards by ICP-MS & Titrimetry
- TOC/TIC 500 µg/l to 50.0mg/l C
- Osmolality 50 - 3000 mOsm/kg H_2O


NSAI

Certificate of Registration
of Quality Management System
to I.S. EN ISO 9001:2008

Reagecon Diagnostics Ltd
Shannon Free Zone
Shannon
Co. Clare

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-

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 outsource the management and replenishment of their consumables and equipment.

Accreditations ISO/IEC 17025 (INAB Ref:265C)

- Weighing Devices (1mg-160kg)
- Temperature (-196°C to 1200°C)
- Volume (5 µL - 10,000 µL)

Accreditations ISO Guide 34 (001RM)

- Accredited since April 2014
- Accredited Producer of Reference Materials
- Only company in Ireland with this accreditation
- Production of materials used for the calibration of scientific instruments and the validation of test methods
- ISO Guide 34 accreditations demands a set of stringent requirements that ensures all aspects of the production of reference materials are carried out with measureable and traceable quality
- The Guide's comprehensive requirements includes production planning, raw material selection and characterization, assignment of certified values, uncertainty, traceability, homogeneity and stability, as well as packaging, documentation, supply chain and logistics.

Reagecon - Vendor Managed Services Programme

In today's market, laboratory staff are continually facing new challenges. They are trying to deliver the correct result, but also reduce overheads meet regulatory and legal requirements, increase efficiencies and maximize the operation of their business. Continuity of supply chain, elimination of wastage/obsolescence, hazardous materials management, and the correct choice of chemicals and consumables required to run an effective and efficient Laboratory present a complex set of variables to both the Laboratory and Procurement Teams. To meet these challenges Reagecon has developed a novel and innovative Vendor Managed Inventory Model that eliminates much of the complexity, overhead and cost of laboratory operations and delivers a lower total cost of ownership to you, our customer.

This model works on the principle of service-based supply, and offers you the opportunity to:

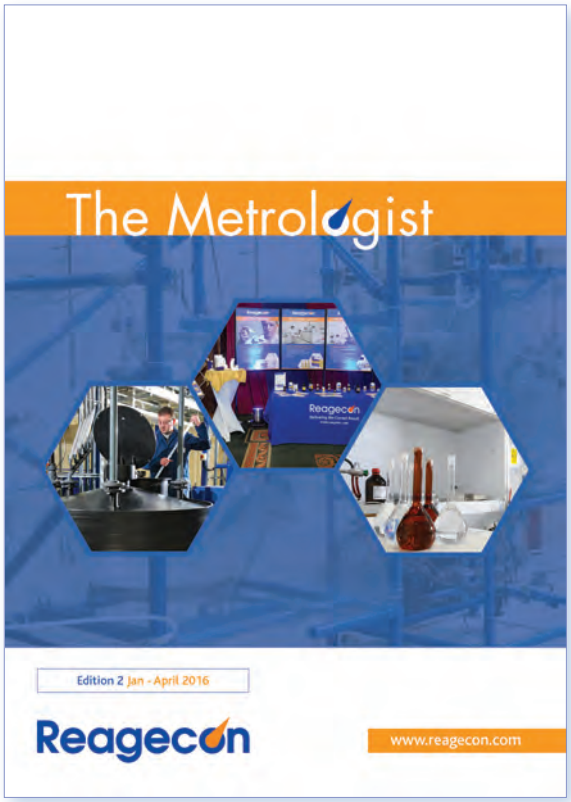
- Lower your total cost of ownership
- Reduce direct costs through consolidation and product outsourcing
- Reduce indirect costs through the elimination of thousands of POs, invoices, physical deliveries and receipts
- Improve service levels
- Benefit from on-site instant material availability
- Eliminate stock outs
- Improve efficiencies and processes
- Minimise stock holding costs
- Reduce obsolescence
- Free up laboratory staff to focus on core high value added activities

We have successfully operated this model in many global blue chip companies over a 15 year period. We believe the model offers real value, reduces direct and indirect costs and brings peace of mind.

If you would like further information please contact; sales@reagecon.ie

The Metrologist

Reagecon has recently launched an exciting new technical publication called 'The Metrologist' Our objectives in presenting this publication to you are as follows:



- To help you stay up to date on legal, scientific and technology issues relating to metrology in general, but more specifically on Standards, Reference Materials and Reagents.
- To introduce you to a significant pipeline of new products that are continually emerging from our very progressive R&D department.
- To provide you with technical notes on various exciting new product families focusing on applications, features and benefits of such products, which will assist you in your scientific work on a daily basis.
- Provide you with updates on innovations, promotions and service offerings from Reagecon that will enhance our overall value proposition to you. Contained in a recent edition are details of three such initiatives:
    - The Labcal™ Stability System, a new system designed to eliminate any possibility of contamination of Standards and Reagents.
    - The introduction of new outer packaging that will provide greater protection in terms of handling, storage and shipping of high value added products. All such packaging will contain Certificates of Analysis and information to help you source other Reagecon products.
    - A series of Industry Specific Catalogues that contain Standards, Reference Materials and Reagents listed and cross referenced to the compendium method relevant to each particular industry.
- Facilitate a two-way flow of information and dialogue between Reagecon and users of our products and enable us to help our channel partners to keep you up to date with developments in metrology and give you the best service possible.
- To present valuable case studies on various aspects of metrology.
- This new journal is published in Winter, Spring and Autumn of every year.

A Unique Value Proposition for Instrument Manufacturers & OEM/Private Label Customers

Introduction

In the past couple of years Reagecon has focused very heavily on developing a new and unique value proposition for instrument manufacturers and OEM Partners. We wish to extend our market reach and growth into this very important segment.

From the perspective of an instrument manufacturer there are several compelling reasons that Standards, Reagents or Certified Reference Materials should be offered including, but not limited to, the following:

- Continuous, repeatable revenue stream over the working life of the instrument
- Ability to offer a complete, integrated package that includes Qualification (where appropriate), Validation, Service and Consumables
- Complete control over the final result achieved by the analyst including proof of the fitness for purpose of the result, its accuracy and validity
- Control and insight over service call outs, and a consequent reduction in cost of engineers time and resources
- Continuous contact with the customer over the life of the instrument, a deeper understanding of the end user requirements and the establishment of a stakeholder relationship over and above the traditional vendor/customer relationship

The Value Proposition

Using these considerations as a baseline, we have developed a value proposition that contains several unique innovations which 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 pictured above 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 (INAB Ref:265C) that include:
  - Weighing Devices
  - Temperature
  - Volume

  (A full list of Reagecons 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:

The Labcal™ Standards Stability System

Reagecon has developed a novel new packaging system designed to eliminate contamination of chemically or physically sensitive materials such as high specification analytical standards, buffers and reagents. This system is unique and applicable to pack sizes of greater than 100ml and up to one litre.

Analyst Qualification Sets (AQS) which can be used by the instrument manufacturer 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 within 48 hours of request
- Design and produce your marketing collateral for Standards and Reagents within three (3) working days
- Offer you up to 40 Industry Specific Customised Catalogues

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

- Customised options - a large range of customised products
- Flexibility - we will quote you for small annual quantities of product
- Standard freight costs - to UK, Europe, Middle East and India
- Savings - we can save you significant expense on transatlantic freight costs

For further details please email us at sales@reagecon.ie

Request for Customized Reagents

Reagecon can develop and produce a wide range of products not included in this compendium. We would be pleased to receive any enquiries you may have. When requesting information on a customised solution, please furnish the following information to us if possible.

- Pack size
- Number of packs required and how often you need the product
- Special handling, manufacturing, testing, packing, storage and shipping requirements (for example cold chain storage or cold chain shipping).
- Bill of Materials, manufacturing processes, health and safety considerations, test procedures and any other relevant information (you feel is applicable).
- Metrological Information such as accuracy, tolerances,specifications, stability etc.

Generally, if this list of information referred to above is available we can provide you with a 'Go/No Go' answer within 24 hours and a quote within the following 24 hours. Of course, if some or all of the listed information is unavailable, our Research and Development (R&D) and New Product Introduction (NPI) teams will be happy to provide any assistance within our technical capability.

The development or manufacture of customised product forms a very significant component of our overall revenue stream.

Mini Catalogues

In addition to this Chemical and Physical Standards Compendium, which is produced every 2 years, Reagecon periodically produces Industry Specific Catalogues, a selection of those currently available can be seen in this compendium.

As a service to our customers and channel Partners we frequently produce mini catalogues. These are designed to keep you up to date with our Research and Development output.

An example of such a publication can be seen in the graphic below.

Product Ranges Produced at Reagecon

- Total Organic Carbon (TOC)
- Total Inorganic Carbon (TIC)
- Volatile Organic Compound (VOC)
- Semi Volatile Organic Compound (SVOC)
- Polycyclic Aromatic Hydrocarbons
- Phenolics
- Phthalates
- Azo Dye Metabolites
- Paraffins, Isoparaffins, Aromatics, Naphthalates, Olefins, (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/ICP-OES
- Atomic Absorption
- Titrants/Indicators
- Total Acid Number (TAN)
- Total Base Number (TBN)
- Hydrocarbons
- Solvent Residues
- Cryoscope
- PBBs
- PCBs
- PBDEs (Flame Retardants)

- Osmolality
- Colour
  - Saybolt
  - Hazen
  - ASTM
  - Gardner
- Turbidity
- Spectrophotometry
  - Wavelength
  - Linearity
  - Stray light
  - Band width

- pH
- Conductivity
- Ion Selective Electrode
- Ionic Strength Adjusters
- Flame Photometry
- Ion Chromatography
- Redox
- Pharmacopoeia
  - European
  - Chinese
  - United States
  - Japanese
  - Indian
- Eluents/Mobile Phases
- Dissolution Solutions
- pH Electrode Care & Maintenance

Examples of all of these product families can be viewed in detail in this compendium

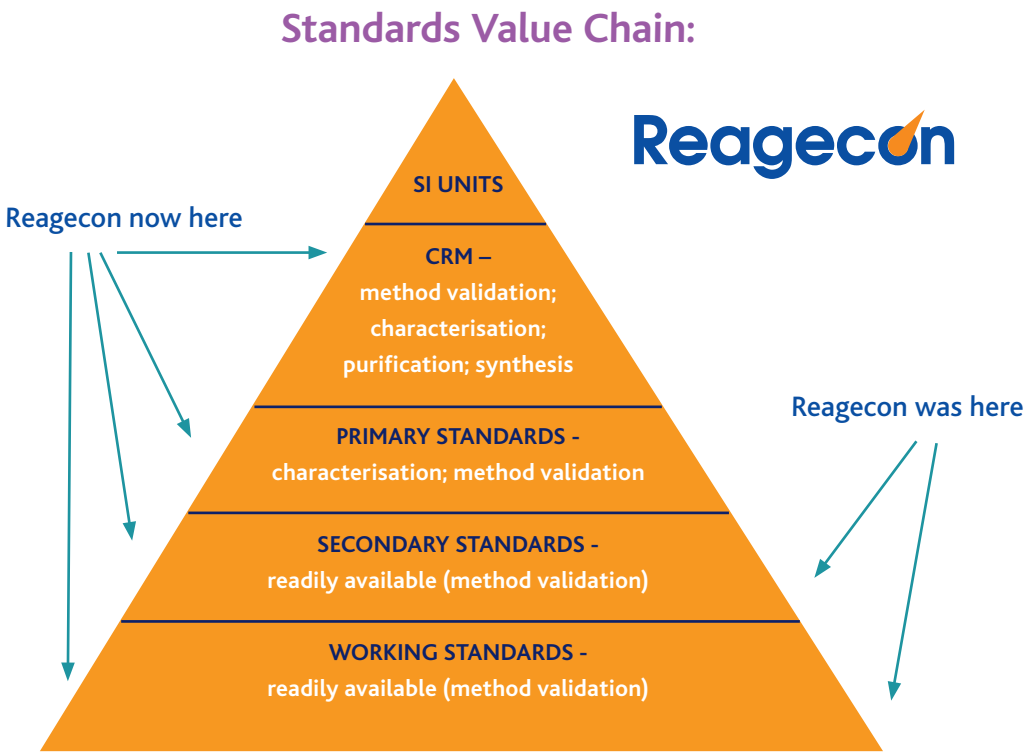
Techniques & Instruments Employed

Reagecon has an extensive range of scientific instrumentation. We have at least one and in some cases several of the instruments listed.

- 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 Oxidisation
- Rotational Viscometer
- Ubbelodhe Master Viscometer
- Cryoscope
- Coulometer
- Auto Titrator
- Spectrophotometer
- Fourier Transform Infrared Spectroscope (FTIS)
- 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 Combinatorial Chemistry Synthesiser
- Buchi Rotary Evaporator
- Melting Point Apparatus
- TBN/TAN Titrator
- Class ISO7 (Class 10,000) Cleanroom
- Solvent Manufacturing Plant
- Spectrofluorometer
- Wave Dispersive XRF

The Reagecon Hierarchy of Standards

Traditionally, Reagecon's manufactured products fitted into the classification of working/secondary standards. The development and production of such standards was consistent with our main technical competencies (method validation/accreditation).



Since 2011, 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 by optimizing the following:

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

As a Metrology Company, it is a basic requirement that we have detailed knowledge and skills in the Chemical and Biological Sciences, Physics, Statistics, and Engineering. As a manufacturer of metrological products it is mandatory that we have skills and expertise in automation, programmable logic controllers, (PLC's), cleanroom technology and lean (5S, Kaizen, Value Stream Mapping).

Because Metrology forms such a core component of Reagecon's technology platform and is a key Competitive Advantage of the Company, in 2016, we established in Shannon a new Global Metrology Development Centre. The features and benefits of this centre are detailed in the next section.

Global Metrology Development Centre

From a technical perspective this centre will elevate Reagecon's status and knowledge base in the science of Metrology, to that of a Reference Centre.Technically the Centre will offer the following advantages

- Reduce Measurement uncertainty for pH, Conductivity, Refractive Index and Density by a full order of magnitude.
- Propel Reagecon into the Certified Reference Material space for these products.
- Increase our ability to publish more widely in the area of Metrology and participate in collaborative studies with research Metrology Institutions.
- Increase accuracy, precision, reproducibility and other metrological parameters for pH, Conductivity Refractive Index and Density initially, then followed by Viscosity, Colour and Osmolality.

From a marketing, image and perception value the Global Metrology Centre will yield significant customer impact. The tangible benefits in terms of outputs include, but are not limited to the following:

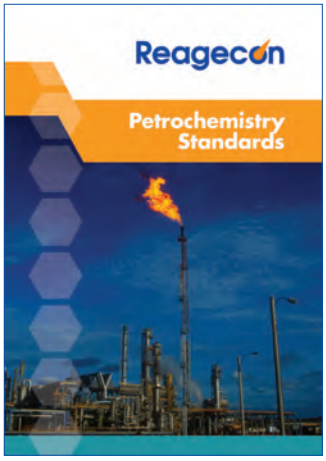
- Provide a training facility for 300 international distributors on Metrology
- Provide a training facility for 1,000 Irish customers on new products
- Provide a training facility for our 25 Business Development staff on new products.
- Provide an area for upskilling existing staff
- Provide an area for collaboration and research with National Metrology and National Reference Centres worldwide
- Establish Reagecon as a global Metrology Centre of excellence in the Science of Metrology
- Facilitate the rapid development of Certified Reference Materials in all four sciences of pH, Conductivity, Refractive Index and Density
- Form a platform for adding other Primary Reference Methods in areas such as Viscosity, Colour and Osmolality

The graphic below shows some of the equipment that has been commissioned and is being used in our Metrology Centre

Industry Specific Catalogues

Reagecon has developed several Industry Specific Catalogues and at the time of writing (May 2016), we have 37 such catalogues on offer. These catalogues allow you to pick the required compendium method and locate all of the standards and reagents required to perform your analysis. No other catalogue from any supplier offers this unique functionality. These catalogues can also be viewed at www.reagecon.com. Using these Industry Specific Catalogues will allow easy and simple selection of certified standards, control solutions and necessary reagents all from one source, reducing vendors, saving time, maximising spend and delivering genuine value.

Petrochemistry

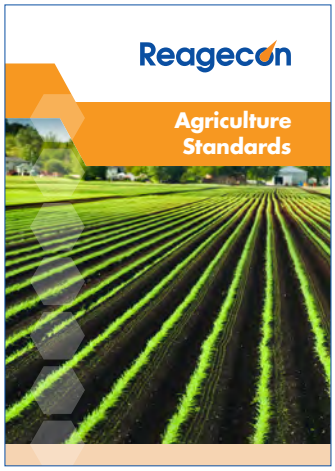


- Asphalt
- Biofuels
- Coke
- Fuel Oil
- Lubricating Oils
- Gasoline
- Greases
- Kerosene
- Naphtha
- Other Petroleums
- Waxes

Food

- Cereals
- Coffee & Tea
- Dairy
- Vegetables
- Oils & Fats
- Flavours & Fragrances
- Fruits
- Ingredients
- Meat & Fish
- Sugars

Agriculture



- Animal Feeds
- Fertilizers
- Plants
- Soil

Beverages

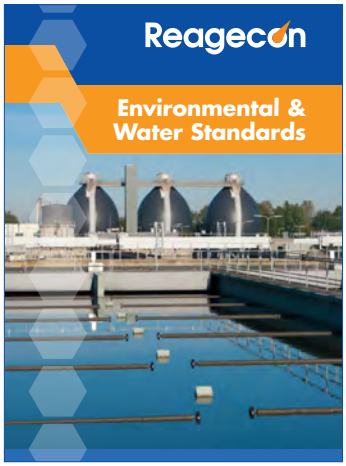
- Beer
- Nonalcoholic Beverages & Concentrates
- Spirits
- Wine

Pharmaceutical

- Cosmetics
- Chinese Pharmacopoeia
- European Pharmacopoeia
- Japanese Pharmacopoeia
- United States Pharmacopoeia
- Indian Pharmacopoeia

Industrial Manufacturing

Environmental & Water



- APHA, AWWA, WEF Standard Methods

Pulp & Paper

- TAPPI

Textiles

Volatile Organic Compound Standards (VOCs)

Summary of Features & Benefits:

Commercial Benefits

- Ready to use (dilute for use as calibration and/or quality control standards)
- Extensive range of organic compound mixes and single compound standards available
- Can be used with a variety of instruments including GC, GC-MS, HPLC and LC-MS
- Designed specifically for use in EPA or EU analytical methods
- Presented in high quality amber ampoules
- Customised formulations available

Technical Benefits

- Produced in accordance with EPA methods
- Consistency of product - Independent, Traceable, Certified
- Ideal for use in EPA 500, 600 and 8000 series methods
- Certificates of Analysis and Safety Data Sheets available online

These products are prepared gravimetrically on a weight/volume basis. Both solute and solvent are prepared using equipment calibrated by Reagecon engineers. Reagecon holds IEC/ISO 17025 accreditation for calibration of laboratory balances and pipettes (INAB Ref:265C). The resulting equipment Calibration Certificates are issued in accordance with the requirements of ISO/IEC 17025. The results are then reported and certified in µg/ml on the basis of weight and the density measurement of the standard. Reagecon is IEC/ISO 17025 (INAB Ref:264T) Accredited for density measurement using an Oscillating U-Tube Method in accordance with the ASTM D4052 method. The concentration of each standard is verified using a high performance calibrated Gas Chromatograph - Mass Spectrometer (GC-MS Instrument). The calibration of the GC-MS instrument is completed using high purity ISO Guide 34 accredited VOC standards similar in VOC concentration value to these products. The mass spectrum of each of the analytes is confirmed by comparison with the National Institute of Standards and Technology (NIST) mass spectral library.

Volatile Organic Compounds (VOCs) Mixed Standards

Description	US EPA Methods	Pack in Ampoule	2,000µg/ml in Purge & Trap Methanol	200µg/ml in Purge & Trap Methanol
1,1-Dichlorethene (dichloroethylene)	502.2	1ml	REVOC001	REVOC002
trans-1,2-Dichloroethene	524.2		(54 compound mix)	(54 compound mix)
Dichloromethane (methylene chloride)	8021			
1,1-Dichloroethane	8021A			
cis-1,2-Dichloroethane	8021B			
2,2-Dichloropropane	8260B			
Bromochloromethane				
Chloroform				
1,1,1-Trichloroethane				
1,1-Dichloropropene				
Carbon Tetrachloride				
1,2-Dichloroethane				
Benzene				
Trichloroethene				
1,2-Dichloropropane				
Dibromomethane				
Bromodichloromethane				
trans-1,3-Dichloropropene				
Toluene				
cis-1,3-Dichloropropene				
1,3-Dichloropropane				
Tetrachloroethene				
Dibromochloromethane				
Dibromoethane				
Chlorobenzene				
1,1,1,2-Tetrachloroethane				
Ethylbenzene				
m-Xylene				
p-Xylene				
o-Xylene				
Styrene				
Bromoform				
Isopropylbenzene				
1,1,2,2-Tetrachloroethane				
1,2,3-Trichloropropane				
Bromobenzene				
n-Propylbenzene				
2-Chlorotoluene				
1,2,4-Trimethylbenzene				
4-Chlorotoluene				
tert-Butylbenzene				
1,3,5-Trimethylbenzene				
sec-Butylbenzene				
1,3-Dichlorobenzene				
4-Isopropyltoluene				
1,4-Dichlorobenzene				
1,2-Dichlorobenzene				
n-Butylbenzene				
1,2-Dibromo-3-chloropropane				
1,2,3-Trichlorobenzene				
Hexachlorobutadiene				
Naphthalene				
1,2,4-Trichlorobenzene				
1,1,2-Trichloroethane				

Description	US EPA Methods	Pack in Ampoule	2,000µg/ml in Purge & Trap Methanol	200µg/ml in Purge & Trap Methanol
Bromoform	502.2	1ml	REVOC003	REVOC004
Chlorobenzene	524.2		(15 compound mix)	(15 compound mix)
Carbon Tetrachloride	8021			
Chloroform	8021A			
Dibromochloromethane	8021B			
1,1-Dichloroethane	624			
1,2-Dichloroethane	8240B			
1,1-Dichlorethene	8260B			
trans-1,2-Dichloroethene				
1,2-Dichloropropane				
Dichloromethane				
1,1,2,2-Tetrachloroethane				
Tetrachloroethene				
1,1,2-Trichloroethane				
Trichloroethene				
Bromobenzene	502.2	1ml	REVOC005	REVOC006
Bromochloromethane	524.2		(21 compound mix)	(21 compound mix)
Bromodichloromethane	8021			
n-Butylbenzene	8021A			
2-Chlorotoluene	8021B			
4-Chlorotoluene	8260B			
Dibromoethane				
1,2-Dichlorobenzene				
1,3-Dichlorobenzene				
cis-1,2-Dichloroethane				
1,3-Dichloropropane				
1,1-Dichloropropene				
cis-1,3-Dichloropropene				
trans-1,3-Dichloropropene				
Ethylbenzene				
Isopropylbenzene				
Styrene				
1,1,1,2-Tetrachloroethane				
1,1,1-Trichloroethane				
1,2,3-Trichloropropane				
p-Xylene				
Benzene	502.2	1ml	REVOC007	REVOC008
sec-Butylbenzene	524.2		(17 compound mix)	(17 compound mix)
tert-Butylbenzene	8021			
1,2-Dibromo-3-chloropropane	8021A			
1,4-Dichlorobenzene	8021B			
2,2-Dichloropropane	8260B			
Hexachlorobutadiene				
4-Isopropyltoluene				
Naphthalene				
n-Propylbenzene				
Toluene				
1,2,3-Trichlorobenzene				
1,2,4-Trichlorobenzene				
1,2,4-Trimethylbenzene				
1,3,5-Trimethylbenzene				
o-Xylene				
m-Xylene				

Description	US EPA Methods	Pack in Ampoule	2,000µg/ml in Purge & Trap Methanol	200µg/ml in Purge & Trap Methanol
Bromodichloromethane	501	1ml	REVOC009 (4 compound mix)	REVOC010 (4 compound mix)
Bromoform				
Chloroform				
Dibromochloromethane				
Benzene	602	1 ml	REVOC018 (7 compound mix)	REVOC019 (7 compound mix)
Chlorobenzene				
1,2-Dichlorobenzene				
1,3-Dichlorobenzene				
1,4-Dichlorobenzene				
Ethylbenzene				
Toluene				
Benzene	602	1ml	REVOC020 (6 compound mix for BTEX)	REVOC021 (6 compound mix for BTEX)
Ethylbenzene				
Toluene				
m-Xylene				
p-Xylene				
o-Xylene				

Volatile Organic Compounds (VOCs) Mixed Standards

Product No.	Description - Each at 2,000µg/ml in Purge & Trap Methanol	US EPA Methods	Packed in Ampoule
REVOC011 (9 compound mix)	Bromochloromethane	502.2	1ml
	Bromoform	524.2	
	Carbon Tetrachloride	8021	
	Chloroform	8021A	
	Dibromomethane	8021B	
	1,1-Dichloroethane		
	2,2-Dichloropropane		
	Tetrachloroethene		
	1,1,1-Trichloroethane		
REVOC012 (16 compound mix)	1,2-Dibromo-3-chloropropane	502.2	1ml
	Dibromoethane	524.2	
	1,2-Dichloroethane	8021	
	1,2-Dichloropropane	8021A	
	1,3-Dichloropropane	8021B	
	1,1-Dichloropropene		
	trans-1,3-Dichloropropene		
	cis-1,3-Dichloropropene		
	Hexachlorobutadiene		
	1,1,1,2-Tetrachloroethane		
	1,1,2,2-Tetrachloroethane		
	1,1,2-Trichloroethane		
	Trichloroethene		
	1,2,3-Trichloropropane		
	Naphthalene		
	1,2,4-Trimethylbenzene		

Volatile Organic Compounds (VOCs) Mixed Standards

Product No.	Description - Each at 2,000µg/ml in Purge & Trap Methanol	US EPA Methods	Packed in Ampoule
REVOC013	Benzene	502.2	1ml
(12 compound mix)	Bromobenzene	524.2	
	n-Butylbenzene	8021	
	Ethylbenzene	8021A	
	4-Isopropyltoluene	8021B	
	Styrene		
	Toluene		
	1,2,3-Trichlorobenzene		
	1,2,4-Trichlorobenzene		
	1,3,5-Trimethylbenzene		
	1,2,4-Trimethylbenzene		
	m-Xylene		
REVOC014	sec-Butylbenzene	502.2	1ml
(12 compound mix)	tert-Butylbenzene	524.2	
	Chlorobenzene	8021	
	2-Chlorotoluene	8021A	
	4-Chlorotoluene	8021B	
	1,2-Dichlorobenzene		
	1,3-Dichlorobenzene		
	1,4-Dichlorobenzene		
	Isopropylbenzene		
	n-Propylbenzene		
	o-Xylene		
	p-Xylene		
REVOC015	1,2,4-Trimethylbenzene	503.1	1ml
(28 compound mix)	1,2-Dichlorobenzene		
	1,3,5-Trimethylbenzene		
	1,3-Dichlorobenzene		
	1,4-Dichlorobenzene		
	2-Chlorotoluene		
	Benzene		
	Bromobenzene		
	n-Butylbenzene		
	tert-Butylbenzene		
	sec-Butylbenzene		
	Chlorobenzene		
	4-Chlorotoluene		
	Ethylbenzene		
	Hexachlorobutadiene		
	Isopropylbenzene		
	4-Isopropyltoluene		
	Naphthalene		
	n-Propylbenzene		
	Styrene		
	Tetrachloroethene		
	Toluene		
	1,2,3-Trichlorobenzene		
	1,2,4-Trichlorobenzene		
	Trichloroethene		
	m-Xylene		
	p-Xylene		
	o-Xylene		

Product No.	Description - Each at 2,000µg/ml in Purge & Trap Methanol	US EPA Methods	Packed in Ampoule
REVOC016	1,2-Dibromo-3-chloropropane	504	1ml
(2 compound mix)	Dibromoethane	8011	
REVOC017	1,2-Dibromo-3-chloropropane	504.1	1ml
(3 compound mix)	Dibromoethane		
	1,2,3-Trichloropropane		
REVOC022	Benzene	8020	1ml
(10 compound mix)	Chlorobenzene	8020A	
	1,3-Dichlorobenzene		
	1,4-Dichlorobenzene		
	1,2-Dichlorobenzene		
	Ethylbenzene		
	m-Xylene		
	p-Xylene		
	o-Xylene		
	Toluene		

Product No.	Description - Each at 2,000µg/ml in Purge & Trap Methanol	US EPA Methods	Packed in Ampoule
REVOC023	1,1-Dichlorethene (dichloroethylene)	8021	1ml
(53 compound mix)	Dichloromethane (methylene chloride)	8021A	
	trans-1,2-Dichloroethene	8021B	
	1,1-Dichloroethane	8260B	
	cis-1,2-Dichloroethane		
	2,2-Dichloropropane		
	Chloroform		
	1,1,1-Trichloroethane		
	1,1-Dichloropropene		
	Carbon Tetrachloride		
	1,2-Dichloroethane		
	Benzene		
	Trichloroethene		
	1,2-Dichloropropane		
	Dibromomethane		
	Bromodichloromethane		
	trans-1,3-Dichloropropene		
	Toluene		
	cis-1,3-Dichloropropene		
	1,3-Dichloropropane		
	Tetrachloroethene		
	Dibromochloromethane		
	Dibromoethane		
	Chlorobenzene		
	1,1,1,2-Tetrachloroethane		
	Ethylbenzene		
	m-Xylene		
	p-Xylene		
	o-Xylene		
	Styrene		
	Bromoform		
	Isopropylbenzene		
	1,1,2,2-Tetrachloroethane		
	1,2,3-Trichloropropane		
	Bromobenzene		
	n-Propylbenzene		
	2-Chlorotoluene		
	1,2,4-Trimethylbenzene,		
	4-Chlorotoluene		
	tert-Butylbenzene		
	1,3,5-Trimethylbenzene		
	sec-Butylbenzene		
	1,3-Dichlorobenzene		
	4-Isopropyltoluene		
	1,4-Dichlorobenzene		
	1,2-Dichlorobenzene		
	n-Butylbenzene		
	1,2-Dibromo-3-chloropropane		
	1,2,3-Trichlorobenzene		
	Hexachlorobutadiene		
	Naphthalene		
	1,2,4-Trichlorobenzene		
	1,1,2-Trichloroethane		

Product No. Pack in 1ml Ampoule	Description - Each at 200µg/ml in Purge & Trap Methanol
REVOC0025 (20 compound mix)	1,1,1-Trichloroethane
	1,1-Dichlorethene (dichloroethylene)
	1,1-Dichloroethane
	1,2-Dichlorobenzene
	1,2-Dichloropropane
	1,3-Dichlorobenzene
	1,4-Dichlorobenzene
	Benzene
	Bromodichloromethane
	Bromoform
	Carbon Tetrachloride
	Chlorobenzene
	Chloroform
	Dibromochloromethane
	Dichloromethane (methylene chloride)
	Ethylbenzene
	Styrene
	Tetrachloroethene
	Toluene
	Trichloroethene

Product No. Pack in 1ml Ampoule	Description - Each at 1000µg/ml in Purge & Trap Methanol
REVOC0026 (18 compound mix)	1,2,3-Trichlorobenzene
	1,2,4-Trichlorobenzene
	1,2-Dichlorobenzene
	1,3-Dichlorobenzene
	1,4-Dichlorobenzene
	Benzene
	Bromodichloromethane
	Bromoform
	Carbon Tetrachloride
	Chloroform
	Dibromochloromethane
	Ethylbenzene
	Isopropylbenzene
	m-Xylene
	o-Xylene
	p-Xylene
	Styrene
	Toluene

Product No. Pack in 1ml Ampoule	Description - Each at 20000µg/ml in Purge & Trap Methanol
REVOC0028 (13 compound mix)	1,2,3-Trichlorobenzene
	1,2,4-Trichlorobenzene
	1,2,4-Trimethylbenzene
	1,3,5-Trimethylbenzene
	4-Isopropyltoluene
	Benzene
	Bromobenzene
	Ethylbenzene
	m-Xylene
	Naphthalene
	n-Butylbenzene
	Styrene
	Toluene

Product No. Pack in 1ml Ampoule	Description - Each at 20000µg/ml in Purge & Trap Methanol
REVOC0030 (12 compound mix)	1,2-Dichlorobenzene
	1,3-Dichlorobenzene
	1,4-Dichlorobenzene
	2-Chlorotoluene
	4-Chlorotoluene
	Chlorobenzene
	Isopropylbenzene
	n-Propylbenzene
	o-Xylene
	p-Xylene
	sec-Butylbenzene
	tert-Butylbenzene

Product No. Pack in 1ml Ampoule	Description - Each at 20000µg/ml in Purge & Trap Methanol
REVOC0031 (12 compound mix)	1,2,3-Trichlorobenzene
	1,2,4-Trichlorobenzene
	1,2,4-Trimethylbenzene
	1,3,5-Trimethylbenzene
	4-Isopropyltoluene
	Benzene
	Bromobenzene
	Ethylbenzene
	Naphthalene
	n-Butylbenzene
	Styrene
	Toluene

Product No. Pack in 1ml Ampoule	Description - Each at 1000µg/ml in Purge & Trap Methanol
REVOC0033 (11 compound mix)	1,2-Dichlorobenzene
	1,3-Dichlorobenzene
	1,4-Dichlorobenzene
	2-Chlorotoluene
	4-Chlorotoluene
	Chlorobenzene
	Isopropylbenzene
	n-Propylbenzene
	sec-Butylbenzene
	tert-Butylbenzene
	o-Xylene

Product No. Pack in 1ml Ampoule	Description - Each at 40µg/ml in Purge & Trap Methanol
REVOC0034 (10 compound mix)	1,1,2,2-Tetrachloroethane
	1,1,2-Trichloroethane
	1,1-Dichlorethene (dichloroethylene)
	1,2,3-Trichloropropane
	1,2-Dichloroethane
	1,2-Dichloropropane
	Chloroform
	Hexachlorobutadiene
	Tetrachloroethene
	Trichloroethene

Product No. Pack in 1ml Ampoule	Description - Each at 200µg/ml in Purge & Trap Methanol
REVOC0035 (10 compound mix)	1,1,1-Trichloroethane
	1,1-Dichlorethene
	Bromodichloromethane
	Bromoform
	Carbon Tetrachloride
	Chloroform
	Dibromochloromethane
	Dichloromethane (methylene chloride)
	Tetrachloroethene
	Trichloroethene

Product No. Pack in 1ml Ampoule	Description - Each at 20000µg/ml in Purge & Trap Methanol
REVOC0036 (9 compound mix)	1,1,1-Trichloroethane
	1,1-Dichloroethane
	2,2-Dichloropropane
	Bromodichloromethane
	Bromoform
	Carbon Tetrachloride
	Chloroform
	Dibromomethane
	Tetrachloroethene

Product No. Pack in 1ml Ampoule	Description - Each at 1000µg/ml in Purge & Trap Methanol
REVOC0037 (9 compound mix)	Benzene
	Carbon Tetrachloride
	Chloroform
	m-Xylene
	o-Xylene
	p-Xylene
	Tetrachloroethene
	Toluene
	Trichloroethene

Product No. Pack in 1ml Ampoule	Description - Each at 1000µg/ml in Purge & Trap Methanol
REVOC0038 (9 compound mix)	
	Benzene
	Chlorobenzene
	Ethylbenzene
	m-Xylene
	o-Xylene
	p-Xylene
	Styrene
	Toluene

Product No. Pack in 1ml Ampoule	Description - Each at 100µg/ml in Methylene Chloride
REVOC0042 (8 compound mix)	1,1,1-Trichloroethane
	Bromodichloromethane
	Bromoform
	Chloroform
	Dibromochloromethane
	Dichloromethane (methylene chloride)
	Tetrachloroethene
	Trichloroethene

Product No. Pack in 1ml Ampoule	Description - Each at 100µg/ml in Purge & Trap Methanol
REVOC0043 (5 compound mix)	Bromoform
	Carbon Tetrachloride
	Chloroform
	Tetrachloroethene
	Trichloroethene

Product No. Pack in 1ml Ampoule	Description - Each at 40µg/ml in Purge & Trap Methanol
REVOC0046 (3 compound mix)	1,1,1-Trichloroethane
	1,1-Dichloroethane
	trans-1,2-Dichloroethene

Product No. Pack in 1ml Ampoule	Description - Each at 1000µg/ml in Purge & Trap Methanol
REVOC0047 (3 compound mix)	1,1-Dichloroethane
	1,2-Dichloroethane
	Dichloromethane (methylene chloride)

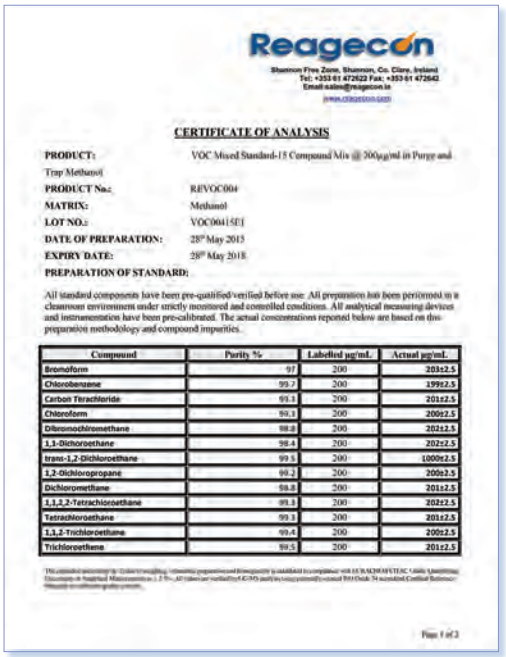
Product No. Pack in 1ml Ampoule	Description - Each at 1000µg/ml in Purge & Trap Methanol
REVOC0048 (3 compound mix)	1,2,4-Trichlorobenzene
	1,4-Dichlorobenzene
	Chlorobenzene

Product No. Pack in 1ml Ampoule	Description - Each at 1000µg/ml in Purge & Trap Methanol
REVOC0049 (2 compound mix)	Tetrachloroethene
	Trichloroethene

Product No. Pack in 1ml Ampoule	Description - Each at 200µg/ml in Purge & Trap Methanol
REVOC0051 (2 compound mix)	Benzene
	Toluene

Product No. Pack in 1ml Ampoule	Description - Each at 2µg/ml in Purge & Trap Methanol
REVOC0052 (2 compound mix)	Benzene
	Toluene

Product No. Pack in 1ml Ampoule	Description - Each at 100µg/ml in Purge & Trap Methanol
REVOC0053 (2 compound mix)	Benzene
	Toluene



Reagecon

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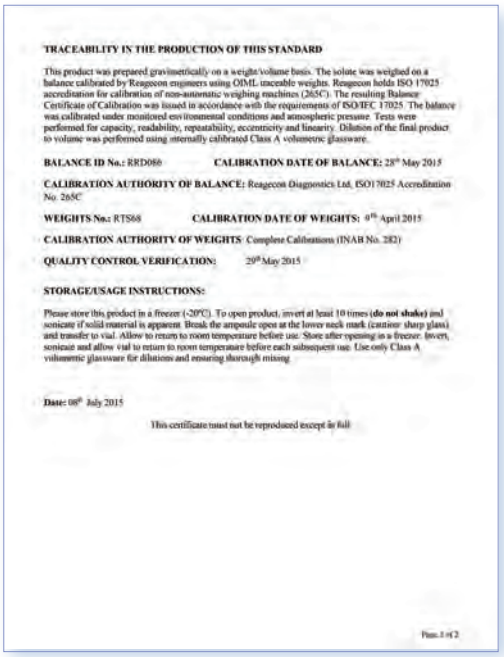
CERTIFICATE OF ANALYSIS

PRODUCT: VOC Mixed Standard-15 Compound Mix @ 200µg/ml in Purge and Trap Methanol
PRODUCT No.: REVOC004
MATRIX: Methanol
LOT NO.: VOC004150
DATE OF PREPARATION: 28th May 2015
EXPIRY DATE: 28th May 2018
PREPARATION OF STANDARD:

All standard components have been pre-qualified/verified before use. All preparation has been performed in a cleanroom environment under strictly monitored and controlled conditions. All analytical measuring devices and instrumentation have been pre-calibrated. The actual concentrations reported below are based on this preparation methodology and compound impurities.

Compound	Purity %	Labelled µg/mL	Actual µg/mL
Bromoform	97	200	203±2.5
Chlorobenzene	99.7	200	199±2.5
Carbon Tirachloride	99.3	200	201±2.5
Chloroform	99.3	200	200±2.5
Dibromochloromethane	98.8	200	202±2.5
1,1-Dichloroethane	98.4	200	202±2.5
trans-1,2-Dichloroethane	99.5	200	1000±2.5
1,2-Dichloropropane	99.2	200	200±2.5
Dichloromethane	98.8	200	201±2.5
1,1,2,2-Tetrachloroethane	99.3	200	202±2.5
Tetrachloroethane	99.3	200	201±2.5
1,1,2-Trichloroethane	99.4	200	200±2.5
Trichloroethene	99.5	200	201±2.5



TRACEABILITY IN THE PRODUCTION OF THIS STANDARD

This product was prepared gravimetrically on a weight/volume basis. The solute was weighed on a balance calibrated by Reagecon engineers using OIML traceable weights. Reagecon holds ISO 17025 accreditation for calibration of non-automatic weighing machines (265C). The resulting Balance Certificate of Calibration was issued in accordance with the requirements of ISO/IEC 17025. The balance was calibrated under monitored environmental conditions and atmospheric pressure. Tests were performed for capacity, readability, repeatability, eccentricity and linearity. Dilution of the final product to volume was performed using internally calibrated Class A volumetric glassware.

BALANCE ID No.: RRD050 **CALIBRATION DATE OF BALANCE:** 28th May 2015

CALIBRATION AUTHORITY OF BALANCE: Reagecon Diagnostics Ltd, ISO17025 Accreditation No. 265C

WEIGHTS No.: RTS68 **CALIBRATION DATE OF WEIGHTS:** 9th April 2015

CALIBRATION AUTHORITY OF WEIGHTS: Complete Calibrations (INAB No. 282)

QUALITY CONTROL VERIFICATION: 29th May 2015

STORAGE/USAGE INSTRUCTIONS:

Please store this product in a freezer (-20°C). To open product, invert at least 10 times **(do not shake)** and sonicate if solid material is apparent. Break the ampoule open at the lower neck mark (caution: sharp glass) and transfer to vial. Allow to return to room temperature before use. Store after opening in a freezer. Invert, sonicate and allow vial to return to room temperature before each subsequent use. Use only Class A volumetric glassware for dilutions and ensuring thorough mixing.

Date: 08th July 2015

This certificate must not be reproduced except in full

Product No. Pack in 1ml Ampoule	Description - Each in Acetone	Concentration µg/ml
REVOC0032 (12 compound mix)	1,2-Dichloroethane	4000
	Benzene	12000
	Carbon Tetrachloride	4000
	Chlorobenzene	8000
	Chloroform	4000
	Ethylbenzene	8000
	m-Xylene	12000
	o-Xylene	12000
	p-Xylene	12000
	Tetrachloroethene	4000
	Toluene	12000
	Trichloroethene	4000

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC0039 (9 compound mix)	1,2-Dichloroethane	3000
	Benzene	1000
	Chlorobenzene	1000
	Ethylbenzene	1000
	m-Xylene	1000
	o-Xylene	1000
	p-Xylene	1000
	Styrene	1000
	Toluene	1000

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC0040 (9 compound mix)	1,1,1-Trichloroethane	100
	1,2-Dichloroethane	100
	Bromodichloromethane	100
	Bromoform	100
	Carbon Tetrachloride	100
	Chloroform	100
	Dibromochloromethane	100
	Tetrachloroethene	50
	Trichloroethene	50

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC0041 (8 compound mix)	1,2-Dichloroethane	3000
	Benzene	1000
	Ethylbenzene	1000
	m-Xylene	1000
	o-Xylene	1000
	p-Xylene	1000
	Styrene	1000
	Toluene	1000

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC0044 (5 compound mix)	1,1-Dichloroethane	6
	1,2,3-Trichloropropane	6
	Bromochloromethane	12
	n-Propylbenzene	6
	sec-Butylbenzene	8

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC0045 (5 compound mix)	1,1-Dichloroethane	0.6
	1,2,3-Trichloropropane	0.6
	Bromochloromethane	1.2
	n-Propylbenzene	0.6
	sec-Butylbenzene	0.8

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC0054 (9 compound mix)	1,2,3-Trichlorobenzene	100
	1,2,4-Trichlorobenzene	100
	Styrene	100
	Ethylbenzene	100
	Toluene	100
	o-Xylene	100
	m-Xylene	100
	p-Xylene	100
	Naphthalene	100

Product No. Pack in 1 ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC0056 (4 compound mix)	Trichloroethene	100
	Tetrachloroethene	100
	1,2-Dichloroethene	100
	Benzene	100

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC0058 (8 compound mix)	Chloroform	100
	Bromodichloromethane	100
	Dibromochloromethane	100
	Bromoform	100
	1,2-Dichloroethane	100
	Trichloroethene	100
	Tetrachloroethene	100
	Tetrachloromethane	100

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC0183	1,1-Dichloroethylene	500
(14 compound mix)	Methylene chloride	2000
	trans-1,2-Dichloroethylene	2000
	Chloropropene	500
	cis-1,2-Dichloroethylene	2000
	Chloroform	20
	Carbon Tetrachloride	20
	1,2-Dichloroethane	2000
	Trichloroethylene	20
	Bromodichloromethane	20
	Tetrachloroethylene	20
	Dibromochloromethane	100
	Bromoform	100
	Hexachlorobutadiene	20
Product No. Pack in 1ml Ampoule	**Description - Each in Toluene**	**Concentration µg/ml**
REVOC0184	Methyl mercury chloride	1000
(2 compound mix)	Ethyl mercury chloride	1000
Product No. Pack in 1ml Ampoule	**Description - Each in Purge & Trap Methanol**	**Concentration µg/ml**
REVOC0185	Chlorobenzene	100000
(12 compound mix)	1,2,4-Trichlorobenzene	200
	1,2,3-Trichlorobenzene	200
	1,3,5-Trichlorobenzene	200
	1,2,3,4-Tetrachlorobenzene	50
	1,2,3,5-Tetrachlorobenzene	50
	1,2-Dichlorobenzene	1000
	1,3-Dichlorobenzene	1000
	1,4-Dichlorobenzene	1000
	Hexachlorobenzene	20
	Pentachlorobenzene	20
	1,2,4,5-tetrachlorobenzene	50

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC0186 (16 compound mix)	Dimethyl phthalate	1000
	Diethyl phthalate	1000
	Diisobutyl phthalate	1000
	Dibutyl phthalate	1000
	Di(methyoxyethyl) phthalate	1000
	Butyl methyl phthalate	1000
	Bis(2-ethoxyethyl)phthalate	1000
	Dipentyl phthalate	1000
	Di-n-hexyl phthalate	1000
	Benzyl butyl phthalate	1000
	Bis(2-n-butoxyethyl) phthalate	1000
	Dicyclohexyl phthalate	1000
	Di(2-ethylhexyl) phthalate	1000
	Diphenyl phthalate	1000
	Di-n-octyl phthalate	1000
	Dinonyl phthalate	1000

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC042 (6 compound mix)	Benzene	1000
	Toluene	1000
	o-Xylene	1000
	m-Xylene	1000
	p-Xylene	1000
	Ethylbenzene	1000

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC043 (8 compound mix)	Chloroform	50
	Bromodichloromethane	50
	Dibromochloromethane	50
	Bromoform	50
	1,2-Dichloroethane	50
	Tetrachloromethane	50
	Trichloroethene	50
	Tetrachloroethene	50

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC046 (7 compound mix)	Hexachloro-1,3-butadiene	100
	Tetrachloroethylene	100
	Trichloroethylene	100
	Trichloromethane	100
	Tetrachloromethane	100
	Dichloromethane	100
	1,2-Dichloroethane	100

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REVOC059 (2 compound mix)	Acrolein	20000
	Acrylonitrile	20000

Product No. Pack in 1ml Ampoule	Description - Each in Carbon Disulfide	Concentration µg/ml
REVOC200 (18 compound mix)	Methanol	1000
	Ethanol	1000
	Acetone	1000
	Isopropyl alcohol	1000
	Dichloromethane	1000
	Hexane	1000
	Methyl ethyl ketone	1000
	Ethyl acetate	1000
	Cloroform	1000
	Benzene	1000
	1,4-Dioxane	1000
	Methyl isobutyl ketone	1000
	Toluene	1000
	Dimethylformamide	1000
	Chlorobenzene	1000
	Ethylbenzene	1000
	o-Xylene	1000
	m-Xylene	1000

Product No. Pack in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
RESVOC215 (16 compound mix)	Phthalic acid,bis-2-ethylhexylester	1000
	Phthalic acid, benzylbutyl ester	1000
	Phthalic acid, bis-butyl ester	1000
	Phthalic acid, bis-iso-butyl ester	1000
	Phthalic acid, bis-C6-C8-branched alkyl esters C7-rich	1000
	Phthalic acid, bis-methylglycol ester	1000
	Phthalic acid, bis-n-pentyl ester	1000
	Phthalic acid, bis-iso-pentyl ester	1000
	Phthalic acid, bis-1-octyl ester	1000
	Diisodecyl phthalate	1000
	Diisononyl phthalate	1000
	Phthalic acid, bis-hexyl ester	1000
	1,2-Benzenedicarboxylic acic dipentyl ester	1000
	1,2-Benzenedicarboxylic acid, di-C7-11	1000
	Isopentyl Pentyl Phthalate	1000
	1,2-Benzenedicarboxylic acid, dihexyl ester	1000

Product No. Pack in 5 x 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
RESVOC215A	Phthalic acid,bis-2-ethylhexylester	1000
(16 compound mix)	Phthalic acid, benzylbutyl ester	1000
	Phthalic acid, bis-butyl ester	1000
	Phthalic acid, bis-iso-butyl ester	1000
	Phthalic acid, bis-C6-C8-branched alkyl esters C7-rich	1000
	Phthalic acid, bis-methylglycol ester	1000
	Phthalic acid, bis-n-pentyl ester	1000
	Phthalic acid, bis-iso-pentyl ester	1000
	Phthalic acid, bis-1-octyl ester	1000
	Diisodecyl phthalate	1000
	Diisononyl phthalate	1000
	Phthalic acid, bis-hexyl ester	1000
	1,2-Benzenedicarboxylic acic dipentyl ester	1000
	1,2-Benzenedicarboxylic acid, di-C7-11	1000
	Isopentyl Pentyl Phthalate	1000
	1,2-Benzenedicarboxylic acid, dihexyl ester	1000
Product No. Pack in 1ml Ampoule	**Description - Each at 2000µg/ml in Purge & Trap Methanol**	**US EPA Methods**
REVOC0027	1,2,3-Trichlorobenzene	502
(13 compound mix)	1,2,4-Trichlorobenzene	524
	1,2,4-Trimethylbenzene	
	1,3,5-Trimethylbenzene	
	4-Isopropyltoluene	
	Benzene	
	Bromobenzene	
	Ethylbenzene	
	m-Xylene	
	Naphthalene	
	n-Butylbenzene	
	Styrene	
	Toluene	

Volatile Organic Compounds (VOCs)
Single Element Component Standards

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC101	1,1-Dichlorethene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC101N	1,1-Dichlorethene	Neat		10mg
REVOC102	Dichloromethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC102N	Dichloromethane	Neat		10mg
REVOC103	trans-1,2-Dichloroethene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC103N	trans-1,2-Dichloroethene	Neat		10mg
REVOC104	1,1-Dichloroethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC104N	1,1-Dichloroethane	Neat		10mg
REVOC105	cis-1,2-Dichloroethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC105N	cis-1,2-Dichloroethane	Neat		10mg
REVOC106	2,2-Dichloropropane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC106N	2,2-Dichloropropane	Neat		10mg
REVOC107	Bromochloromethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC107N	Bromochloromethane	Neat		10mg
REVOC108	Chloroform	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC108N	Chloroform	Neat		10mg
REVOC109	1,1,1-Trichloroethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC109N	1,1,1-Trichloroethane	Neat		10mg
REVOC110	1,1-Dichloropropene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC110N	1,1-Dichloropropene	Neat		10mg
REVOC111	Carbon Tetrachloride	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC111N	Carbon Tetrachloride	Neat		10mg
REVOC112	1,2-Dichloroethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC112N	1,2-Dichloroethane	Neat		10mg
REVOC113	Benzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC113N	Benzene	Neat		10mg
REVOC114	Trichloroethene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC114N	Trichloroethene	Neat		10mg
REVOC115	1,2-Dichloropropane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC115N	1,2-Dichloropropane	Neat		10mg
REVOC116	Dibromomethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC116N	Dibromomethane	Neat		10mg
REVOC117	Bromodichloromethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC117N	Bromodichloromethane	Neat		10mg
REVOC118	trans-1,3-Dichloropropene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC118N	trans-1,3-Dichloropropene	Neat		10mg
REVOC119	Toluene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC119N	Toluene	Neat		10mg
REVOC120	cis-1,3-Dichloropropene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC120N	cis-1,3-Dichloropropene	Neat		10mg
REVOC121	1,3-Dichloropropane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC121N	1,3-Dichloropropane	Neat		10mg
REVOC122	Tetrachloroethene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC122N	Tetrachloroethene	Neat		10mg
REVOC123	Dibromochloromethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC123N	Dibromochloromethane	Neat		10mg
REVOC124	Dibromoethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC124N	Dibromoethane	Neat		10mg
REVOC125	Chlorobenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC125N	Chlorobenzene	Neat		10mg
REVOC126	1,1,1,2-Tetrachloroethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B.	1ml
REVOC126N	1,1,1,2-Tetrachloroethane	Neat		10mg
REVOC127	Ethylbenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC127N	Ethylbenzene	Neat		10mg
REVOC128	m-Xylene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC128N	m-Xylene	Neat		10mg
REVOC129	p-Xylene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC129N	p-Xylene	Neat		10mg
REVOC130	o-Xylene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC130N	o-Xylene	Neat		10mg
REVOC131	Styrene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC131-C	Styrene	1000µg/ml in Carbon Disulphide	502.2, 524.2,	1ml
REVOC131N	Styrene	Neat		10mg
REVOC132	Bromoform	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC132N	Bromoform	Neat		10mg
REVOC133	Isopropylbenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC133N	Isopropylbenzene	Neat		10mg
REVOC134	1,1,2,2-Tetrachloroethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC134N	1,1,2,2-Tetrachloroethane	Neat		10mg
REVOC135	1,2,3-Trichloropropane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC135N	1,2,3-Trichloropropane	Neat		10mg

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC136	Bromobenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC136N	Bromobenzene	Neat		10mg
REVOC137	n-Propylbenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC137N	n-Propylbenzene	Neat		10mg
REVOC138	2-Chlorotoluene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC138N	2-Chlorotoluene	Neat		10mg
REVOC139	1,2,4-Trimethylbenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC139N	1,2,4-Trimethylbenzene	Neat		10mg
REVOC140	4-Chlorotoluene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC140N	4-Chlorotoluene	Neat		10mg
REVOC141	tert-Butylbenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC141N	tert-Butylbenzene	Neat		10mg
REVOC142	1,3,5-Trimethylbenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC142N	1,3,5-Trimethylbenzene	Neat		10mg
REVOC143	sec-Butylbenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC143N	sec-Butylbenzene	Neat		10mg
REVOC144	1,3-Dichlorobenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC144N	1,3-Dichlorobenzene	Neat		10mg
REVOC145	4-Isopropyltoluene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC145N	4-Isopropyltoluene	Neat		10mg
REVOC146	1,4-Dichlorobenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC146N	1,4-Dichlorobenzene	Neat		10mg
REVOC147	1,2-Dichlorobenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC147N	1,2-Dichlorobenzene	Neat		10mg

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC148	n-Butylbenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC148N	n-Butylbenzene	Neat		10mg
REVOC149	1,2-Dibromo-3-chloropropane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC149N	1,2-Dibromo-3-chloropropane	Neat		10mg
REVOC150	1,2,3-Trichlorobenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC150N	1,2,3-Trichlorobenzene	Neat		10mg
REVOC151	Hexachlorobutadiene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC151N	Hexachlorobutadiene	Neat		10mg
REVOC152	Naphthalene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC152N	Naphthalene	Neat		10mg
REVOC153	1,2,4-Trichlorobenzene	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC153N	1,2,4-Trichlorobenzene	Neat		10mg
REVOC154	1,1,2-Trichloroethane	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC154N	1,1,2-Trichloroethane	Neat		10mg
REVOC159	Vinyl Chloride	20µg/ml in Purge and Trap Methanol	502.2, 524.2 ,8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC159N	Vinyl Chloride	Neat		10mg
REVOC163	Ethyl Mercaptan	1,000µg/ml in Toluene		1ml
REVOC163N	Ethyl Mercaptan	Neat		10mg
REVOC165	Vinyl Chloride	2,000µg/ml in Purge and Trap Methanol	502.2, 524.2 ,8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC166	Acetonitrile	2,000µg/ml in Purge and Trap Methanol	8240B, 8260B	1ml
REVOC166N	Acetonitrile	Neat		10mg
REVOC168	Cyclohexane	2,000µg/ml in Purge and Trap Methanol		1ml
REVOC168N	Cyclohexane	Neat		10mg
REVOC175	Methyl Mercaptan	1,000µg/ml in Purge and Trap Methanol		1ml
REVOC175N	Methyl Mercaptan	Neat		10mg

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC176	Tetrahydrofuran	2,000µg/ml in Purge and Trap Methanol	524.2	1ml
REVOC176N	Tetrahydrofuran	Neat		10mg
REVOC181	Chloroprene	1,000µg/ml in Purge and Trap Methanol	8240B, 8021B, 8260B	1ml
REVOC181N	Chloroprene	Neat		10mg
REVOC182	1,3-Butadiene	2,000µg/ml in Purge and Trap Methanol	8260B	1ml
REVOC182N	1,3-Butadiene	Neat		10mg
REVOC183	Ethylene Oxide	10,000µg/L in Dimethyl Sulfoxide	8240B, 8260B	1ml
REVOC183N	Ethylene Oxide	Neat		10mg
REVOC184	1,2-Dichlorobenzene	1,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC185	1,4-Dichlorobenzene	100µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021, 8021A, 8021B, 624, 8240B, 8260B	1ml
REVOC186	1,3,5-Trimethylbenzene	5,000µg/ml in Purge and Trap Methanol	502.2, 524.2, 8021B, 8260B	1ml
REVOC187	Trimethylamine	100µg/ml in Purge and Trap Methanol	524.2, 624, 8260B	1ml
REVOC187N	Trimethylamine	Neat		10mg
REVOC188	Pyridine	1,000µg/L in Methylene Chloride	524.2, 624, 8270C, 8260B	1ml
REVOC188N	Pyridine	Neat		10mg
REVOC189	Turpentine	2,000µg/ml in Purge and Trap Methanol		1ml
REVOC189N	Turpentine	Neat		10mg
REVOC300	1,2,3,4-Diepoxybutane	1000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC300N	1,2,3,4-Diepoxybutane	Neat		10mg
REVOC301	1,2,3,4-Diepoxybutane	2000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC302	1,4-Dioxane	1000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC302N	1,4-Dioxane	Neat		10mg
REVOC303	1,4-Dioxane	2000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC304	1-Propanol	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC304N	1-Propanol	Neat		10mg
REVOC305	1-Propanol	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC306	2-Butanone (MEK)	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8240B,	1ml
REVOC306N	2-Butanone (MEK)	Neat		10mg
REVOC307	2-Butanone (MEK)	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8240B,	1ml
REVOC308	2-Chloroethanol	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC308N	2-Chloroethanol	Neat		10mg
REVOC309	2-Chloroethanol	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC310	2-Chloroethyl vinyl ether	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8240, 8260B	1ml
REVOC310N	2-Chloroethyl vinyl ether	Neat		10mg
REVOC311	2-Chloroethyl vinyl ether	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8240, 8260B	1ml
REVOC312	2-Hexanone	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC312N	2-Hexanone	Neat		10mg
REVOC313	2-Hexanone	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC314	2-Hydroxypropionitrile	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC314N	2-Hydroxypropionitrile	Neat		10mg
REVOC315	2-Hydroxypropionitrile	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC316	2-Nitropropane	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC316N	2-Nitropropane	Neat		10mg
REVOC317	2-Nitropropane	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC318	2-Pentanone	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC318N	2-Pentanone	Neat		10mg
REVOC319	2-Pentanone	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC320	2-Picoline	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC320N	2-Picoline	Neat		10mg
REVOC321	2-Picoline	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC322	2-Propanol	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC322N	2-Propanol	Neat		10mg
REVOC323	2-Propanol	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC324	2-Propanol	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC325	2-Propanol	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC326	3-Chloropropionitrile	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC326N	3-Chloropropionitrile	Neat		10mg
REVOC327	3-Chloropropionitrile	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC328	4-Methyl-2-pentanone (MIBK)	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC328N	4-Methyl-2-pentanone (MIBK)	Neat		10mg
REVOC329	4-Methyl-2-pentanone (MIBK)	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC330	Acrolein (Propenal)	1000µg/ml in Distilled Water	524.2, 624, 8260B	1ml
REVOC330N	Acrolein (Propenal)	Neat		10mg
REVOC331	Acrolein (Propenal)	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC332	Acrolein (Propenal)	2000µg/ml in Distilled Water	524.2, 624, 8260B	1ml
REVOC333	Acrolein (Propenal)	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC334	Acrylonitrile	1000µg/ml in Purge & Trap Methanol	524.2, 603, 624, 8240B, 8260B	1ml
REVOC334N	Acrylonitrile	Neat		10mg
REVOC335	Acrylonitrile	2000µg/ml in Purge & Trap Methanol	524.2, 603, 624, 8240B, 8260B	1ml
REVOC336	Allyl alcohol	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC336N	Allyl alcohol	Neat		10mg
REVOC337	Allyl alcohol	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC338	Allyl chloride	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC338N	Allyl chloride	Neat		10mg
REVOC339	Allyl chloride	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC340	Benzyl chloride	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC340N	Benzyl chloride	Neat		10mg
REVOC341	Benzyl chloride	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC342	Bromoacetone	1000µg/ml in Purge & Trap Methanol	8021B, 8240B	1ml
REVOC342N	Bromoacetone	Neat		10mg
REVOC343	Bromoacetone	2000µg/ml in Purge & Trap Methanol	8021B, 8240B	1ml
REVOC344	Bromomethane	1000µg/ml in Purge & Trap Methanol	502.2, 524.2, 624, 8260B	1ml
REVOC344N	Bromomethane	Neat		10mg
REVOC345	Bromomethane	2000µg/ml in Purge & Trap Methanol	502.2, 524.2, 624, 8260B	1ml
REVOC346	Chloroethane	1000µg/ml in Purge & Trap Methanol	502.2, 524.2, 624, 8260B	1ml
REVOC346N	Chloroethane	Neat		10mg
REVOC347	Chloroethane	2000µg/ml in Purge & Trap Methanol	502.2, 524.2, 624, 8260B	1ml
REVOC348	Chloromethane	1000µg/ml in Purge & Trap Methanol	502.2, 524.2, 624, 8260B	1ml
REVOC348N	Chloromethane	Neat		10mg
REVOC349	Chloromethane	2000µg/ml in Purge & Trap Methanol	502.2, 524.2, 624, 8260B	1ml
REVOC350	Chloroprene	1000µg/ml in Purge & Trap Methanol	8240B, 8021B, 8260B	1ml
REVOC351	Chloroprene	2000µg/ml in Purge & Trap Methanol	8240B, 8021B, 8260B	1ml
REVOC352	cis-1,4-Dichloro-2-butene	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC352N	cis-1,4-Dichloro-2-butene	Neat		10mg
REVOC353	cis-1,4-Dichloro-2-butene	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC354	Crotonaldehyde	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC354N	Crotonaldehyde	Neat		10mg
REVOC355	Crotonaldehyde	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC356	Dichlorodifluoromethane	1000µg/ml in Purge & Trap Methanol	502.2, 524.2, 8240B, 8021B, 8260B	1ml
REVOC356N	Dichlorodifluoromethane	Neat		10mg
REVOC357	Dichlorodifluoromethane	2000µg/ml in Purge & Trap Methanol	502.2, 524.2, 8240B, 8021B, 8260B	1ml

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC358	Epichlorohydrin	1000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC358N	Epichlorohydrin	Neat		10mg
REVOC359	Epichlorohydrin	2000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC360	Ethanol	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC360N	Ethanol	Neat		10mg
REVOC361	Ethanol	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC362	Ethyl acetate	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC362N	Ethyl acetate	Neat		10mg
REVOC363	Ethyl acetate	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC364	Ethyl methacrylate	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC364N	Ethyl methacrylate	Neat		10mg
REVOC365	Ethyl methacrylate	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC366	Ethylene oxide	1000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC367	Ethylene oxide	2000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC368	Hexachloroethane	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC368N	Hexachloroethane	Neat		10mg
REVOC369	Hexachloroethane	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC370	Iodomethane	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC370N	Iodomethane	Neat		10mg
REVOC371	Iodomethane	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC372	Isobutyl alcohol	1000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC372N	Isobutyl alcohol	Neat		10mg
REVOC373	Isobutyl alcohol	2000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC374	Malononitrile	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC374N	Malononitrile	Neat		10mg
REVOC375	Malononitrile	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC376	Methacrylonitrile	1000µg/ml in Purge & Trap Methanol	524.2, 624, 6240B, 8260B	1ml
REVOC376N	Methacrylonitrile	Neat		10mg
REVOC377	Methacrylonitrile	2000µg/ml in Purge & Trap Methanol	524.2, 624, 6240B, 8260B	1ml
REVOC378	Methyl methacrylate	1000µg/ml in Purge & Trap Methanol	524.2, 624, 6240B, 8260B	1ml
REVOC378N	Methyl methacrylate	Neat		10mg
REVOC379	Methyl methacrylate	2000µg/ml in Purge & Trap Methanol	524.2, 624, 6240B, 8260B	1ml
REVOC380	Nitrobenzene	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC380N	Nitrobenzene	Neat		10mg
REVOC381	Nitrobenzene	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC382	N-Nitroso-di-n-butylamine	1000µg/ml in Acetone	8260B	1ml
REVOC382N	N-Nitroso-di-n-butylamine	Neat		10mg
REVOC383	N-Nitroso-di-n-butylamine	1000µg/ml in Purge & Trap Methanol	8260B	1ml
REVOC384	N-Nitroso-di-n-butylamine	2000µg/ml in Acetone	8260B	1ml
REVOC385	N-Nitroso-di-n-butylamine	2000µg/ml in Purge & Trap Methanol	8260B	1ml
REVOC386	Pentachloroethane	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC386N	Pentachloroethane	Neat		10mg
REVOC387	Pentachloroethane	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B, 8270C	1ml
REVOC388	Propargyl alcohol	1000µg/ml in Purge & Trap Methanol	524.2, 624, 6240B, 8260B	1ml
REVOC388N	Propargyl alcohol	Neat		10mg
REVOC389	Propargyl alcohol	2000µg/ml in Purge & Trap Methanol	524.2, 624, 6240B, 8260B	1ml
REVOC390	Propionitrile (ethyl cyanide)	1000µg/ml in Purge & Trap Methanol	524.2, 624, 6240B, 8260B	1ml
REVOC390N	Propionitrile (ethyl cyanide)	Neat		10mg
REVOC391	Propionitrile (ethyl cyanide)	2000µg/ml in Purge & Trap Methanol	524.2, 624, 6240B, 8260B	1ml
REVOC392	Pyridine	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8270C, 8260B	1ml
REVOC393	Pyridine	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8270C, 8260B	1ml

Product No.	Description	Concentration	US EPA Methods	Pack in Ampoule
REVOC394	trans-1,4-Dichloro-2-butene	1000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC394N	trans-1,4-Dichloro-2-butene	Neat		10mg
REVOC395	trans-1,4-Dichloro-2-butene	2000µg/ml in Purge & Trap Methanol	524.2, 624, 8260B	1ml
REVOC396	Trichlorofluoromethane	1000µg/ml in Purge & Trap Methanol	502.2, 524.2, 624, 6021B, 6240B, 8260B	1ml
REVOC396N	Trichlorofluoromethane	Neat		10mg
REVOC397	Trichlorofluoromethane	2000µg/ml in Purge & Trap Methanol	502.2, 524.2, 624, 6021B, 6240B, 8260B	1ml
REVOC398	Vinyl acetate	1000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC398N	Vinyl acetate	Neat		10mg
REVOC399	Vinyl acetate	2000µg/ml in Purge & Trap Methanol	8240B, 8260B	1ml
REVOC400	Vinyl chloride	1000µg/ml in Purge & Trap Methanol	502.2, 524.2, 624, 8021B, 8240B, 8260B	1ml
REVOC401	Vinyl chloride	2000µg/ml in Purge & Trap Methanol	502.2, 524.2, 624, 8021B, 8240B, 8260B	1ml

Phenol Standards

Summary of Features & Benefits:

Commercial Benefits

- Ready to use (dilute for use as calibration and/or quality control standards)
- Extensive range of organic compound mixes and single compound standards available
- Can be used with a variety of instruments including GC, GC-MS, HPLC and LC-MS
- Designed specifically for use in EPA or EU analytical methods
- Presented in high quality amber ampoules
- Customised formulations available

Technical Benefits

- Produced in accordance with EPA methods
- Consistency of product - Independent, Traceable, Certified
- Ideal for use in EPA 500, 600 and 8000 series methods
- Certificates of Analysis and Safety Data Sheets available online

These products are prepared gravimetrically on a weight/volume basis. Both solute and solvent are prepared using equipment calibrated by Reagecon engineers. Reagecon holds IEC/ISO 17025 accreditation for calibration of laboratory balances and pipettes (INAB Ref:265C). The resulting equipment Calibration Certificates are issued in accordance with the requirements of ISO/IEC 17025. The results are then reported and certified in µg/ml on the basis of weight and the density measurement of the standard. Reagecon is IEC/ISO 17025 (INAB Ref:264T) Accredited for density measurement using an Oscillating U-Tube Method in accordance with the ASTM D4052 method. The concentration of each standard is verified using a high performance calibrated Gas Chromatograph - Mass Spectrometer (GC-MS Instrument). The calibration of the GC-MS instrument is completed using high purity ISO Guide 34 accredited Phenol standards from a secondary source similar in Phenol concentration value to these products. The mass spectrum of each of the analytes is confirmed by comparison with the National Institute of Standards and Technology (NIST) mass spectral library.

Phenol Mixed Standards

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPHE001	2-Chlorophenol	Each analyte at 2,000µg/ml in	604	1ml
(11 Compound Mix)	2,4-Dichlorophenol	high-purity Dichloromethane		
	2,4-Dimethylphenol	(Methylene Chloride)		
	2-Methyl-4,6-dinitrophenol (DNOC)			
	2-Nitrophenol			
	4-Nitrophenol			
	Pentachlorophenol			
	Phenol			
	2,4,6-Trichlorophenol			
	4-Chloro-3-methylphenol			
	2,4-Dinitrophenol			
REPHE002	2,6-Dichlorophenol	Each analyte at 2,000µg/ml in	604	1ml
(7 Compound Mix)	2-Methylphenol	high-purity Dichloromethane		
	3-Methylphenol	(Methylene Chloride)		
	4-Methylphenol			
	2,4,5-Trichlorophenol			
	2,3,4,6-Tetrachlorophenol			
	2-sec-Butyl-4,6-dinotrophenol (Dinoseb)			
REPHE003	2-Chlorophenol	Each analyte at 2,000µg/ml in	604	1ml
(11 Compound Mix)	2,4-Dichlorophenol	high-purity Methanol	625	
	2,4-Dimethylphenol			
	2-Methyl-4,6-dinitrophenol (DNOC)			
	2-Nitrophenol			
	4-Nitrophenol			
	Pentachlorophenol			
	Phenol			
	2,4,6-Trichlorophenol			
	4-Chloro-3-methylphenol			
	2,4-Dinitrophenol			
REPHE004	4-Chloro-3-methylphenol	Each analyte at 2,000µg/ml in	604	1ml
(5 Compound Mix)	2-Chlorophenol	high-purity Methanol	625	
	4-Nitrophenol			
	Pentachlorophenol			
	Phenol			

Phenol Mixed Standards

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPHE005	2-Chlorophenol	Each analyte at 2,000µg/ml in	8270	1ml
(18 Compound Mix)	2,4-Dichlorophenol	high-purity Isopropanol		
	2,4-Dimethylphenol			
	2-Methyl-4,6-dinitrophenol (DNOC)			
	2-Nitrophenol			
	4-Nitrophenol			
	Pentachlorophenol			
	Phenol			
	2,4,6-Trichlorophenol			
	4-Chloro-3-methylphenol			
	2,4-Dinitrophenol			
	2,6-Dichlorophenol			
	2-Methylphenol			
	3-Methylphenol			
	4-Methylphenol			
	2,4,5-Trichlorophenol			
	2,3,4,6-Tetrachlorophenol			
	2-sec-Butyl-4,6-dinotrophenol (Dinoseb)			
REPHE006	4-Chloro-3-methylphenol	Each analyte at 2,000µg/ml in	8270	1ml
(13 Compound Mix)	2-Chlorophenol	high-purity Methanol		
	2,4-Dichlorophenol			
	2,6-Dichlorophenol			
	2,4-Dimethylphenol			
	2,4-Dinitrophenol			
	2-Methyl-4,6-dinitrophenol (DNOC)			
	2-Nitrophenol			
	4-Nitrophenol			
	Pentachlorophenol			
	Phenol			
	2,3,4,6-Tetrachlorophenol			
	2,4,6-Trichlorophenol			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPHE007	4-Chloro-3-methylphenol	Each analyte at 2,000µg/ml in	8270	1ml
(11 Compound Mix)	2-Chlorophenol	high-purity Methanol		
	2,4-Dichlorophenol			
	2,4-Dimethylphenol			
	2-Methyl-4,6-dinitrophenol (DNOC)			
	2,4-Dinitrophenol			
	2-Nitrophenol			
	4-Nitrophenol			
	Pentachlorophenol			
	Phenol			
	2,4,6-Trichlorophenol			
REPHE008	4-Chloro-3-methylphenol	Each analyte at 2,000µg/ml in	8270	1ml
(5 Compound Mix)	2-Chlorophenol	high-purity Dichloromethane		
	4-Nitrophenol	(Methylene Chloride)		
	Pentachlorophenol			
	Phenol			
REPHE009	4-Chloro-3-methylphenol	Each analyte at 2,000µg/ml in	8270	1ml
(6 Compound Mix)	2,4-Dinitrophenol	high-purity Dichloromethane		
	2-Nitrophenol	(Methylene Chloride)		
	Pentachlorophenol			
	Phenol			
	2,4,6-Trichlorophenol			
REPHE010	2-Methylphenol	Each analyte at 2,000µg/ml in	1311	1ml
(6 Compound Mix)	3-Methylphenol	high-purity Dichloromethane		
	4-Methylphenol	(Methylene Chloride)		
	Pentachlorophenol			
	2,4,6-Trichlorophenol			
	2,4,5-Trichlorophenol			

Phenol Mixed Standards

Product No. Packed in 1ml Ampoule	Description - Each at 100µg/ml in Purge & Trap Methanol
REPHE015 (17 compound mix)	2,3,4,6-Tetrachlorophenol
	2,4,5-Trichlorophenol
	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2,6-Dichlorophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Methylphenol
	2-Nitrophenol
	3-Methylphenol
	4-Chloro-3-methylphenol
	4-Methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 5000µg/ml in Methylene Chloride
REPHE016 (14 compound mix)	2,4,5-Trichlorophenol
	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Methylphenol
	2-Nitrophenol
	4-Chloro-3-methylphenol
	4-Methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Methylene Chloride
REPHE017 (14 compound mix)	2,4,5-Trichlorophenol
	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol

Product No. Packed in 1ml Ampoule	Description - Each at 1000µg/ml in Methylene Chloride
REPHE018 (14 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2,6-Dichlorophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Methylphenol
	2-Nitrophenol
	4-Chloro-3-methylphenol
	4-Methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 1000µg/ml in Purge & Trap Methanol
REPHE020 (12 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Nitrophenol
	3-Methylphenol
	4-Chloro-3-methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Methylene Chloride
REPHE023 (12 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Methylphenol
	2-Nitrophenol
	4-Chloro-3-methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Isopropanol
REPHE024 (11 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Nitrophenol
	4-Chloro-3-methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 500µg/ml in Purge & Trap Methanol
REPHE026 (11 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Nitrophenol
	4-Chloro-3-methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Phenol Mixed Standards

Product No. Packed in 1ml Ampoule	Description - Each at 20µg/ml in Purge & Trap Methanol
REPHE028 (11 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Nitrophenol
	4-Chloro-3-methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 1000µg/ml in Purge & Trap Methanol
REPHE029 (11 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Nitrophenol
	4-Chloro-3-methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 500µg/ml in Purge & Trap Methanol
REPHE030 (11 compound mix)	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Nitrophenol
	2-sec-Butyl-4,6-dinotrophenol (Dinoseb)
	4-Chloro-3-methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Methylene Chloride
REPHE031 (11 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2-Chlorophenol
	2-Nitrophenol
	2-sec-Butyl-4,6-dinotrophenol (Dinoseb)
	4-Chloro-3-methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 1000µg/ml in Methylene Chloride
REPHE034 (11 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2,4-Dinitrophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Nitrophenol
	4-Chloro-3-methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Methylene Chloride
REPHE037 (9 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2,4-Dimethylphenol
	2-Chlorophenol
	2-Methylphenol
	2-Nitrophenol
	4-Chloro-3-methylphenol
	4-Methylphenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Purge & Trap Methanol
REPHE038 (8 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2-Chlorophenol
	2-Methylphenol
	3-Methylphenol
	4-Methylphenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 100µg/ml in Purge & Trap Methanol
REPHE039 (8 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2-Chlorophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	3-Methylphenol
	4-Methylphenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Isopropanol
REPHE040 (7 compound mix)	2,3,4,6-Tetrachlorophenol
	2,4,5-Trichlorophenol
	2,6-Dichlorophenol
	2-Methylphenol
	2-sec-Butyl-4,6-dinotrophenol (Dinoseb)
	3-Methylphenol
	4-Methylphenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Methylene Chloride
REPHE041 (6 compound mix)	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	2-Nitrophenol
	4-Chloro-3-methylphenol
	Pentachlorophenol
	Phenol

Phenol Mixed Standards

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Purge & Trap Methanol
REPHE042 (5 compound mix)	2-Chlorophenol
	4-Chloro-3-methylphenol
	4-Nitrophenol
	Pentachlorophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Methylene Chloride
REPHE045 (5 compound mix)	2,4-Dimethylphenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	2-Nitrophenol
	4-Nitrophenol
	Phenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Methylene Chloride
REPHE046 (5 compound mix)	2,4,5-Trichlorophenol
	2-Methylphenol
	2-sec-Butyl-4,6-dinotrophenol (Dinoseb)
	3-Methylphenol
	4-Methylphenol

Product No. Packed in 1ml Ampoule	Description - Each at 100µg/ml in Purge & Trap Methanol
REPHE047 (4 compound mix)	2,3,4,6-Tetrachlorophenol
	2,4,6-Trichlorophenol
	2,4-Dichlorophenol
	Pentachlorophenol

Product No. Packed in 1ml Ampoule	Description - Each at 4000µg/ml in Methylene Chloride
REPHE048 (4 compound mix)	2,4-Dinitrophenol
	2-Methyl-4,6-dinitrophenol (DNOC)
	4-Nitrophenol
	Pentachlorophenol

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Ethanol
REPHE050 (3 compound mix)	2,3,4,6-Tetrachlorophenol
	2,4,6-Trichlorophenol
	Pentachlorophenol

Product No. Packed in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REPHE022 (12 compound mix)	2,4,6-Trichlorophenol	100
	2,4-Dichlorophenol	100
	2,4-Dimethylphenol	100
	2,4-Dinitrophenol	500
	2-Chlorophenol	100
	2-Methyl-4,6-dinitrophenol (DNOC)	500
	2-Methylphenol	100
	2-Nitrophenol	100
	4-Chloro-3-methylphenol	100
	4-Nitrophenol	500
	Pentachlorophenol	500
	Phenol	100

Product No. Packed in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REPHE025 (11 compound mix)	2,4,6-Trichlorophenol	500
	2,4-Dichlorophenol	500
	2,4-Dimethylphenol	500
	2,4-Dinitrophenol	1500
	2-Chlorophenol	500
	2-Methyl-4,6-dinitrophenol (DNOC)	2500
	2-Nitrophenol	500
	4-Chloro-3-methylphenol	2500
	4-Nitrophenol	2500
	Pentachlorophenol	2500
	Phenol	600

Product No. Packed in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REPHE027 (11 compound mix)	2,4,6-Trichlorophenol	1500
	2,4-Dichlorophenol	500
	2,4-Dimethylphenol	500
	2,4-Dinitrophenol	1500
	2-Chlorophenol	500
	2-Methyl-4,6-dinitrophenol (DNOC)	2500
	2-Nitrophenol	500
	4-Chloro-3-methylphenol	2500
	4-Nitrophenol	2500
	Pentachlorophenol	2500
	Phenol	500

Phenol Mixed Standards

Product No. Packed in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml
REPHE044 (5 compound mix)	2,4,6-Trichlorophenol	40
	2,4-Dichlorophenol	40
	3-Methylphenol	40
	4-Nitrophenol	10
	Pentachlorophenol	40

Product No. Packed in 5 x 1ml Ampoule	Description - Each in Acetone	Concentration µg/ml
REPHE121	Bisphenol A	1
	4-tert-Octylphenol	1
	Nonylphenol	5
	4-Nonyl Phenol Monoethoxylate	5
	4-Nonyl Phenol Diethoxylate	5
	4-tert-Octylphenol Monoethoxylate	1
	4-tert Octylphenol Diethoxylate	1

Product No. Packed in 1ml Ampoule	Description - Each in Methylene Chloride	Concentration µg/ml	US EPA Methods
REPHE019 (13 compound mix)	2,4,6-Trichlorophenol	1000	526
	2,4-Dichlorophenol	1000	528
	2,4-Dimethylphenol	1000	
	2,4-Dinitrophenol	5000	
	2,6-Dichlorophenol	1000	
	2-Chlorophenol	1000	
	2-Methyl-4,6-dinitrophenol (DNOC)	1000	
	2-Methylphenol	1000	
	2-Nitrophenol	1000	
	4-Chloro-3-methylphenol	1000	
	4-Nitrophenol	1000	
	Pentachlorophenol	1000	
	Phenol	1000	

Product No. Packed in 1ml Ampoule	Description - Each in Purge & Trap Methanol	Concentration µg/ml	US EPA Methods
REPHE021	2,4-Dichlorophenol	1000	525
(12 compound mix)	2,4-Dimethylphenol	1000	
	2,4-Dinitrophenol	5000	
	2,6-Dichlorophenol	1000	
	2-Chlorophenol	1000	
	2-Methyl-4,6-dinitrophenol (DNOC)	5000	
	2-Methylphenol	1000	
	2-Nitrophenol	1000	
	4-Chloro-3-methylphenol	1000	
	4-Nitrophenol	1000	
	Pentachlorophenol	1000	
	Phenol	1000	

Product No. Packed in 1ml Ampoule	Description - Each in Methylene Chloride	Concentration µg/ml	US EPA Methods
REPHE032	2,4,6-Trichlorophenol	1500	604
(11 compound mix)	2,4-Dichlorophenol	500	625
	2,4-Dimethylphenol	500	
	2,4-Dinitrophenol	1500	
	2-Chlorophenol	500	
	2-Nitrophenol	500	
	2-sec-Butyl-4,6-dinotrophenol (Dinoseb)	2500	
	4-Chloro-3-methylphenol	2000	
	4-Nitrophenol	2500	
	Pentachlorophenol	2500	
	Phenol	500	

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Methylene Chloride	US EPA Methods
REPHE033	2,4-Dichlorophenol	8270B
(11 compound mix)	2,4-Dimethylphenol	
	2,4-Dinitrophenol	
	2-Chlorophenol	
	2-Methyl-4,6-dinitrophenol (DNOC)	
	2-Nitrophenol	
	2-sec-Butyl-4,6-dinotrophenol (Dinoseb)	
	4-Chloro-3-methylphenol	
	4-Nitrophenol	
	Pentachlorophenol	
	Phenol	

Phenol Mixed Standards

Product No. Packed in 1ml Ampoule	Description - Each at 100µg/ml in Purge & Trap Methanol	US EPA Methods
REPHE035	2,4,6-Trichlorophenol	625
(10 compound mix)	2,4-Dichlorophenol	
	2,4-Dimethylphenol	
	2,4-Dinitrophenol	
	2,6-Dichlorophenol	
	2-Chlorophenol	
	4-Chloro-3-methylphenol	
	4-Nitrophenol	
	Pentachlorophenol	
	Phenol	

Product No. Packed in 1ml Ampoule	Description - Each at 2000µg/ml in Isopropanol	US EPA Methods
REPHE036	2,3,4,6-Tetrachlorophenol	8040
(9 compound mix)	2,4,5-Trichlorophenol	
	2,4-Dimethylphenol	
	2,4-Dinitrophenol	
	2,6-Dichlorophenol	
	2-Chlorophenol	
	2-sec-Butyl-4,6-dinotrophenol (Dinoseb)	
	3-Methylphenol	
	4-Methylphenol	

Product No. Packed in 1ml Ampoule	Description - Each at 1000µg/ml in Methylene Chloride	US EPA Methods
REPHE049	2,4,6-Trichlorophenol	525
(4 compound mix)	2,6-Dichlorophenol	
	2-Methyl-4,6-dinitrophenol (DNOC)	
	Phenol	

Phenols Single Compound Standards

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPHE101	2-Chlorophenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE102	2,4-Dichlorophenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE103	2,4-Dimethylphenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE104	4-Chloro-3-methylphenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE105	2-Methyl-4,6-dinitrophenol(DNOC)	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE106	2,4-Dinitrophenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE107	2-Nitrophenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE108	4-Nitrophenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE109	Pentachlorophenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE110	Phenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE119	Phenol	100µg/ml in Methylene Chloride	604, 8270, 1311	1ml
REPHE111	2,4,6-Trichlorophenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE112	2,4,5-Trichlorophenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE113	2,3,4,6-Tetrachlorophenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE114	2,6-Dichlorophenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE115	2-Methylphenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE116	3-Methylphenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE117	4-Methylphenol	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE118	Dinoseb	2000µg/ml in high-purity Methanol	604, 8270, 1311	1ml
REPHE120	Pentachlorophenol	10µg/ml in Cyclohexane	528, 604, 8270	10ml
REPHE124	2,4-Dichlorophenol	1000 µg/ml in high-purity Methanol	528, 604, 8270	1ml
REPHE125	Picric Acid	1000µg/ml in Acetonitrile and Water (1:1)		1ml

Phenols Surrogate Standards

Product No.	Description in 1:1 Dichloromethane:Acetone	Concentration µg/ml	US EPA Methods	Pack Size
REPHE001-S	2-Fluorobiphenyl	1000	625	1ml
	Nitrobenzene D5	1000		
	p-Terphenyl-D14	1000		
	Methyl Orange	2500		
REPHE005-S	2-Fluorobiphenyl	5000	625	1ml
	Nitrobenzene D5	5000		
	p-Terphenyl-D14	5000		
	Methyl Orange	12500		

Polycyclic Aromatic Hydrocarbon Standards (PAHs)

Summary of Features & Benefits:

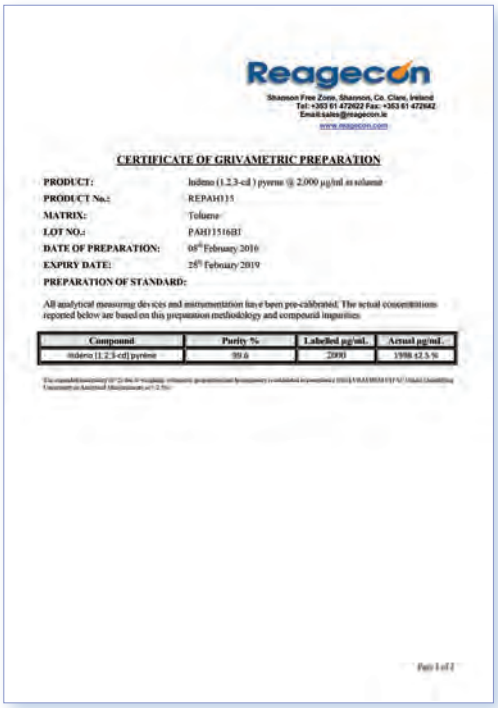
Commercial Benefits

- Ready to use (dilute for use as calibration and/or quality control standards)
- Extensive range of organic compound mixes and single compound standards available
- Can be used with a variety of instruments including GC, GC-MS, HPLC and LC-MS
- Designed specifically for use in EPA or EU analytical methods
- Presented in high quality amber ampoules
- Customised formulations available

Technical Benefits

- Produced in accordance with EPA methods
- Consistency of product - Independent, Traceable, Certified
- Ideal for use in EPA 500, 600 and 8000 series methods
- Certificates of Analysis and Safety Data Sheets available online

These products are prepared gravimetrically on a weight/volume basis. Both solute and solvent are prepared using equipment calibrated by Reagecon engineers. Reagecon holds IEC/ISO 17025 accreditation for calibration of laboratory balances and pipettes (INAB Ref:265C). The resulting equipment Calibration Certificates are issued in accordance with the requirements of ISO/IEC 17025. The results are then reported and certified in µg/ml on the basis of weight and the density measurement of the standard. Reagecon is IEC/ISO 17025 (INAB Ref:264T) Accredited for density measurement using an Oscillating U-Tube Method in accordance with the ASTM D4052 method. The concentration of each standard is verified using a high performance calibrated Gas Chromatograph - Mass Spectrometer (GC-MS Instrument). The calibration of the GC-MS instrument is completed using high purity ISO Guide 34 accredited PAH standards similar in PAH concentration value to these products. The mass spectrum of each of the analytes is confirmed by comparison with the National Institute of Standards and Technology (NIST) mass spectral library.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CERTIFICATE OF GRIVAMETRIC PREPARATION

PRODUCT: Indeno (1,2,3-cd) pyrene @ 2,000 µg/ml in solvent
PRODUCT No.: REPAH015
MATRIX: Toluene
LOT NO.: PAH11516BI
DATE OF PREPARATION: 08th February 2016
EXPIRY DATE: 28th February 2019
PREPARATION OF STANDARD:

All analytical measuring devices and instrumentation have been pre-calibrated. The actual concentrations reported below are based on this preparation methodology and compound ingredients.

Compound	Purity %	Labelled µg/mL	Actual µg/mL
Indeno [1,2,3-cd] pyrene	99.6	2000	1998 ±2.5 %

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Polycyclic Aromatic Hydrocarbons (PAHs) Multi Compound Standards

Product No.	Description	Concentration µg ml	Matrix	Pack size
REPAH001	Acenaphthene	2000	Benzene: Dichloromethane	1ml
(16 compound mix)	Anthracene		(Methylene Chloride)	
	Benzo(a)anthracene			
	Chrysene			
	Fluoroanthene			
	Fluorene			
	Naphthalene			
	Phenanthrene			
	Pyrene			
	Benzo(a)pyrene			
	Benzo(b)fluoroanthene			
	Benzo(g,h,i)perylene			
	Dibenzo(a,h)anthracene			
	Benzo(k)fluoroanthene			
	Indeno(1,2,3-cd)pyrene			
	Acenaphthylene			
Product No.	**Description**	**Concentration µg ml**	**Matrix**	**Pack size**
REPAH002	Acenaphthene	1000	Benzene: Dichloromethane	1ml
(16 compound mix)	Anthracene		(Methylene Chloride)	
	Benzo(a)anthracene			
	Chrysene			
	Fluoroanthene			
	Fluorene			
	Naphthalene			
	Phenanthrene			
	Pyrene			
	Benzo(a)pyrene			
	Benzo(b)fluoroanthene			
	Benzo(g,h,i)perylene			
	Dibenzo(a,h)anthracene			
	Benzo(k)fluoroanthene			
	Indeno(1,2,3-cd)pyrene			
	Acenaphthylene			

Polycyclic Aromatic Hydrocarbons (PAHs) Multi Compound Standards

Product No.	Description	Concentration µg ml	Matrix	Pack size
REPAH017	Acenaphthene	100	Acetonitrile	1ml
(16 compound mix)	Anthracene	100		
	Acenaphthylene	50		
	Benzo(a)anthracene	1		
	Benzo(a)pyrene	5		
	Benzo(b)fluoroanthene	1		
	Benzo(g,h,i)perylene	5		
	Dibenzo(a,h)anthracene	1		
	Benzo(k)fluoroanthene	50		
	Chrysene	10		
	Fluoroanthene	3		
	Fluorene	10		
	Indeno(1,2,3-cd)pyrene	10		
	Naphthalene	1000		
	Phenanthrene	50		
	Pyrene	50		
Product No.	**Description**	**Concentration µg ml**	**Matrix**	**Pack size**
REPAH004	Acenaphthene	1000	Toluene	1ml
(16 compound mix)	Anthracene			
	Benzo(a)anthracene			
	Chrysene			
	Fluoroanthene			
	Fluorene			
	Naphthalene			
	Phenanthrene			
	Pyrene			
	Benzo(a)pyrene			
	Benzo(b)fluoroanthene			
	Benzo(g,h,i)perylene			
	Dibenzo(a,h)anthracene			
	Benzo(k)fluoroanthene			
	Indeno(1,2,3-cd)pyrene			
	Acenaphthylene			

Product No.	Description	Concentration µg ml	Matrix	Pack size
REPAH005	Acenaphthene	100	Acetone	1ml
(16 compound mix)	Anthracene			
	Benzo(a)anthracene			
	Chrysene			
	Fluoroanthene			
	Fluorene			
	Naphthalene			
	Phenanthrene			
	Pyrene			
	Benzo(a)pyrene			
	Benzo(b)fluoroanthene			
	Benzo(g,h,i)perylene			
	Dibenzo(a,h)anthracene			
	Benzo(k)fluoroanthene			
	Indeno(1,2,3-cd)pyrene			
	Acenaphthylene			
Product No.	**Description**	**Concentration µg ml**	**Matrix**	**Pack size**
REPAH006	Acenaphthene	2000	Toluene	1ml
(16 compound mix)	Anthracene			
	Benzo(a)anthracene			
	Chrysene			
	Fluoroanthene			
	Fluorene			
	Naphthalene			
	Phenanthrene			
	Pyrene			
	Benzo(a)pyrene			
	Benzo(b)fluoroanthene			
	Benzo(g,h,i)perylene			
	Dibenzo(a,h)anthracene			
	Benzo(k)fluoroanthene			
	Indeno(1,2,3-cd)pyrene			
	Acenaphthylene			

Polycyclic Aromatic Hydrocarbons (PAHs) Multi Compound Standards

Product No.	Description	Concentration µg ml	Matrix	Pack size
REPAH007	Acenaphthene	500	Toluene	1ml
(16 compound mix)	Anthracene			
	Benzo(a)anthracene			
	Chrysene			
	Fluoroanthene			
	Fluorene			
	Naphthalene			
	Phenanthrene			
	Pyrene			
	Benzo(a)pyrene			
	Benzo(b)fluoroanthene			
	Benzo(g,h,i)perylene			
	Dibenzo(a,h)anthracene			
	Benzo(k)fluoroanthene			
	Indeno(1,2,3-cd)pyrene			
	Acenaphthylene			
Product No.	**Description**	**Concentration µg ml**	**Matrix**	**Pack size**
REPAH010	Acenaphthene	100	Acetonitrile	1ml
(16 compound mix)	Anthracene	10		
	Acenaphthylene	100		
	Benzo(a)anthracene	10		
	Benzo(a)pyrene	10		
	Benzo(b)fluoroanthene	10		
	Benzo(g,h,i)perylene	10		
	Dibenzo(a,h)anthracene	10		
	Benzo(k)fluoroanthene	10		
	Chrysene	10		
	Fluoroanthene	10		
	Fluorene	10		
	Indeno(1,2,3-cd)pyrene	10		
	Naphthalene	100		
	Phenanthrene	10		
	Pyrene	10		

Product No.	Description	Concentration µg ml	Matrix	Pack size
REPAH011	Acenaphthene	100	Acetonitrile	1ml
(16 compound mix)	Anthracene	10		
	Acenaphthylene	200		
	Benzo(a)anthracene	10		
	Benzo(a)pyrene	10		
	Benzo(b)fluoroanthene	20		
	Benzo(g,h,i)perylene	20		
	Dibenzo(a,h)anthracene	20		
	Benzo(k)fluoroanthene	10		
	Chrysene	10		
	Fluoroanthene	20		
	Fluorene	20		
	Indeno(1,2,3-cd)pyrene	10		
	Naphthalene	100		
	Phenanthrene	10		
	Pyrene	10		
Product No.	**Description**	**Concentration µg ml**	**Matrix**	**Pack size**
REPAH012	Acenaphthene	100	Acetonitrile	1ml
(16 compound mix)	Anthracene	400		
	Acenaphthylene	40		
	Benzo(a)anthracene	1000		
	Benzo(a)pyrene	400		
	Benzo(b)fluoroanthene	2000		
	Benzo(g,h,i)perylene	20		
	Dibenzo(a,h)anthracene	20		
	Benzo(k)fluoroanthene	400		
	Chrysene	1000		
	Fluoroanthene	10		
	Fluorene	20		
	Indeno(1,2,3-cd)pyrene	20		
	Naphthalene	40		
	Phenanthrene	10		
	Pyrene	10		

Polycyclic Aromatic Hydrocarbons (PAHs) Multi Compound Standards

Product No.	Description	Concentration µg ml	Matrix	Pack size
REPAH014	Acenaphthene	1000	Acetonitrile	1ml
(16 compound mix)	Anthracene	63		
	Acenaphthylene	1000		
	Benzo(a)anthracene	1		
	Benzo(a)pyrene	5		
	Benzo(b)fluoroanthene	1		
	Benzo(g,h,i)perylene	5		
	Dibenzo(a,h)anthracene	13		
	Benzo(k)fluoroanthene	1		
	Chrysene	63		
	Fluoroanthene	3		
	Fluorene	100		
	Indeno(1,2,3-cd)pyrene	13		
	Naphthalene	1000		
	Phenanthrene	50		
	Pyrene	63		
Product No.	**Description**	**Concentration µg ml**	**Matrix**	**Pack size**
REPAH015	Acenaphthene	100	Acetonitrile	1ml
(16 compound mix)	Anthracene	100		
	Acenaphthylene	100		
	Benzo(a)anthracene	10		
	Benzo(a)pyrene	10		
	Benzo(b)fluoroanthene	10		
	Benzo(g,h,i)perylene	10		
	Dibenzo(a,h)anthracene	10		
	Benzo(k)fluoroanthene	5		
	Chrysene	10		
	Fluoroanthene	10		
	Fluorene	100		
	Indeno(1,2,3-cd)pyrene	10		
	Naphthalene	100		
	Phenanthrene	100		
	Pyrene	10		

Product No.	Description	Concentration µg ml	Matrix	Pack size
REPAH016	Acenaphthene	20	Acetonitrile	1ml
(16 compound mix)	Anthracene	1		
	Acenaphthylene	15		
	Benzo(a)anthracene	4		
	Benzo(a)pyrene	5		
	Benzo(b)fluoroanthene	4		
	Benzo(g,h,i)perylene	4		
	Dibenzo(a,h)anthracene	4		
	Benzo(k)fluoroanthene	5		
	Chrysene	4		
	Fluoroanthene	8		
	Fluorene	5		
	Indeno(1,2,3-cd)pyrene	5		
	Naphthalene	20		
	Phenanthrene	4		
	Pyrene	9		
Product No.	**Description**	**Concentration µg ml**	**Matrix**	**Pack size**
REPAH020	Acenaphthene	100	Methylene Chloride	1ml
(16 compound mix)	Anthracene	100		
	Acenaphthylene	200		
	Benzo(a)anthracene	100		
	Benzo(a)pyrene	100		
	Benzo(b)fluoroanthene	200		
	Benzo(g,h,i)perylene	200		
	Dibenzo(a,h)anthracene	200		
	Benzo(k)fluoroanthene	100		
	Chrysene	100		
	Fluoroanthene	200		
	Fluorene	200		
	Indeno(1,2,3-cd)pyrene	100		
	Naphthalene	1000		
	Phenanthrene	100		
	Pyrene	100		

Polycyclic Aromatic Hydrocarbons (PAHs) Multi Component Standards

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH021	Acenaphthene	1000	Methylene Chloride	1ml
(16 compound mix)	Anthracene	1000		
	Acenaphthylene	1000		
	Benzo(a)anthracene	100		
	Benzo(a)pyrene	100		
	Benzo(b)fluoroanthene	100		
	Benzo(g,h,i)perylene	100		
	Dibenzo(a,h)anthracene	100		
	Benzo(k)fluoroanthene	50		
	Chrysene	100		
	Fluoroanthene	100		
	Fluorene	1000		
	Indeno(1,2,3-cd)pyrene	100		
	Naphthalene	1000		
	Phenanthrene	1000		
	Pyrene	100		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH027	Anthracene	50	Acetonitrile	1ml
(13 compound mix)	Benzo(a)anthracene	50		
	Benzo(a)pyrene	50		
	Benzo(b)fluoroanthene	100		
	Benzo(g,h,i)perylene	100		
	Dibenzo(a,h)anthracene	100		
	Benzo(k)fluoroanthene	50		
	Chrysene	50		
	Fluoroanthene	100		
	Fluorene	100		
	Indeno(1,2,3-cd)pyrene	50		
	Phenanthrene	50		
	Pyrene	50		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH032	Acenaphthylene	400	Acetonitrile	1ml
(9 compound mix)	Benzo(g,h,i)perylene	200		
	Dibenzo(a,h)anthracene	200		
	Fluoroanthene	100		
	Fluorene	200		
	Indeno(1,2,3-cd)pyrene	100		
	Naphthalene	400		
	Phenanthrene	100		
	Pyrene	100		

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH033	Anthracene	100	Acetonitrile	1ml
(8 compound mix)	Benzo(a)anthracene	10		
	Benzo(a)pyrene	10		
	Benzo(b)fluoroanthene	10		
	Benzo(g,h,i)perylene	10		
	Chrysene	10		
	Fluoroanthene	10		
	Phenanthrene	100		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH034	Anthracene	100	Acetonitrile	1ml
(7 compound mix)	Acenaphthylene	100		
	Dibenzo(a,h)anthracene	5		
	Benzo(k)fluoroanthene	10		
	Indeno(1,2,3-cd)pyrene	10		
	Naphthalene	100		
	Pyrene	10		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH035	Benzo(a)pyrene	100	Acetonitrile	1ml
(6 compound mix)	Benzo(b)fluoroanthene	100		
	Benzo(g,h,i)perylene	100		
	Benzo(k)fluoroanthene	100		
	Fluoroanthene	100		
	Indeno(1,2,3-cd)pyrene	100		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH036	Benzo(a)pyrene	10	Acetonitrile	1ml
(6 compound mix)	Benzo(b)fluoroanthene	10		
	Benzo(g,h,i)perylene	10		
	Benzo(k)fluoroanthene	10		
	Fluoroanthene	10		
	Indeno(1,2,3-cd)pyrene	10		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH037	Benzo(a)pyrene	2	Acetonitrile	1ml
(6 compound mix)	Benzo(b)fluoroanthene	2		
	Benzo(g,h,i)perylene	2		
	Dibenzo(a,h)anthracene	2		
	Fluoroanthene	2		
	Indeno(1,2,3-cd)pyrene	2		

Polycyclic Aromatic Hydrocarbons (PAHs) Multi Component Standards

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH038	Anthracene	200	Acetonitrile	1ml
(5 compound mix)	Benzo(a)pyrene	200		
	Chrysene	200		
	Phenanthrene	200		
	Pyrene	200		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH039	Benzo(a)pyrene	100	Methylene Chloride	1ml
(5 compound mix)	Benzo(b)fluoroanthene	100		
	Benzo(g,h,i)perylene	100		
	Benzo(k)fluoroanthene	100		
	Indeno(1,2,3-cd)pyrene	100		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH040	Benzo(a)anthracene	2000	Methylene Chloride	1ml
(5 compound mix)	Benzo(a)pyrene	2000		
	Fluorene	2000		
	Naphthalene	2000		
	Phenanthrene	2000		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH041	Acenaphthene	100	Acetonitrile	1ml
(5 compound mix)	Anthracene	100		
	Benzo(a)pyrene	100		
	Chrysene	100		
	Pyrene	100		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH013	Acenaphthene	10	Acetonitrile	1ml
(16 compound mix)	Anthracene	10		
	Acenaphthylene	10		
	Benzo(a)anthracene	10		
	Benzo(a)pyrene	10		
	Benzo(b)fluoroanthene	10		
	Benzo(g,h,i)perylene	10		
	Dibenzo(a,h)anthracene	10		
	Benzo(k)fluoroanthene	10		
	Chrysene	10		
	Fluoroanthene	10		
	Fluorene	10		
	Indeno(1,2,3-cd)pyrene	10		
	Naphthalene	10		
	Phenanthrene	10		
	Pyrene	10		

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH018	Acenaphthene	20	Methylene Chloride	1ml
(16 compound mix)	Anthracene	20		
	Acenaphthylene	20		
	Benzo(a)anthracene	20		
	Benzo(a)pyrene	20		
	Benzo(b)fluoroanthene	20		
	Benzo(g,h,i)perylene	20		
	Dibenzo(a,h)anthracene	20		
	Benzo(k)fluoroanthene	20		
	Chrysene	20		
	Fluoroanthene	20		
	Fluorene	20		
	Indeno(1,2,3-cd)pyrene	20		
	Naphthalene	20		
	Phenanthrene	20		
	Pyrene	20		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH019	Acenaphthene	100	Methylene Chloride	1ml
(16 compound mix)	Anthracene	100		
	Acenaphthylene	100		
	Benzo(a)anthracene	100		
	Benzo(a)pyrene	100		
	Benzo(b)fluoroanthene	100		
	Benzo(g,h,i)perylene	100		
	Dibenzo(a,h)anthracene	100		
	Benzo(k)fluoroanthene	100		
	Chrysene	100		
	Fluoroanthene	100		
	Fluorene	100		
	Indeno(1,2,3-cd)pyrene	100		
	Naphthalene	100		
	Phenanthrene	100		
	Pyrene	100		

Polycyclic Aromatic Hydrocarbons (PAHs) Multi Component Standards

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH022	Acenaphthene	10	Acetonitrile	1ml
(15 compound mix)	Acenaphthylene	10		
	Benzo(a)anthracene	10		
	Benzo(a)pyrene	10		
	Benzo(b)fluoroanthene	10		
	Benzo(g,h,i)perylene	10		
	Dibenzo(a,h)anthracene	10		
	Benzo(k)fluoroanthene	10		
	Chrysene	10		
	Fluoroanthene	10		
	Fluorene	10		
	Indeno(1,2,3-cd)pyrene	10		
	Naphthalene	10		
	Phenanthrene	10		
	Pyrene	10		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH023	Anthracene	10	Acetonitrile	1ml
(15 compound mix)	Acenaphthylene	10		
	Benzo(a)anthracene	10		
	Benzo(a)pyrene	10		
	Benzo(b)fluoroanthene	10		
	Benzo(g,h,i)perylene	10		
	Dibenzo(a,h)anthracene	10		
	Benzo(k)fluoroanthene	10		
	Chrysene	10		
	Fluoroanthene	10		
	Fluorene	10		
	Indeno(1,2,3-cd)pyrene	10		
	Naphthalene	10		
	Phenanthrene	10		
	Pyrene	10		

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH028	Acenaphthene	50	Acetonitrile	1ml
(13 compound mix)	Anthracene	50		
	Acenaphthylene	50		
	Benzo(a)anthracene	50		
	Benzo(a)pyrene	50		
	Benzo(g,h,i)perylene	50		
	Dibenzo(a,h)anthracene	50		
	Benzo(k)fluoroanthene	50		
	Chrysene	50		
	Fluoroanthene	50		
	Fluorene	50		
	Indeno(1,2,3-cd)pyrene	50		
	Naphthalene	50		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH029	Benzo(a)anthracene	100	Acetonitrile	1ml
(10 compound mix)	Benzo(a)pyrene	100		
	Benzo(b)fluoroanthene	100		
	Benzo(g,h,i)perylene	100		
	Dibenzo(a,h)anthracene	100		
	Benzo(k)fluoroanthene	100		
	Chrysene	100		
	Fluoroanthene	100		
	Indeno(1,2,3-cd)pyrene	100		
	Pyrene	100		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH030	Benzo(a)anthracene	2000	Methylene Chloride	1ml
(10 compound mix)	Benzo(a)pyrene	2000		
	Benzo(b)fluoroanthene	2000		
	Dibenzo(a,h)anthracene	2000		
	Benzo(k)fluoroanthene	2000		
	Fluoroanthene	2000		
	Indeno(1,2,3-cd)pyrene	2000		
	Naphthalene	2000		
	Phenanthrene	2000		
	Pyrene	2000		

Polycyclic Aromatic Hydrocarbons (PAHs) Multi Component Standards

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH031	Benzo(a)anthracene	2000	Methylene Chloride	1ml
(10 compound mix)	Benzo(a)pyrene	2000		
	Benzo(b)fluoroanthene	2000		
	Dibenzo(a,h)anthracene	2000		
	Chrysene	2000		
	Fluoroanthene	2000		
	Indeno(1,2,3-cd)pyrene	2000		
	Naphthalene	2000		
	Phenanthrene	2000		
	Pyrene	2000		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH003	Acenaphthene	1000	Methanol:Acetone 1:1	1ml
(16compound mix)	Anthracene	100		
	Benzo(a)anthracene	100		
	Chrysene	100		
	Fluoroanthene	200		
	Fluorene	200		
	Naphthalene	1000		
	Phenanthrene	100		
	Pyrene	100		
	Benzo(a)pyrene	100		
	Benzo(b)fluoroanthene	200		
	Benzo(g,h,i)perylene	200		
	Dibenzo(a,h)anthracene	200		
	Benzo(k)fluoroanthene	100		
	Indeno(1,2,3-cd)pyrene	100		
	Acenaphthylene	2000		

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH008	Acenaphthene	1000	Acetonitrile	1ml
(16 compound mix)	Anthracene	50		
	Benzo(a)anthracene	1		
	Chrysene	50		
	Fluoroanthene	50		
	Fluorene	100		
	Naphthalene	1000		
	Phenanthrene	50		
	Pyrene	50		
	Benzo(a)pyrene	5		
	Benzo(b)fluoroanthene	1		
	Benzo(g,h,i)perylene	5		
	Dibenzo(a,h)anthracene	10		
	Benzo(k)fluoroanthene	1		
	Indeno(1,2,3-cd)pyrene	10		
	Acenaphthylene	1000		

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH024	Anthracene	100	Acetone	1ml
(13 compound mix)	Acenaphthylene	100		
	Benzo(a)anthracene	100		
	Benzo(a)pyrene	100		
	Benzo(b)fluoroanthene	100		
	Benzo(g,h,i)perylene	100		
	Dibenzo(a,h)anthracene	100		
	Benzo(k)fluoroanthene	100		
	Chrysene	100		
	Fluorene	100		
	Indeno(1,2,3-cd)pyrene	100		
	Phenanthrene	100		
	Pyrene	100		

Polycyclic Aromatic Hydrocarbons (PAHs) Internal Standards & Surrogates

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH025	Anthracene	1000	Acetone	1ml
(13 compound mix)	Acenaphthylene	1000		
	Benzo(a)anthracene	1000		
	Benzo(a)pyrene	1000		
	Benzo(b)fluoroanthene	1000		
	Benzo(g,h,i)perylene	1000		
	Dibenzo(a,h)anthracene	1000		
	Benzo(k)fluoroanthene	1000		
	Chrysene	1000		
	Fluorene	1000		
	Indeno(1,2,3-cd)pyrene	1000		
	Phenanthrene	1000		
	Pyrene	1000		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH026	Anthracene	500	Acetone	1ml
(13 compound mix)	Acenaphthylene	500		
	Benzo(a)anthracene	500		
	Benzo(a)pyrene	500		
	Benzo(b)fluoroanthene	500		
	Benzo(g,h,i)perylene	500		
	Dibenzo(a,h)anthracene	500		
	Benzo(k)fluoroanthene	500		
	Chrysene	500		
	Fluorene	500		
	Indeno(1,2,3-cd)pyrene	500		
	Phenanthrene	500		
	Pyrene	500		
Product No.	**Description**	**Concentration µg/ml**	**Matrix**	**Pack size**
REPAH042	Benzo(a)anthracene	25	Acetonitrile	1ml
(10 compound mix)	Benzo(b)fluoroanthene	25		
	Benzo(j)fluoroanthene	20		
	Benzo(k)fluoroanthene	10		
	Benzo(g,h,i)perylene	50		
	Benzo(a)pyrene	25		
	Dibenzo(a,h)anthracene	50		
	Fluoroanthene	50		
	Indeno(1,2,3-cd)pyrene	100		
	Naphthalene	100		

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH001-I	Acenaphthylene D10	4000	Dichloromethane:Benzene	1ml
	Chrysene D12	4000		
	1,4-Dichlorobenzene D4	4000		
	Naphthalene D8	4000		
	Perylene D12	4000		
REPAH002-I	Acenaphthylene D10	4000	Dichloromethane	1ml
	Chrysene D12	4000		
	1,4-Dichlorobenzene D4	4000		
	Naphthalene D8	4000		
	Perylene D12	4000		
REPAH001-S	2-Fluorobiphenyl	2000	Dichloromethane	1ml
	1-Fluoronnaphthalene	2000		
REPAH009	Acenaphthene	1000	Toluene	1ml
	Anthracene	1000		
	Benzo(a)anthracene	1000		
	Chrysene	1000		
	Fluoroanthene	1000		
	Fluorene	1000		
	Naphthalene	1000		
	Phenanthrene	1000		
	Pyrene	1000		
	Benzo(a)pyrene	1000		
	Benzo(b)fluoroanthene	1000		
	Benzo(g,h,i)perylene	1000		
	Dibenzo(a,h)anthracene	1000		
	Benzo(k)fluoroanthene	1000		
	Indeno(1,2,3-cd)pyrene	1000		
	Acenaphthylene	1000		
	Benzo(j)fluoroanthene	1000		
	Benzo(e)pyrene	1000		
REPAH045	Benzo(a)pyrene	100	Acetonitrile	10ml
	Benzo(b)fluoroanthene	100		
	Benzo(k)fluoroanthene	100		
	Benzo(g,h,i)perylene	100		
	Indeno(1,2,3-cd)pyrene	100		

Polycyclic Aromatic Hydrocarbons (PAHs) Single Component Standards

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH101	Acenaphthene	2000	Toluene	1ml
REPAH102	Anthracene	2000	Toluene	1ml
REPAH103	Benzo(a)anthracene	2000	Toluene	1ml
REPAH104	Chrysene	2000	Toluene	1ml
REPAH105	Fluoroanthene	2000	Toluene	1ml
REPAH106	Fluorene	2000	Toluene	1ml
REPAH107	Naphthalene	2000	Toluene	1ml
REPAH108	Phenanthrene	2000	Toluene	1ml
REPAH109	Pyrene	2000	Toluene	1ml
REPAH110	Benzo(a)pyrene	2000	Toluene	1ml
REPAH112	Benzo(g,h,i)perylene	2000	Toluene	1ml
REPAH113	Dibenzo(a,h)anthracene	2000	Toluene	1ml
REPAH114	Benzo(k)fluoroanthene	2000	Toluene	1ml
REPAH115	Indeno(1,2,3-cd)pyrene	2000	Toluene	1ml
REPAH116	Acenaphthylene	2000	Toluene	1ml
REPAH118	Benzo(a)anthracene	10	Acetonitrile	1ml
REPAH119	Benzo(a)pyrene	100	Toluene	1ml
REPAH150	2-Acetylaminofluorene	1000	Purge & Trap Methanol	1ml
REPAH151	2-Acetylaminofluorene	2000	Purge & Trap Methanol	1ml
REPAH152	7,12-Dimethylbenz(a)-anthracene	1000	Methylene Chloride:Benzene (50:50)	1ml
REPAH153	7,12-Dimethylbenz(a)-anthracene	2000	Methylene Chloride:Benzene (50:50)	1ml
REPAH154	Dibenz(a,j)acridine	1000	Methylene Chloride	1ml
REPAH155	Dibenz(a,j)acridine	2000	Methylene Chloride	1ml
REPAH156	Dibenzo(a,e)pyrene	1000	Methylene Chloride:Benzene (50:50)	1ml
REPAH157	Dibenzo(a,e)pyrene	2000	Methylene Chloride:Benzene (50:50)	1ml
REPAH158	Fluoranthene	1000	Methylene Chloride	1ml
REPAH159	Fluoranthene	2000	Methylene Chloride	1ml
REPAH9001-I	2-Fluoro-6-methylnaphthalene	100	Isooctane	1ml
REPAH9002-I	5-Fluoroacenaphthylene	100	Toluene	1ml
REPAH9003-I	4-Fluorodiphenylmethane	100	Toluene	1ml
REPAH9004-I	2-Fluorofluorene	100	Toluene	1ml
REPAH9005-I	2-Fluorodiphenylmethane	100	Toluene	1ml
REPAH9006-I	4,4'-Difluorodiphenylmethane	100	Toluene	1ml
REPAH9007-I	2-Fluorophenanthrene	100	Toluene	1ml
REPAH9008-I	3-Fluorophenanthrene	100	Toluene	1ml
REPAH9009-I	4-Fluorophenanthrene	100	Toluene	1ml
REPAH9010-I	3-Fluoro-6-methylphenanthrene	50	Isooctane	1ml

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH9011-I	3-Fluorofluoranthene	100	Toluene	1ml
REPAH9012-I	1-Fluoropyrene	100	Toluene	1ml
REPAH9013-I	1-Fluorochrysene	100	Toluene	1ml
REPAH9014-I	3-Fluorochrysene	100	Toluene	1ml
REPAH9015-I	9-Fluoro-5-methylchrysene	50	Isooctane	1ml
REPAH9016-I	9-Fluorobenzo[k]fluoranthene	100	Toluene	1ml
REPAH7001	5-Fluoro-3-methylbenzo[b] thiophene	100	Isooctane	1ml
REPAH7002	5-Fluoro-2,3-dimethylbenzothiophene	100	Isooctane	1ml
REPAH7003	2-Fluorodibenzothiophene	100	Toluene	1ml
REPAH7101	1-Methylnaphthalene-d10	1000	Isooctane	1ml
REPAH7102	2-Methylnaphthalene-d10	1000	Isooctane	1ml
REPAH7103	1,8-Dimethylnaphthalene-d12	1000	Isooctane	1ml
REPAH7104	2,6-Dimethylnaphthalene-d12	1000	Isooctane	1ml
REPAH7105	9-Methylanthracene-d12	1000	Isooctane	1ml
REPAH7106	1-Methylpyrene-d9	100	Toluene	1ml
REPAH1102	Triphenylene-d12	1000	Toluene	1ml
REPAH1103	Benzo[e]pyrene-d12	100	Toluene	1ml
REPAH1104	Benzo[b]fluoranthene-d12	100	Toluene	1ml
REPAH1105	Benzo[k]fluoranthene-d12	100	Toluene	1ml
REPAH1106	Benzo[ghi]perylene-d12	100	Toluene	1ml
REPAH1107	Benzo[ghi]perylene-d12	200	Toluene	1ml
REPAH1108	Indeno[1,2,3-cd]pyrene-d12	100	Toluene	1ml
REPAH1109	Dibenz[a,h]anthracene-d14	100	Isooctane	1ml
REPAH1110	Dibenz[a,h]anthracene-d14	100	Toluene	1ml
REPAH1111	Coronene-d12	100	Toluene	1ml
REPAH1112	Dibenzo[a,i]pyrene-d14	100	Toluene	1ml
REPAH1113	Biphenyl-d10	1000	Toluene	1ml
REPAH1114	o-Terphenyl-d14	100	Toluene	1ml
REPAH1115	m-Terphenyl-d14	100	Toluene	1ml
REPAH1116	p-Terphenyl-d14	100	Toluene	1ml
REPAH1117	p-Terphenyl-d14	1000	Toluene	1ml
REPAH1118	2,2'-Binaphthyl-d14	100	Toluene	1ml
REPAH1201	Carbazole-d8	1000	Toluene	1ml
REPAH1202	Acridine-d9	1000	Toluene	1ml
REPAH1301	1-Nitronaphthalene-d7	1000	Toluene	1ml
REPAH1302	2-Methyl-1-nitronaphthalene-d9	100	Isooctane	1ml
REPAH1303	2-Nitrofluorene-d9	100	Toluene	1ml
REPAH1304	2-Nitrofluorene-d9	1000	Toluene	1ml

Polycyclic Aromatic Hydrocarbons (PAHs) Single Component Standards

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH1305	9-Nitrophenanthrene-d9	10	Toluene	1ml
REPAH1306	9-Nitroanthracene-d9	100	Toluene	1ml
REPAH1307	1-Nitropyrene-d9	100	Toluene	1ml
REPAH1308	3-Nitrofluoranthene-d9	100	Toluene	1ml
REPAH1309	1-Nitrotriphenylene-d11	100	Isooctane	1ml
REPAH1310	6-Nitrochrysene-d11	100	Toluene	1ml
REPAH1311	6-Nitrobenzo[a]pyrene-d11	100	Toluene	1ml
REPAH1401	1-Aminonaphthalene-d7	1000	Toluene	1ml
REPAH1402	2-Aminonaphthalene-d7	1000	Isooctane	1ml
REPAH1001	1-Nitronaphthalene	100	Toluene	1ml
REPAH1002	2-Nitronaphthalene	100	Toluene	1ml
REPAH1003	1-Methyl-4-nitronaphthalene	100	Methanol	1ml
REPAH1004	1-Methyl-5-nitronaphthalene	100	Methanol	1ml
REPAH1005	1-Methyl-6-nitronaphthalene	100	Methanol	1ml
REPAH1006	2-Methyl-1-nitronaphthalene	100	Methanol	1ml
REPAH1007	2-Methyl-4-nitronaphthalene	100	Methanol	1ml
REPAH1008	1,5-Dinitronaphthalene	100	Toluene	1ml
REPAH5001	1-Methylfluorene	1000	Toluene	1ml
REPAH5002	2-Methylfluorene	1000	Toluene	1ml
REPAH5003	4-Methylfluorene	1000	Isooctane	1ml
REPAH5004	9-Methylfluorene	1000	Isooctane	1ml
REPAH5005	1,7-Dimethylfluorene	500	Isooctane	1ml
REPAH5006	9-Ethylfluorene	1000	Isooctane	1ml
REPAH5007	9-n-Propylfluorene	1000	Isooctane	1ml
REPAH5008	9-n-Butylfluorene	1000	Isooctane	1ml
REPAH5009	9,9-Di-n-octylfluorene	1000	Isooctane	1ml
REPAH5010	9,9'-Bifluorenylidene	1000	Toluene	1ml
REPAH4101	11H-Benzo[a]fluorene	1000	Toluene	1ml
REPAH4103	11H-Benzo[b]fluorene	200	Toluene	1ml
REPAH4104	7H-Benzo[c]fluorene	200	Toluene	1ml
REPAH4105	9-Phenylfluorene	1000	Isooctane	1ml
REPAH4201	2-Nitrofluorene	100	Toluene	1ml
REPAH4202	2,7-Dinitrofluorene	100	Toluene	1ml
REPAH4203	2-Nitro-9-fluorenone	100	Toluene	1ml
REPAH4401	Phenanthrene	1000	Isooctane	1ml
REPAH5101	1-Methylphenanthrene	1000	Isooctane	1ml
REPAH5102	2-Methylphenanthrene	1000	Isooctane	1ml
REPAH5103	3-Methylphenanthrene	1000	Isooctane	1ml
REPAH5104	4-Methylphenanthrene	500	Isooctane	1ml
REPAH5105	9-Methylphenanthrene	1000	Isooctane	1ml

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH5201	1,2-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5202	1,3-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5203	1,4-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5204	1,5-Dimethylphenanthrene	50	Isooctane	1ml
REPAH5205	1,6-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5206	1,7-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5207	1,8-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5208	1,9-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5209	2,3-Dimethylphenanthrene	50	Isooctane	1ml
REPAH5210	2,4-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5211	2,5-Dimethylphenanthrene	50	Isooctane	1ml
REPAH5212	2,6-Dimethylphenanthrene	50	Isooctane	1ml
REPAH5213	2,7-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5214	2,9-Dimethylphenanthrene	50	Isooctane	1ml
REPAH5215	2,10-Dimethylphenanthrene	50	Isooctane	1ml
REPAH5216	3,4-Dimethylphenanthrene	50	Isooctane	1ml
REPAH5217	3,5-Dimethylphenanthrene	50	Isooctane	1ml
REPAH5218	3,6-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5219	3,9-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5220	3,10-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5221	4,9-Dimethylphenanthrene	50	Isooctane	1ml
REPAH5222	4,10-Dimethylphenanthrene	50	Isooctane	1ml
REPAH5223	9,10-Dimethylphenanthrene	500	Isooctane	1ml
REPAH5224	3-Ethylphenanthrene	500	Isooctane	1ml
REPAH5225	9-Ethylphenanthrene	1000	Isooctane	1ml
REPAH5301	1,2,4-Trimethylphenanthrene	200	Isooctane	1ml
REPAH5302	1,2,5-Trimethylphenanthrene	50	Isooctane	1ml
REPAH5303	1,2,7-Trimethylphenanthrene	50	Isooctane	1ml
REPAH5304	1,2,6-Trimethylphenanthrene	500	Isooctane	1ml
REPAH5305	1,2,8-Trimethylphenanthrene	500	Isooctane	1ml
REPAH5306	1,2,9-Trimethylphenanthrene	500	Isooctane	1ml
REPAH5307	1,3,4-Trimethylphenanthrene	200	Isooctane	1ml
REPAH5308	2,6,9-Trimethylphenanthrene	200	Isooctane	1ml
REPAH5309	2,6,9-Trimethylphenanthrene	1000	Isooctane	1ml
REPAH5310	9-n-Propylphenanthrene	1000	Isooctane	1ml
REPAH5401	1,2,6,9-Tetramethylphenanthrene	500	Isooctane	1ml
REPAH5402	9-n-Butylphenanthrene	500	Isooctane	1ml
REPAH5403	Retene	500	Isooctane	1ml
REPAH5404	1,9-Dimethyl-5-ethylphenanthrene	50	Isooctane	1ml

Polycyclic Aromatic Hydrocarbons (PAHs) Single Component Standards

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH5405	1,9-Dimethyl-7-ethylphenanthrene	50	Isooctane	1ml
REPAH1501	4H-Cyclopenta[def]phenanthrene	500	Isooctane	1ml
REPAH1502	1H-Cyclopenta[l]phenanthrene	500	Isooctane	1ml
REPAH1503	Benzo[c]phenanthrene	200	Toluene	1ml
REPAH1504	2-Methylcyclopenta[l] phenanthrene	500	Isooctane	1ml
REPAH1505	Triphenylene	200	Toluene	1ml
REPAH1506	3-Methylphenanthro[3,4-c] phenanthrene	100	Toluene	1ml
REPAH1701	1-Methoxyphenanthrene	1000	Isooctane	1ml
REPAH1702	2-Methoxyphenanthrene	1000	Isooctane	1ml
REPAH1703	3-Methoxyphenanthrene	1000	Isooctane	1ml
REPAH1704	4-Methoxyphenanthrene	1000	Isooctane	1ml
REPAH1705	9-Methoxyphenanthrene	1000	Isooctane	1ml
REPAH1801	2-Nitrophenanthrene	1000	Isooctane	1ml
REPAH1802	3-Nitrophenanthrene	300	Isooctane	1ml
REPAH1803	9-Nitrophenanthrene	1000	Isooctane	1ml
REPAH1804	5-Nitrobenzo[c]phenanthrene	100	Toluene	1ml
REPAH1805	1-Nitrotriphenylene	50	Isooctane	1ml
REPAH1901	Anthracene	1000	Isooctane	1ml
REPAH5501	1-Methylanthracene	1000	Isooctane	1ml
REPAH5502	2-Methylanthracene	1000	Isooctane	1ml
REPAH5504	9-Methylanthracene	1000	Isooctane	1ml
REPAH5601	1,2-Dimethylanthracene	200	Toluene	1ml
REPAH5602	1,3-Dimethylanthracene	200	Toluene	1ml
REPAH5603	1,4-Dimethylanthracene	200	Toluene	1ml
REPAH5604	1,5-Dimethylanthracene	200	Toluene	1ml
REPAH5605	2,3-Dimethylanthracene	200	Toluene	1ml
REPAH5606	2,7-Dimethylanthracene	200	Toluene	1ml
REPAH5607	9,10-Dimethylanthracene	200	Toluene	1ml
REPAH5608	2-Ethylanthracene	1000	Isooctane	1ml
REPAH5701	1,2,4-Trimethylanthracene	200	Toluene	1ml
REPAH5702	1,2,3,4-Tetramethylanthracene	200	Toluene	1ml
REPAH5703	2,3,6,7-Tetramethylanthracene	200	Toluene	1ml
REPAH5704	2,3,9,10-Tetramethylantracene	200	Toluene	1ml
REPAH5705	2-tert-Butylanthracene	1000	Isooctane	1ml
REPAH5801	1-Methylbenz[a]anthracene	50	Toluene	1ml
REPAH5802	5-Methylbenz[a]anthracene	200	Toluene	1ml
REPAH5803	6-Methylbenz[a]anthracene	200	Toluene	1ml

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH5804	7-Methylbenz[a]anthracene	50	Toluene	1ml
REPAH5805	10-Methylbenz[a]anthracene	200	Toluene	1ml
REPAH5806	3,9-Dimethylbenz[a]anthracene	200	Toluene	1ml
REPAH5807	7,12-Dimethylbenz[a]anthracene	200	Toluene	1ml
REPAH2001	Dibenz[a,c]anthracene	100	Toluene	1ml
REPAH2002	Tetrabenz[a,c,h,j]anthracene	200	Toluene	1ml
REPAH2101	2-Nitroanthracene	200	Toluene	1ml
REPAH2102	9-Nitroanthracene	100	Toluene	1ml
REPAH2103	9-Methyl-10-nitroanthracene	100	Toluene	1ml
REPAH2104	9,10-Dinitroanthracene	100	Toluene	1ml
REPAH2201	7-Nitrobenz[a]anthracene	100	Toluene	1ml
REPAH2202	7-Nitrodibenz[a,h]anthracene	100	Toluene	1ml
REPAH2301	1,2,3,10b-Tetrahydrofluoranthene	200	Toluene	1ml
REPAH5901	1-Methylfluoranthene	200	Toluene	1ml
REPAH5902	2-Methylfluoranthene	200	Toluene	1ml
REPAH5903	3-Methylfluoranthene	200	Toluene	1ml
REPAH5904	3-Ethylfluoranthene	200	Toluene	1ml
REPAH2401	Benzo[a]fluoranthene	200	Toluene	1ml
REPAH2402	Benzo[ghi]fluoranthene	200	Toluene	1ml
REPAH2403	2-Phenylfluoranthene	200	Toluene	1ml
REPAH2502	Dibenzo[a,e]fluoranthene	200	Toluene	1ml
REPAH2506	Indeno[1,2,3-cd]fluoranthene	200	Toluene	1ml
REPAH2601	Naphtho[1,2-b]fluoranthene	200	Toluene	1ml
REPAH2602	Naphtho[1,2-k]fluoranthene	200	Toluene	1ml
REPAH2603	Naphtho[2,3-b]fluoranthene	200	Toluene	1ml
REPAH2604	Naphtho[2,3-j]fluoranthene	200	Toluene	1ml
REPAH2605	Naphtho[2,3-k]fluoranthene	200	Toluene	1ml
REPAH2701	1-Nitrofluoranthene	100	Toluene	1ml
REPAH2702	2-Nitrofluoranthene	100	Toluene	1ml
REPAH2703	3-Nitrofluoranthene	100	Toluene	1ml
REPAH6001	1-Methylpyrene	200	Toluene	1ml
REPAH6002	4-Methylpyrene	200	Toluene	1ml
REPAH6003	4,5-Dimethylpyrene	200	Toluene	1ml
REPAH6004	2,7-Dimethylpyrene	200	Toluene	1ml
REPAH6005	1-Ethylpyrene	200	Toluene	1ml
REPAH6006	1-n-Propylpyrene	1000	Toluene	1ml
REPAH6007	1-n-Butylpyrene	200	Toluene	1ml
REPAH6101	6-Methylbenzo[a]pyrene	200	Toluene	1ml
REPAH6102	7-Methylbenzo[a]pyrene	200	Toluene	1ml
REPAH6103	7,10-Dimethylbenzo[a]pyrene	50	Toluene	1ml
REPAH2801	Dibenzo[a,e]pyrene	200	Toluene	1ml
REPAH2802	Dibenzo[a,h]pyrene	200	Toluene	1ml
REPAH2803	Dibenzo[a,i]pyrene	200	Toluene	1ml

Product No.	Description	Concentration µg/ml	Matrix	Pack size
REPAH2804	Dibenzo[a,l]pyrene	200	Toluene	1ml
REPAH2805	Dibenzo[e,l]pyrene	200	Toluene	1ml
REPAH2901	Cyclopenta[cd]pyrene	50	Toluene	1ml
REPAH2902	Naphtho[2,3-a]pyrene	200	Toluene	1ml
REPAH2903	Naphtho[2,3-e]pyrene	200	Toluene	1ml
REPAH2904	2.3-Peri-naphthylene-pyrene	200	Toluene	1ml
REPAH2905	2.3,7.8-Di-(peri-naphthylene)-pyrene	200	Toluene	1ml
REPAH3001	1-Hydroxypyrene	200	Toluene	1ml
REPAH3003	3-Hydroxybenzo[a]pyrene	50	Toluene	1ml
REPAH3101	1-Nitropyrene	100	Toluene	1ml
REPAH3102	2-Nitropyrene	100	Toluene	1ml
REPAH3103	4-Nitropyrene	100	Toluene	1ml
REPAH3104	1,3-Dinitropyrene	100	Toluene	1ml
REPAH3105	1,6-Dinitropyrene	100	Toluene	1ml
REPAH3106	1,8-Dinitropyrene	100	Toluene	1ml
REPAH6201	1-Methylchrysene	200	Toluene	1ml
REPAH6202	2-Methylchrysene	200	Toluene	1ml
REPAH6203	3-Methylchrysene	200	Toluene	1ml
REPAH6204	4-Methylchrysene	200	Toluene	1ml
REPAH6205	5-Methylchrysene	200	Toluene	1ml
REPAH6206	6-Methylchrysene	200	Toluene	1ml
REPAH6301	6-Ethylchrysene	1000	Toluene	1ml
REPAH6302	1,3,6-Trimethylchrysene	1000	Isooctane	1ml
REPAH6303	6-n-Propylchrysene	1000	Toluene	1ml
REPAH6304	6-n-Butylchrysene	1000	Toluene	1ml
REPAH3201	Benzo[a]chrysene	100	Toluene	1ml
REPAH3202	Benzo[b]chrysene	200	Toluene	1ml
REPAH3203	Benzo[c]chrysene	200	Toluene	1ml
REPAH3204	Benzo[g]chrysene	200	Toluene	1ml
REPAH3205	Dibenzo[g,p]chrysene	200	Toluene	1ml
REPAH3301	Anthanthrene	200	Toluene	1ml
REPAH6401	6-Methylanthanthrene	200	Toluene	1ml
REPAH3302	6-Nitroanthanthrene	100	Toluene	1ml
REPAH6501	1-n-Hexylperylene	200	Toluene	1ml
REPAH3401	Benzo[b]perylene	200	Toluene	1ml
REPAH3402	Dibenzo[b,ghi]perylene	200	Toluene	1ml
REPAH3403	Dibenzo[e,ghi]perylene	200	Toluene	1ml
REPAH3404	Naphtho[8,1,2-bcd]perylene	200	Toluene	1ml
REPAH3405	Naphtho[1,2,3,4-ghi]perylene	200	Toluene	1ml
REPAH3501	1-Nitroperylene	100	Toluene	1ml
REPAH3502	3-Nitroperylene	100	Toluene	1ml
REPAH6601	2,9-Dimethylpicene	100	Toluene	1ml

Polycyclic Aromatic Hydrocarbons (PAHs) Single Component Standards

Product No.	Description	Concentration/µg ml	Matrix	Pack size
REPAH3601	Coronene	100	Toluene	1ml
REPAH6701	1-Methylcoronene	200	Toluene	1ml
REPAH3603	Dibenzo[a,j]coronene	200	Toluene	1ml
REPAH3605	Naphtho[2,3-a]coronene	30	1,2,4- Trichlorobenzene	1ml
REPAH3701	1-Nitrocoronene	100	Toluene	1ml
REPAH3901	9-Chloro-9H-fluorene	50	Isooctane	1ml
REPAH3902	2-Chloroanthracene	50	Isooctane	1ml
REPAH3903	9-Chlorophenanthrene	50	Isooctane	1ml
REPAH3904	6-Chlorobenzo[a]pyrene	50	Isooctane	1ml
REPAH3905	1-Chloropyrene	50	Isooctane	1ml
REPAH3906	3-Chlorofluoranthene	50	Isooctane	1ml
REPAH3801	Benzanthrone	1000	Isooctane	1ml
REPAH3804	Isoviolanthrone	200	Toluene	1ml
REPAH3805	Violanthrone	200	Toluene	1ml

If your requirement is for Polycyclic Aromatic Hydrocarbons in Neat form please email us at sales@reagecon.ie

Pesticide Standards

Summary of Features & Benefits:

Commercial Benefits

- Ready to use (dilute for use as calibration and/or quality control standards)
- Extensive range of organic compound mixes and single compound standards available
- Can be used with a variety of instruments including GC, GC-MS, HPLC and LC-MS
- Designed specifically for use in EPA or EU analytical methods
- Presented in high quality amber ampoules
- Customised formulations available

Technical Benefits

- Produced in accordance with EPA methods
- Consistency of product - Independent, Traceable, Certified
- Ideal for use in EPA 500, 600 and 8000 series methods
- Certificates of Analysis and Safety Data Sheets available online

These products are prepared gravimetrically on a weight/volume basis. Both solute and solvent are prepared using equipment calibrated by Reagecon engineers. Reagecon holds IEC/ISO 17025 accreditation for calibration of laboratory balances and pipettes (INAB Ref:265C). The resulting equipment Calibration Certificates are issued in accordance with the requirements of ISO/IEC 17025. The results are then reported and certified in µg/ml on the basis of weight and the density measurement of the standard. Reagecon is IEC/ISO 17025 (INAB Ref:264T) Accredited for density measurement using an Oscillating U-Tube Method in accordance with the ASTM D4052 method. The concentration of each standard is verified using a high performance calibrated Liquid Chromatograph - Mass Spectrometer (LC-MS Instrument) or Gas Chromatograph - Mass Spectrometer (GC-MS Instrument). The calibration of both of these instruments are completed using high purity ISO Guide 34 accredited Pesticide standards similar in Pesticide concentration value to these products. The mass spectrum of each of the analytes is confirmed by comparison with the National Institute of Standards and Technology (NIST) mass spectral library.

Product No.	Description in Acetone	Concentration	US EPA Methods	Packed in Ampoule
REPET001	Alachlor	50µg/ml	505	1ml
(16 Compound Mix)	Aldrin	5µg/ml		
	Atrazine	250µg/ml		
	Lindane (HCH-gamma)	5µg/ml		
	alpha-Chlorodane	5µg/ml		
	gamma-Chlorodane	5µg/ml		
	Dieldrin	5µg/ml		
	Endrin	5µg/ml		
	Heptachlor	5µg/ml		
	Heptachlor Epoxide	5µg/ml		
	Hexachlorobenzene	5µg/ml		
	Hexachlorocyclopentadiene	5µg/ml		
	Methoxychlor	25µg/ml		
	cis-Nonachlor	5µg/ml		
	trans-Nonachlor	5µg/ml		
	Simazine	250µg/ml		

Product No.	Description in Acetone	Concentration	US EPA Methods	Packed in Ampoule
REPET002	Alachlor	50µg/ml	505	1ml
(16 Compound Mix	Aldrin	5µg/ml		
Organochloride Pesticides)	Atrazine	250µg/ml		
	Lindane (HCH-gamma)	5µg/ml		
	alpha-Chlorodane	5µg/ml		
	gamma-Chlorodane	5µg/ml		
	Dieldrin	10µg/ml		
	Endrin	10µg/ml		
	Heptachlor	5µg/ml		
	Heptachlor Epoxide	5µg/ml		
	Hexachlorobenzene	5µg/ml		
	Hexachlorocyclopentadiene	15µg/ml		
	Methoxychlor	50µg/ml		
	cis-Nonachlor	10µg/ml		
	trans-Nonachlor	10µg/ml		
	Simazine	500µg/ml		

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET003	Aldrin	Each analyte at	508	1ml
(18 Compound Mix	Lindane (HCH-gamma)	1000µg/ml in high purity		
Chlorinated Pesticides)	HCH-alpha	Methyl-tert Butyl Ether		
	HCH-beta			
	HCH-delta			
	4,4'-DDD			
	4,4'-DDE			
	4,4'-DDT			
	Dieldrin			
	Endosulfan I (alpha)			
	Endosulfan II (beta)			
	Endosulfan sulfate			
	Endrin			
	Endrin aldehyde			
	Endrin ketone			
	Heptachlor			
	Heptachlor Epoxide			
	Methoxychlor			

Product No.	Description in Methyl-tert Butyl Ether	Concentration	US EPA Methods	Packed in Ampoule
REPET004	Aldrin	5µg/ml	508	1ml
(18 Compound Mix	Lindane (HCH-gamma)	5µg/ml		
Chlorinated Pesticides)	HCH-alpha	5µg/ml		
	HCH-beta	5µg/ml		
	HCH-delta	5µg/ml		
	4,4'-DDD	10µg/ml		
	4,4'-DDE	10µg/ml		
	4,4'-DDT	10µg/ml		
	Dieldrin	10µg/ml		
	Endosulfan I (alpha)	5µg/ml		
	Endosulfan II (beta)	10µg/ml		
	Endosulfan sulfate	10µg/ml		
	Endrin	10µg/ml		
	Endrin aldehyde	10µg/ml		
	Endrin ketone	5µg/ml		
	Heptachlor	5µg/ml		
	Heptachlor Epoxide	5µg/ml		
	Methoxychlor	50µg/ml		

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET005 (12 Compound Mix Pesticides)	alpha-Chlorodane	Each analyte at 1000µg/ml in high-purity Methy-tert Butyl Ether	508	1ml
	gamma-Chlorodane			
	Chlorbenzilate			
	Chlorneb			
	Chlorothalonil			
	DCPA			
	Etridiazole			
	Hexachlorobenzene			
	cis-Permethrin			
	trans-Permethrin			
	Propachlor			
	Trifluralin			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET006 (20 Compound Mix Pesticides)	Alachlor	Each analyte at 1000µg/ml in high-purity Ethyl Acetate	508.1	1ml
	Aldrin			
	Butachlor			
	Lindane (HCH-gamma)			
	HCH-alpha			
	HCH-beta			
	HCH-delta			
	4,4'-DDD			
	4,4'-DDE			
	4,4'-DDT			
	Dieldrin			
	Endosulfan I (alpha)			
	Endosulfan II (beta)			
	Endosulfan sulfate			
	Endrin			
	Endrin aldehyde			
	Endrin ketone			
	Heptachlor			
	Heptachlor Epoxide			
	Methoxychlor			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET007 (16 Compound Mix Pesticides)	alpha-Chlorodane	Each analyte at 500µg/ml in high-purity Ethyl Acetate	508.1	1ml
	gamma-Chlorodane			
	Chlorbenzilate			
	Chlorneb			
	Chlorothalonil			
	Cyanazine			
	DCPA			
	Etridiazole			
	Hexachlorobenzene			
	Hexachlorocyclopentadiene			
	Metolachlor			
	Metribuzin			
	cis-Permethrin			
	trans-Permethrin			
	Propachlor			
	Trifluralin			

Product No.	Description in Benzene	Concentration	US EPA Methods	Packed in Ampoule
REPET008 (16 Compound Mix Pesticides)	Aldrin	100µg/ml	608	1ml
	Lindane (HCH-gamma)	100µg/ml	625	
	HCH-alpha	100µg/ml		
	HCH-beta	100µg/ml		
	HCH-delta	100µg/ml		
	4,4'-DDD	600µg/ml		
	4,4'-DDE	200µg/ml		
	4,4'-DDT	600µg/ml		
	Dieldrin	200µg/ml		
	Endosulfan I (alpha)	200µg/ml		
	Endosulfan II (beta)	200µg/ml		
	Endosulfan sulfate	600µg/ml		
	Endrin	200µg/ml		
	Endrin aldehyde	600µg/ml		
	Heptachlor	100µg/ml		
	Heptachlor Epoxide	100µg/ml		

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET009	Aldrin	Each analyte at 2000µg/ml	608	1ml
(18 Compound	Lindane (HCH-gamma)	in high-purity Benzene	617	
Mix Pesticides)	HCH-alpha		8080A	
	HCH-beta		8081A	
	HCH-delta			
	4,4'-DDD			
	4,4'-DDE			
	4,4'-DDT			
	Dieldrin			
	Endosulfan I (alpha)			
	Endosulfan II (beta)			
	Endosulfan sulfate			
	Endrin			
	Endrin aldehyde			
	Endrin ketone			
	Heptachlor			
	Heptachlor Epoxide			
	Methoxychlor			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET010	Aldrin	Each analyte at 1000µg/ml	617	1ml
(18 Compound	Lindane (HCH-gamma)	in high-purity Toluene:Hexane 1:1		
Mix Pesticides)	HCH-alpha			
	HCH-beta			
	HCH-delta			
	4,4'-DDD			
	4,4'-DDE			
	4,4'-DDT			
	Dieldrin			
	Endosulfan I (alpha)			
	Endosulfan II (beta)			
	Endosulfan sulfate			
	Endrin			
	Endrin ketone			
	Endrin aldehyde			
	Heptachlor			
	Heptachlor Epoxide			
	Methoxychlor			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET011	Isopropalin	Each analyte at 1000µg/ml	627	1ml
(3 Compound	Profuralin	in high-purity Hexane		
Mix Pesticides)	Trifluralin			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET012	Aldrin	Each analyte at 100µg/ml	Not applicable	1ml
(14 Compound	Dieldrin	in high-purity Acetone		
Mix Pesticides)	Endrin			
	HCH-alpha			
	HCH-beta			
	HCH-delta			
	Lindane (HCH-gamma)			
	4,4'-DDT			
	2,4'-DDT			
	Heptachlor			
	Heptachlor Epoxide			
	alpha-Chlorodane			
	gamma-Chlorodane			
	Hexachlorobenzene			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET013	Napropamid	Each analyte at 1000µg/ml	632.1	1ml
(2 Compound	Propanil	in 9:1 Acetonitrile:Acetone		
Mix Pesticides)				

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET014	Bromacil	Each analyte at 1000µg/ml	633	1ml
(7 Compound	DEET	in high-purity Acetone		
Mix Pesticides)	Hexazinone			
	Metribuzin			
	Terbacil			
	Triadimefon			
	Tricyclazone			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET015	Fenarimol	Each analyte at 1000µg/ml	633.1	1ml
(5 Compound)	MGK 624-A	in high-purity Methanol		
Mix Pesticides)	MGK 624-B			
	MGK 326			
	Pronamide			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET016	Butylate	Each analyte at 1000µg/ml	634	1ml
(6 Compound	Cycloate	in high-purity Methanol		
Mix Pesticides)	EPTC			
	Molinate			
	Pebulate			
	Vernolate			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET018	Alachlor	Each analyte at 100µg/ml	Not applicable	1ml
(8 Compound	Chlorpyrifos	in high-purity Cyclohexane		
Mix Pesticides)	Chlorfenvinphos			
	Trifluralin			
	Atrazine			
	Symazine			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET024 (18 Compound Mix Pesticides)	Atrazine	Each analyte at 100µg/ml in high-purity Methanol	Not applicable	1ml
	Simazine			
	Desisopropyl atrazine			
	Desethyl atrazine			
	Desethyl terbutylazine			
	Propazine			
	Metribuzin			
	Terbutylazine			
	Prometryn			
	Terbutryn			
	Pendimethalin			
	Trifluralin			
	Propachlor			
	Acetochlor			
	Alachlor			
	Metolachlor			
	Chlorpyrifos			
	Chlorfenvinphos			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET025 (22 Compound Mix Pesticides)	Atrazine	Each analyte at 10µg/ml in high-purity Acetonitrile	Not applicable	1ml
	Atrazine-desethyl			
	Atrazine-desisopropyl			
	Carbofuran			
	Chloridazon			
	Cyanazine			
	Dimethoate			
	Diuron			
	Hexazinone			
	Isoproturon			
	Linuron			
	Metamitron			
	Methabenzthiazuron			
	Metribuzin			
	Pirimicarb			
	Prochloraz			
	Propiconazole			
	Propyzamide			
	Simazine			
	Terbuthylazine			
	Terbuthylazine-desethyl			
	Triadimenol			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET026 (4 Compound Mix Pesticides)	Aldrin	Each analyte at 100µg/ml	617	1ml
	Dieldrin	in high-purity Methanol	505	
	Endrin			
	Heptachlor			

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
REPET027 (7 Compound Mix Pesticides)	Cypermethrin	Each analyte at 100µg/ml	Not applicable	1ml
	Deltamethrin	in high-purity n-Hexane		
	Fenvalerate			
	Fenpropathrin			
	Lambda-cyhalothrin			
	Cyfluthrin			
	Bifenthrin			

Toxaphene/Chlordane High & Low Concentration Standards

Product No.	Description	Concentration	US EPA Methods	Packed in Ampoule
RECLC001	Technical Chlordane	200ug/ml in high purity Hexane	625, 8270C	1ml
RECLC001-H	Technical Chlordane	1000ug/ml in high purity Hexane	625, 8270C	1ml
RETOX001	Toxaphene	200ug/ml in high purity Hexane	625, 8270C	1ml
RETOX001-H	Toxaphene	1,000ug/ml in high purity Hexane	625, 8270C	1ml

Pesticide Single Component Standards

Product No.	Description	Concentration µg/ml	Packed in Ampoule
REPET101	4,4'-DDD	1000ug/ml in Purge & Trap Methanol	1ml
REPET101N	4,4'-DDD	Neat	10mg
REPET102	4,4'-DDE	1000ug/ml in Purge & Trap Methanol	1ml
REPET102N	4,4'-DDE	Neat	10mg
REPET103	4,4'-DDT	1000ug/ml in Purge & Trap Methanol	1ml
REPET103N	4,4'-DDT	Neat	10mg
REPET104	Alachlor	1000ug/ml in Purge & Trap Methanol	1ml
REPET104N	Alachlor	Neat	10mg
REPET105	Aldrin	1000ug/ml in Purge & Trap Methanol	1ml
REPET105N	Aldrin	Neat	10mg
REPET106	alpha-Chlorodane	1000ug/ml in Purge & Trap Methanol	1ml
REPET106N	alpha-Chlorodane	Neat	10mg
REPET107	Ametryn	1000ug/ml in Purge & Trap Methanol	1ml
REPET107N	Ametryn	Neat	10mg
REPET108	Atraton	1000ug/ml in Purge & Trap Methanol	1ml
REPET108N	Atraton	Neat	10mg
REPET109	Atrazine	1000ug/ml in Acetone	1ml
REPET109N	Atrazine	Neat	10mg
REPET110	Bromacil	1000ug/ml in Purge & Trap Methanol	1ml
REPET110N	Bromacil	Neat	10mg
REPET111	Butachlor	1000ug/ml in Purge & Trap Methanol	1ml
REPET111N	Butachlor	Neat	10mg
REPET112	Carboxin	1000ug/ml in Acetone	1ml
REPET112N	Carboxin	Neat	10mg
REPET113	Chlordane	1000ug/ml in Hexane	1ml
REPET113N	Chlordane	Neat	10mg
REPET114	Chlorobenzilate	1000ug/ml in Purge & Trap Methanol	1ml
REPET114N	Chlorobenzilate	Neat	10mg
REPET115	Chloroneb	1000ug/ml in Purge & Trap Methanol	1ml
REPET115N	Chloroneb	Neat	10mg
REPET116	Chlorothalonil	1000ug/ml in Purge & Trap Methanol	1ml
REPET116N	Chlorothalonil	Neat	10mg
REPET117	Chlorpropham	1000ug/ml in Purge & Trap Methanol	1ml
REPET117N	Chlorpropham	Neat	10mg
REPET118	cis-Nonachlor	1000ug/ml in Purge & Trap Methanol	1ml
REPET118N	cis-Nonachlor	Neat	10mg
REPET119	cis-Permethrin	1000ug/ml in Purge & Trap Methanol	1ml
REPET119N	cis-Permethrin	Neat	10mg
REPET120	Cyanazine	1000ug/ml in Purge & Trap Methanol	1ml

Product No.	Description	Concentration µg/ml	Packed in Ampoule
REPET120N	Cyanazine	Neat	10mg
REPET121	DCPA (Propanil)	1000ug/ml in Purge & Trap Methanol	1ml
REPET121N	DCPA (Propanil)	Neat	10mg
REPET122	Diazinon	1000ug/ml in Acetone	1ml
REPET122N	Diazinon	Neat	10mg
REPET123	Dichlorvos	1000ug/ml in Purge & Trap Methanol	1ml
REPET123N	Dichlorvos	Neat	10mg
REPET124	Dieldrin	1000ug/ml in Purge & Trap Methanol	1ml
REPET124N	Dieldrin	Neat	10mg
REPET125	Diphenamid	1000ug/ml in Acetone	1ml
REPET125N	Diphenamid	Neat	10mg
REPET126	Disulfoton Sulfone	1000ug/ml in Acetone	1ml
REPET126N	Disulfoton Sulfone	Neat	10mg
REPET127	Disulfoton Sulfoxide	1000ug/ml in Acetone	1ml
REPET127N	Disulfoton Sulfoxide	Neat	10mg
REPET128	Disulfoton	1000ug/ml in Acetone	1ml
REPET128N	Disulfoton	Neat	10mg
REPET129	Endosulfan I	1000ug/ml in Purge & Trap Methanol	1ml
REPET129N	Endosulfan I	Neat	10mg
REPET130	Endosulfan II	1000ug/ml in Purge & Trap Methanol	1ml
REPET130N	Endosulfan II	Neat	10mg
REPET131	Endosulfan Sulfate	1000ug/ml in Purge & Trap Methanol	1ml
REPET131N	Endosulfan Sulfate	Neat	10mg
REPET132	Endrin	1000ug/ml in Purge & Trap Methanol	1ml
REPET132N	Endrin	Neat	10mg
REPET133	Endrin Aldehyde	1000ug/ml in Purge & Trap Methanol	1ml
REPET133N	Endrin Aldehyde	Neat	10mg
REPET134	EPTC	1000ug/ml in Purge & Trap Methanol	1ml
REPET134N	EPTC	Neat	10mg
REPET135	Ethoprop	1000ug/ml in Purge & Trap Methanol	1ml
REPET135N	Ethoprop	Neat	10mg
REPET136	Etridiazole	1000ug/ml in Purge & Trap Methanol	1ml
REPET136N	Etridiazole	Neat	10mg
REPET137	Fenamiphos	1000ug/ml in Acetone	1ml
REPET137N	Fenamiphos	Neat	10mg
REPET138	Fenarimol	1000ug/ml in Purge & Trap Methanol	1ml
REPET138N	Fenarimol	Neat	10mg
REPET139	gamma-Chlorodane	1000ug/ml in Purge & Trap Methanol	1ml
REPET139N	gamma-Chlorodane	Neat	10mg
REPET140	HCH-alpha	1000ug/ml in Purge & Trap Methanol	1ml
REPET140N	HCH-alpha	Neat	10mg
REPET141	HCH-beta	1000ug/ml in Purge & Trap Methanol	1ml

Product No.	Description	Concentration µg/ml	Packed in Ampoule
REPET141N	HCH-beta	Neat	10mg
REPET142	HCH-delta	1000ug/ml in Purge & Trap Methanol	1ml
REPET142N	HCH-delta	Neat	10mg
REPET143	Heptachlor	1000ug/ml in Purge & Trap Methanol	1ml
REPET143N	Heptachlor	Neat	10mg
REPET144	Heptachlor Epoxide	1000ug/ml in Purge & Trap Methanol	1ml
REPET144N	Heptachlor Epoxide	Neat	10mg
REPET145	Hexachlorobenzene	1000ug/ml in Benzene	1ml
REPET145N	Hexachlorobenzene	Neat	10mg
REPET146	Hexachlorocyclopentadiene	1000ug/ml in Purge & Trap Methanol	1ml
REPET146N	Hexachlorocyclopentadiene	Neat	10mg
REPET147	Hexazinone	1000ug/ml in Purge & Trap Methanol	1ml
REPET147N	Hexazinone	Neat	10mg
REPET148	Lindane (HCH-gamma)	1000ug/ml in Purge & Trap Methanol	1ml
REPET148N	Lindane (HCH-gamma)	Neat	10mg
REPET149	Methoxychlor	1000ug/ml in Purge & Trap Methanol	1ml
REPET149N	Methoxychlor	Neat	10mg
REPET150	Methyl Paraoxon	1000ug/ml in Purge & Trap Methanol	1ml
REPET150N	Methyl Paraoxon	Neat	10mg
REPET151	Metolachlor	1000ug/ml in Purge & Trap Methanol	1ml
REPET151N	Metolachlor	Neat	10mg
REPET152	Metribuzin	1000ug/ml in Purge & Trap Methanol	1ml
REPET152N	Metribuzin	Neat	10mg
REPET153	Mevinphos	1000ug/ml in Purge & Trap Methanol	1ml
REPET153N	Mevinphos	Neat	10mg
REPET154	Molinate	1000ug/ml in Purge & Trap Methanol	1ml
REPET154N	Molinate	Neat	10mg
REPET155	Napropamide	1000ug/ml in Purge & Trap Methanol	1ml
REPET155N	Napropamide	Neat	10mg
REPET156	Norflurazon	1000ug/ml in Acetone	1ml
REPET156N	Norflurazon	Neat	10mg
REPET157	Pebulate	1000ug/ml in Purge & Trap Methanol	1ml
REPET157N	Pebulate	Neat	10mg
REPET158	Prometon	1000ug/ml in Acetone	1ml
REPET158N	Prometon	Neat	10mg
REPET159	Prometryn	1000ug/ml in Purge & Trap Methanol	1ml
REPET159N	Prometryn	Neat	10mg
REPET160	Pronamide (Propyzamide)	1000ug/ml in Purge & Trap Methanol	1ml
REPET160N	Pronamide (Propyzamide)	Neat	10mg
REPET161	Propachlor	1000ug/ml in Acetone	1ml
REPET161N	Propachlor	Neat	10mg
REPET162	Propazine	1000ug/ml in Purge & Trap Methanol	1ml

Product No.	Description	Concentration µg/ml	Packed in Ampoule
REPET162N	Propazine	Neat	10mg
REPET163	Simazine	1000ug/ml in Acetone	1ml
REPET163N	Simazine	Neat	10mg
REPET164	Simetryn	1000ug/ml in Purge & Trap Methanol	1ml
REPET164N	Simetryn	Neat	10mg
REPET165	Stirofos (Tetrachlorovinphos)	1000ug/ml in Acetone	1ml
REPET165N	Stirofos (Tetrachlorovinphos)	Neat	10mg
REPET166	Tebuthiuron	1000ug/ml in Acetone	1ml
REPET166N	Tebuthiuron	Neat	10mg
REPET167	Terbacil	1000ug/ml in Purge & Trap Methanol	1ml
REPET167N	Terbacil	Neat	10mg
REPET168	Terbufos	1000ug/ml in Purge & Trap Methanol	1ml
REPET168N	Terbufos	Neat	10mg
REPET169	Terbutryn	1000ug/ml in Purge & Trap Methanol	1ml
REPET169N	Terbutryn	Neat	10mg
REPET170	Toxaphene (Camphechlor)	1000ug/ml in Purge & Trap Methanol	1ml
REPET170N	Toxaphene (Camphechlor)	Neat	10mg
REPET171	trans-Nonachlor	1000ug/ml in Purge & Trap Methanol	1ml
REPET171N	trans-Nonachlor	Neat	10mg
REPET172	trans-Permethrin	1000ug/ml in Purge & Trap Methanol	1ml
REPET172N	trans-Permethrin	Neat	10mg
REPET173	Triademefon	1000ug/ml in Purge & Trap Methanol	1ml
REPET173N	Triademefon	Neat	10mg
REPET174	Tricyclazole	1000ug/ml in Purge & Trap Methanol	1ml
REPET174N	Tricyclazole	Neat	10mg
REPET175	Trifuluralin	1000ug/ml in Purge & Trap Methanol	1ml
REPET175N	Trifuluralin	Neat	10mg
REPET176	Azinphos-ethyl	1000ug/ml in Acetone	1ml
REPET176N	Azinphos-ethyl	Neat	10mg
REPET177	Azinphos-methyl	1000ug/ml in Acetone	1ml
REPET177N	Azinphos-methyl	Neat	10mg
REPET178	Bromophos Methyl	1000ug/ml in Purge & Trap Methanol	1ml
REPET178N	Bromophos Methyl	Neat	10mg
REPET179	Carbophenothion	1000ug/ml in Purge & Trap Methanol	1ml
REPET179N	Carbophenothion	Neat	10mg
REPET180	Chlorpyrifos	1000ug/ml in Purge & Trap Methanol	1ml
REPET180N	Chlorpyrifos	Neat	10mg
REPET181	Chlorpyrifos-methyl	1000ug/ml in Purge & Trap Methanol	1ml
REPET181N	Chlorpyrifos-methyl	Neat	10mg
REPET182	Dimethoate	1000ug/ml in Purge & Trap Methanol	1ml
REPET182N	Dimethoate	Neat	10mg
REPET183	Ethion	1000ug/ml in Purge & Trap Methanol	1ml

Product No.	Description	Concentration µg/ml	Packed in Ampoule
REPET183N	Ethion	Neat	10mg
REPET184	Fonophos	1000ug/ml in Purge & Trap Methanol	1ml
REPET184N	Fonophos	Neat	10mg
REPET185	Malathion	1000ug/ml in Purge & Trap Methanol	1ml
REPET185N	Malathion	Neat	10mg
REPET186	Methidathion	1000ug/ml in Purge & Trap Methanol	1ml
REPET186N	Methidathion	Neat	10mg
REPET187	Parathion	1000ug/ml in Purge & Trap Methanol	1ml
REPET187N	Parathion	Neat	10mg
REPET188	Parathion-ethyl	1000ug/ml in Purge & Trap Methanol	1ml
REPET188N	Parathion-ethyl	Neat	10mg
REPET189	Pyrimiphos-ethyl	1000ug/ml in Purge & Trap Methanol	1ml
REPET189N	Pyrimiphos-ethyl	Neat	10mg
REPET190	Pyrimiphos-methyl	1000ug/ml in Purge & Trap Methanol	1ml
REPET190N	Pyrimiphos-methyl	Neat	10mg
REPET191	2,2-DDE	1000ug/ml in Purge & Trap Methanol	1ml
REPET191N	2,2-DDE	Neat	10mg
REPET192	2,4-DDE	1000ug/ml in Purge & Trap Methanol	1ml
REPET192N	2,4-DDE	Neat	10mg
REPET193	2,4-DDT	1000ug/ml in Purge & Trap Methanol	1ml
REPET193N	2,4-DDT	Neat	10mg
REPET194	2,4-DDD	1000ug/ml in Purge & Trap Methanol	1ml
REPET194N	2,4-DDD	Neat	10mg
REPET300	1,2-Diphenylhydrazine	1000µg/ml in Purge & Trap Methanol	1ml
REPET300N	1,2-Diphenylhydrazine	Neat	10mg
REPET301	1,2-Diphenylhydrazine	2000µg/ml in Purge & Trap Methanol	1ml
REPET302	1,4-Phenylenediamine	1000µg/ml in Purge & Trap Methanol	1ml
REPET302N	1,4-Phenylenediamine	Neat	10mg
REPET303	1,4-Phenylenediamine	2000µg/ml in Purge & Trap Methanol	1ml
REPET304	5,5-Diphenylhydantoin	1000µg/ml in Purge & Trap Methanol	1ml
REPET304N	5,5-Diphenylhydantoin	Neat	10mg
REPET305	5,5-Diphenylhydantoin	2000µg/ml in Purge & Trap Methanol	1ml
REPET306	Barban	1000µg/ml in Purge & Trap Methanol	1ml
REPET306N	Barban	Neat	10mg
REPET307	Barban	2000µg/ml in Purge & Trap Methanol	1ml
REPET308	Bromoxynil	1000µg/ml in Purge & Trap Methanol	1ml
REPET308N	Bromoxynil	Neat	10mg
REPET309	Bromoxynil	2000µg/ml in Purge & Trap Methanol	1ml
REPET310	Captafol	1000µg/ml in Acetone	1ml
REPET310N	Captafol	Neat	10mg
REPET311	Captafol	2000µg/ml in Acetone	1ml
REPET312	Captan	1000µg/ml in Acetone	1ml

Product No.	Description	Concentration µg/ml	Packed in Ampoule
REPET312N	Captan	Neat	10mg
REPET313	Captan	2000µg/ml in Acetone	1ml
REPET314	Carbaryl	1000µg/ml in Acetonitrile	1ml
REPET314N	Carbaryl	Neat	10mg
REPET315	Carbaryl	2000µg/ml in Acetonitrile	1ml
REPET316	Carbofuran	1000µg/ml in Purge & Trap Methanol	1ml
REPET316N	Carbofuran	Neat	10mg
REPET321	Chlordane (NOS)	2000µg/ml in Hexane	1ml
REPET321N	Chlordane (NOS)	Neat	10mg
REPET322	Chlorfenvinphos	1000µg/ml in Acetone	1ml
REPET322N	Chlorfenvinphos	Neat	10mg
REPET323	Chlorfenvinphos	2000µg/ml in Acetone	1ml
REPET324	Coumaphos	1000µg/ml in Acetone	1ml
REPET324N	Coumaphos	Neat	10mg
REPET325	Coumaphos	2000µg/ml in Acetone	1ml
REPET326	Crotoxyphos	1000µg/ml in Purge & Trap Methanol	1ml
REPET326N	Crotoxyphos	Neat	10mg
REPET327	Crotoxyphos	2000µg/ml in Purge & Trap Methanol	1ml
REPET328	Demeton O	1000µg/ml in Acetonitrile	1ml
REPET328N	Demeton O	Neat	10mg
REPET329	Demeton O	1000µg/ml in Purge & Trap Methanol	1ml
REPET330	Demeton O	2000µg/ml in Acetonitrile	1ml
REPET331	Demeton O	2000µg/ml in Purge & Trap Methanol	1ml
REPET332	Demeton-S	1000µg/ml in Acetone	1ml
REPET332N	Demeton-S	Neat	10mg
REPET333	Demeton-S	2000µg/ml in Acetone	1ml
REPET334	Diallate (cis or trans)	1000µg/ml in Acetone	1ml
REPET334N	Diallate (cis or trans)	Neat	10mg
REPET335	Diallate (cis or trans)	2000µg/ml in Acetone	1ml
REPET336	Dichlone	1000µg/ml in Purge & Trap Methanol	1ml
REPET336N	Dichlone	Neat	10mg
REPET337	Dichlone	2000µg/ml in Purge & Trap Methanol	1ml
REPET338	Dicrotophos	1000µg/ml in Purge & Trap Methanol	1ml
REPET338N	Dicrotophos	Neat	10mg
REPET339	Dicrotophos	2000µg/ml in Purge & Trap Methanol	1ml
REPET340	Dinocap	1000µg/ml in Purge & Trap Methanol	1ml
REPET340N	Dinocap	Neat	10mg
REPET341	Dinocap	2000µg/ml in Purge & Trap Methanol	1ml
REPET342	Dioxathion	1000µg/ml in Purge & Trap Methanol	1ml
REPET342N	Dioxathion	Neat	10mg
REPET343	Dioxathion	2000µg/ml in Purge & Trap Methanol	1ml
REPET344	Diphenylamine	1000µg/ml in Purge & Trap Methanol	1ml

Product No.	Description	Concentration µg/ml	Packed in Ampoule
REPET344N	Diphenylamine	Neat	10mg
REPET345	Diphenylamine	2000µg/ml in Purge & Trap Methanol	1ml
REPET346	EPN	1000µg/ml in Acetone	1ml
REPET346N	EPN	Neat	10mg
REPET347	EPN	1000µg/ml in Purge & Trap Methanol	1ml
REPET348	EPN	2000µg/ml in Acetone	1ml
REPET349	EPN	2000µg/ml in Purge & Trap Methanol	1ml
REPET350	Ethyl carbamate (urethane)	1000µg/ml in Purge & Trap Methanol	1ml
REPET350N	Ethyl carbamate (urethane)	Neat	10mg
REPET351	Ethyl carbamate (urethane)	2000µg/ml in Purge & Trap Methanol	1ml
REPET352	Ethyl methanesulfonate	1000µg/ml in Purge & Trap Methanol	1ml
REPET352N	Ethyl methanesulfonate	Neat	10mg
REPET353	Ethyl methanesulfonate	2000µg/ml in Purge & Trap Methanol	1ml
REPET354	Famphur	1000µg/ml in Purge & Trap Methanol	1ml
REPET354N	Famphur	Neat	10mg
REPET355	Famphur	2000µg/ml in Purge & Trap Methanol	1ml
REPET356	Fensulfothion	1000µg/ml in Acetone	1ml
REPET356N	Fensulfothion	Neat	10mg
REPET357	Fensulfothion	2000µg/ml in Acetone	1ml
REPET358	Fenthion	1000µg/ml in Acetone	1ml
REPET358N	Fenthion	Neat	10mg
REPET359	Fenthion	2000µg/ml in Acetone	1ml
REPET360	Fluchloralin	1000µg/ml in Purge & Trap Methanol	1ml
REPET360N	Fluchloralin	Neat	10mg
REPET361	Fluchloralin	2000µg/ml in Purge & Trap Methanol	1ml
REPET362	Isodrin	1000µg/ml in Purge & Trap Methanol	1ml
REPET362N	Isodrin	Neat	10mg
REPET363	Isodrin	2000µg/ml in Purge & Trap Methanol	1ml
REPET364	Isophorone	1000µg/ml in Purge & Trap Methanol	1ml
REPET364N	Isophorone	Neat	10mg
REPET365	Isophorone	2000µg/ml in Purge & Trap Methanol	1ml
REPET366	Isosafrole	1000µg/ml in Purge & Trap Methanol	1ml
REPET366N	Isosafrole	Neat	10mg
REPET367	Isosafrole	2000µg/ml in Purge & Trap Methanol	1ml
REPET368	Kepone	1000µg/ml in Purge & Trap Methanol	1ml
REPET368N	Kepone	Neat	10mg
REPET369	Kepone	2000µg/ml in Purge & Trap Methanol	1ml
REPET370	Leptophos	1000µg/ml in Purge & Trap Methanol	1ml
REPET370N	Leptophos	Neat	10mg
REPET371	Leptophos	2000µg/ml in Purge & Trap Methanol	1ml
REPET372	Malathion	1000µg/ml in Purge & Trap Methanol	1ml
REPET373	Malathion	2000µg/ml in Purge & Trap Methanol	1ml

Product No.	Description	Concentration µg/ml	Packed in Ampoule
REPET374	Methyl methanesulfonate	1000µg/ml in Purge & Trap Methanol	1ml
REPET374N	Methyl methanesulfonate	Neat	10mg
REPET375	Methyl methanesulfonate	2000µg/ml in Purge & Trap Methanol	1ml
REPET376	Mexacarbate	1000µg/ml in Purge & Trap Methanol	1ml
REPET376N	Mexacarbate	Neat	10mg
REPET377	Mexacarbate	2000µg/ml in Purge & Trap Methanol	1ml
REPET378	Mirex	1000µg/ml in Hexane:Toluene	1ml
REPET378N	Mirex	Neat	10mg
REPET379	Mirex	2000µg/ml in Hexane:Toluene	1ml
REPET380	Monocrotophos	1000µg/ml in Acetonitrile	1ml
REPET380N	Monocrotophos	Neat	10mg
REPET381	Monocrotophos	2000µg/ml in Acetonitrile	1ml
REPET382	Naled	1000µg/ml in Methylene Chloride	1ml
REPET382N	Naled	Neat	10mg
REPET383	Naled	2000µg/ml in Methylene Chloride	1ml
REPET384	Nitrofen	1000µg/ml in Purge & Trap Methanol	1ml
REPET384N	Nitrofen	Neat	10mg
REPET385	Nitrofen	2000µg/ml in Purge & Trap Methanol	1ml
REPET386	O,O,O-Triethyl phosphorothioate	1000µg/ml in Purge & Trap Methanol	1ml
REPET386N	O,O,O-Triethyl phosphorothioate	Neat	10mg
REPET387	O,O,O-Triethyl phosphorothioate	2000µg/ml in Purge & Trap Methanol	1ml
REPET388	Octamethyl pyrophosphoramide	1000µg/ml in Acetone	1ml
REPET388N	Octamethyl pyrophosphoramide	Neat	10mg
REPET389	Octamethyl pyrophosphoramide	2000µg/ml in Acetone	1ml
REPET390	Parathion	1000µg/ml in Purge & Trap Methanol	1ml
REPET391	Parathion	2000µg/ml in Purge & Trap Methanol	1ml
REPET392	Pentachlorobenzene	1000µg/ml in Purge & Trap Methanol	1ml
REPET392N	Pentachlorobenzene	Neat	10mg
REPET393	Pentachlorobenzene	2000µg/ml in Purge & Trap Methanol	1ml
REPET394	Pentachloronitrobenzene	1000µg/ml in Purge & Trap Methanol	1ml
REPET394N	Pentachloronitrobenzene	Neat	10mg
REPET395	Pentachloronitrobenzene	2000µg/ml in Purge & Trap Methanol	1ml
REPET396	Phorate	1000µg/ml in Purge & Trap Methanol	1ml
REPET396N	Phorate	Neat	10mg
REPET397	Phorate	2000µg/ml in Purge & Trap Methanol	1ml
REPET398	Phosalone	1000µg/ml in Purge & Trap Methanol	1ml
REPET398N	Phosalone	Neat	10mg
REPET399	Phosalone	2000µg/ml in Purge & Trap Methanol	1ml
REPET400	Phosphamidon	1000µg/ml in Purge & Trap Methanol	1ml
REPET400N	Phosphamidon	Neat	10mg
REPET401	Phosphamidon	2000µg/ml in Purge & Trap Methanol	1ml
REPET402	Strychnine	1000µg/ml in Purge & Trap Methanol	1ml

Product No.	Description	Concentration µg/ml	Packed in Ampoule
REPET402N	Strychnine	Neat	10mg
REPET403	Strychnine	2000µg/ml in Purge & Trap Methanol	1ml
REPET404	Thionazine	1000µg/ml in Acetone	1ml
REPET404N	Thionazine	Neat	10mg
REPET405	Thionazine	1000µg/ml in Purge & Trap Methanol	1ml
REPET406	Thionazine	2000µg/ml in Acetone	1ml
REPET407	Thionazine	2000µg/ml in Purge & Trap Methanol	1ml

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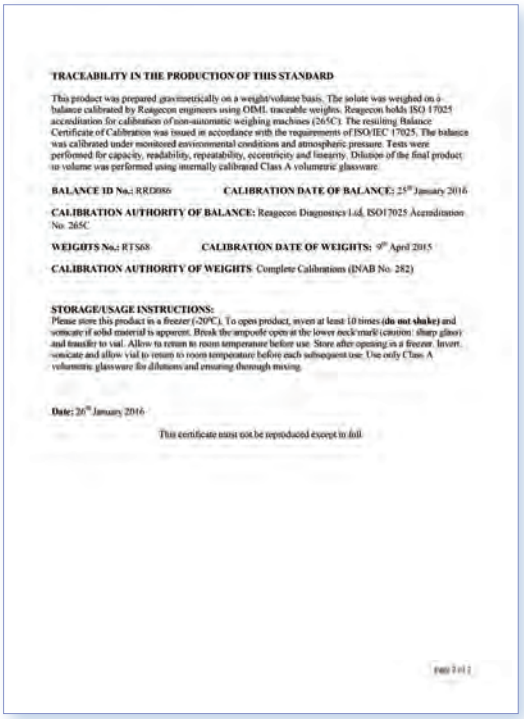
CERTIFICATE OF GRAVIMETRIC PREPARATION

PRODUCT: METOLACHLOR 1000ug/ml in METHANOL
PRODUCT No.: REPET151
MATRIX: Methanol
LOT NO.: PET15116A1
DATE OF PREPARATION: 25th January 2016
EXPIRY DATE: 28th January 2019
PREPARATION OF STANDARD:

All standard components have been pre-qualified/verified before use. All preparation has been performed in a cleanroom environment under strictly monitored and controlled conditions. All analytical measuring devices and instrumentation have been pre-calibrated. The actual concentrations reported below are based on this preparation methodology and compound impurities.

Compound	Purity %	Labelled µg/mL	Actual µg/ml
Metolachlor	97.6	1000	1000 ± 2.5 %



TRACEABILITY IN THE PRODUCTION OF THIS STANDARD

This product was prepared gravimetrically on a weight/volume basis. The solute was weighed on a balance calibrated by Reagecon engineers using ODFL traceable weights. Reagecon holds ISO 17025 accreditation for calibration of non-automatic weighing machines (265C). The resulting Balance Certificate of Calibration was issued in accordance with the requirements of ISO/IEC 17025. The balance was calibrated under monitored environmental conditions and atmospheric pressure. Tests were performed for capacity, readability, repeatability, eccentricity and linearity. Dilution of the final product to volume was performed using internally calibrated Class A volumetric glassware.

BALANCE ID No.: RRD086 **CALIBRATION DATE OF BALANCE:** 25th January 2016

CALIBRATION AUTHORITY OF BALANCE: Reagecon Diagnostics Ltd, ISO17025 Accreditation No. 265C

WEIGHTS No.: RTS68 **CALIBRATION DATE OF WEIGHTS:** 9th April 2015

CALIBRATION AUTHORITY OF WEIGHTS Complete Calibrations (INAB No. 282)

STORAGE/USAGE INSTRUCTIONS:
Please store this product in a freezer (-20°C). To open product, invert at least 10 times **(do not shake)** and sonicate if solid material is apparent. Break the ampoule open at the lower neck mark (caution: sharp glass) and transfer to vial. Allow to return to room temperature before use. Store after opening in a freezer. Invert, sonicate and allow vial to return to room temperature before each subsequent use. Use only Class A volumetric glassware for dilutions and ensuring thorough mixing.

Date: 26th January 2016

This certificate must not be reproduced except in full.

Azo Dye Metabolite Standards

Introduction

Azo-dyes are a large class of synthetic organic dyes that contain nitrogen in the form of an azo group (-N=N-), as part of their molecular structures. They are used in many areas such as the food, cosmetic, textile, leather, nutrition, plastic and pharmaceutical industries. During the past 50 years, the amount of azo-dyes used in foods has increased by 500%. When compared to natural dyes, synthetic food dyes provide many advantages. Synthetic dyes are cheaper, more easily available, last longer and can achieve colour and hue variations otherwise not possible using natural colourants. They also provide superior colour fastness and colour intensity.

However, since the use of synthetic food colouring has become widespread, many allergic and other immune reaction disorders, have increasingly been reported. The reductive cleavage of the azo bond leads to the formation of aromatic amines which may be mutagenic, carcinogenic or allergenic. For instance, acid red 85 and direct blue 6, are both capable of reductively splitting to produce carcinogenic benzidine. Likewise, Sudan II and disperse yellow 7 are capable of splitting to form p-phenylenediamine and aniline, while disperse orange 3 can split only to p-phenylenediamine. [1]

Legislation

Colour Directive 94/36/EC outlines the permitted natural and synthetic colours with their approved applications and limits in different foodstuffs (Commission, 1994) and the use of azo-dyes which can be reduced into toxic amines is prohibited in Europe, US and many other countries. The safety of food colours and other food additives in the EU is evaluated by the European Food Safety Authority (EFSA). Since 2009, the expert Scientific Panel of EFSA assess all of the permitted food colours (45 in total) which had been approved for use in the EU giving priority to those synthetically produced and then to those obtained from natural sources mainly carotenoids. Since new scientific data became available, there have been changes in the legislation, many additives which were initially authorised for used in the past, are currently not permitted in food products in the EU. Unfortunately, there are reports of food adulteration by using dyes unauthorised for food which are often hazardous.

Illegal Adulteration

There have been many notifications from several EU Member States via the Rapid Alert System for Food and Feed (RASFF) of the occurrence of Sudan I, II, III and IV, para red, rhodamine b, and orange 2 in chilli and curry powder and processed products containing chilli or curry powder, sumac, curcuma and palm oil among others. There have also been occurrences of azo dyes released from clothing and textiles, which may be accidently ingested intradermically or orally by people wearing such clothes. Textile workers are also at risk.

Metabolite Standards

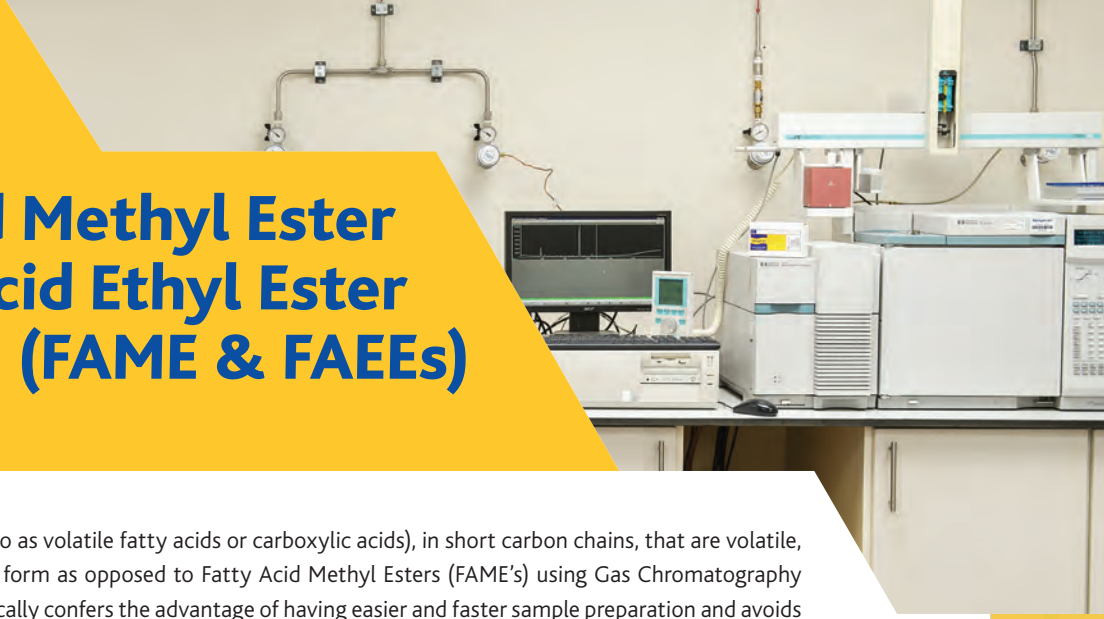
Efficient analytical methods for the determination of food colorants are of utmost importance since their illegal presence in food threatens consumer's safety. Up to now, most methods are focused to detect dyes so far found illegally present in food. There are no methods focused in the detection of aromatic amines derived from azo dyes which may potentially appear illegally in food and show carcinogenic effects in humans.

In a study funded by and participated in by scientists in Reagecon, we have taken account of this consideration and have tried to fill this void. For example, we have provided and published a rapid, accurate and precise method for the identification and quantification of various synthetic food colourant products in paprika. As always, our principle role has been to characterise, purify, validate and offer high quality standards for these products and disseminate these into the marketplace. Further details can be found at www.reagecon.com

[1] Report 6/14 Chemicals in textiles - risks to human health and the environment. KEM Swedish Chemicals Agency, Stockholm, 2014

Product No.	Analyte	Concentration & Matrix	Pack Size
REAZO001	2,4-Diaminoanisole	1000µg/ml in HPLC Water	1ml
REAZO002	2,4-Diaminoanisole	2000µg/ml in HPLC Water	1ml
REAZO003	2,4-Diaminotoluene	1000µg/ml in Purge & Trap Methanol	1ml
REAZO004	2,4-Diaminotoluene	2000µg/ml in Purge & Trap Methanol	1ml
REAZO005	3,3-Dichlorobenzidine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO006	3,3-Dichlorobenzidine	2000µg/ml in Purge & Trap Methanol	1ml
REAZO007	3,3-Dimethoxybenzidine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO008	3,3-Dimethoxybenzidine	2000µg/ml in Purge & Trap Methanol	1ml
REAZO009	3-Aminobiphenyl	1000µg/ml in Ethyl Acetate	1ml
REAZO010	3-Aminobiphenyl	2000µg/ml in Ethyl Acetate	1ml
REAZO011	4,4,-Diaminodiphenylmethane	1000µg/ml in Purge & Trap Methanol	1ml
REAZO012	4,4,-Diaminodiphenylmethane	2000µg/ml in Purge & Trap Methanol	1ml
REAZO013	4,4-Methylenebis(2-chloroaniline)	1000µg/ml in Purge & Trap Methanol	1ml
REAZO014	4,4-Methylenebis(2-chloroaniline)	2000µg/ml in Purge & Trap Methanol	1ml
REAZO015	4-Aminoazotoluene	1000µg/ml in Purge & Trap Methanol	1ml
REAZO016	4-Aminoazotoluene	2000µg/ml in Purge & Trap Methanol	1ml
REAZO017	4-Aminobiphenyl	1000µg/ml in Purge & Trap Methanol	1ml
REAZO018	4-Aminobiphenyl	2000µg/ml in Purge & Trap Methanol	1ml
REAZO019	4-Chloroaniline	1000µg/ml in Purge & Trap Methanol	1ml
REAZO020	4-Chloroaniline	2000µg/ml in Purge & Trap Methanol	1ml
REAZO021	5-Nitro-o-toluidine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO022	5-Nitro-o-toluidine	2000µg/ml in Purge & Trap Methanol	1ml
REAZO023	Anilazine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO024	Anilazine	2000µg/ml in Purge & Trap Methanol	1ml
REAZO025	Azobenzene	1000µg/ml in Purge & Trap Methanol	1ml
REAZO026	Azobenzene	2000µg/ml in Purge & Trap Methanol	1ml
REAZO027	Benzidine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO028	Benzidine	2000µg/ml in Purge & Trap Methanol	1ml
REAZO029	Dimethylaminoazobenzene	1000µg/ml in Purge & Trap Methanol	1ml
REAZO030	Dimethylaminoazobenzene	2000µg/ml in Purge & Trap Methanol	1ml
REAZO031	o-anisidine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO032	o-anisidine	2000µg/ml in Purge & Trap Methanol	1ml
REAZO033	o-Toluidine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO034	o-Toluidine	2000µg/ml in Purge & Trap Methanol	1ml
REAZO035	Aniline	1000µg/ml in Purge & Trap Methanol	1ml
REAZO036	Aniline	2000µg/ml in Purge & Trap Methanol	1ml
REAZO037	p-phenylenediamine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO038	p-phenylenediamine	2000µg/ml in Purge & Trap Methanol	1ml
REAZO039	2-Nitroalinine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO040	2-Nitroalinine	2000µg/ml in Purge & Trap Methanol	1ml
REAZO041	3-Nitroalinine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO042	3-Nitroalinine	2000µg/ml in Purge & Trap Methanol	1ml
REAZO043	4-Nitroalinine	1000µg/ml in Purge & Trap Methanol	1ml
REAZO044	4-Nitroalinine	2000µg/ml in Purge & Trap Methanol	1ml

Fatty Acid Methyl Ester & Fatty Acid Ethyl Ester Standards (FAME & FAEEs)



Free fatty acids (also referred to as volatile fatty acids or carboxylic acids), in short carbon chains, that are volatile, are typically measured in free form as opposed to Fatty Acid Methyl Esters (FAME's) using Gas Chromatography (GC). Analysis in free form typically confers the advantage of having easier and faster sample preparation and avoids the formation of derivatisation artefacts. However, free fatty acids may be difficult to analyse because these highly polar compounds tend to form hydrogen bonds causing column adsorption problems or in the case of unsaturated fatty acids the slight difference between different compounds may be difficult to distinguish without the neutralisation step involved in esterification.

The esterification of fatty acids is an important tool for both characterising fats and oils and for determining the total fat content in foods and foodstuffs. It is also an important technique for assessing the quality and purity of biofuels. Fats are extracted using a non-polar solvent, saponised to acids and analysed by gas chromatography (GC). GC is an important technique for fats and oils analysis because accurate results can be obtained for complex as well as simple sample matrices. Several compendium from organisations such as the Association of Official Agriculture Chemists (AOAC), American Oil Chemists Society (AOCS) and the European Pharmacopoeia (EP) contain derivatisation procedures. FAME's may be produced from vegetable oils, animal fats or waste cooking oils by transesterification. In this process a glyceride reacts with an alcohol in the presence of a catalyst forming a mixture of fatty acid esters and an alcohol thus producing biodiesel. Using triglycerides as the fat source, results in the production of glycerol.

Rapeseed, sunflower, soybean and palm oils are the most common raw materials used for the production of biodiesel. Using methanol in the transesterification process has the advantage that the resulting glycerol can be separated simultaneously during the transesterification process. When using ethanol, the ethanol needs to be free of water and the oil needs to have a low water content as well, to achieve an easy glycerol separation. Where ethanol is used it is fatty acid ethyl esters (FAEE's) that are produced. The end products of the transesterification process are raw biodiesel and raw glycerol. After a cleaning step biodiesel is produced. The purified glycerol can be used in the food and cosmetic industries as well as in the electrochemical industry and as a substrate for anaerobic digestion. Reagecon offers several FAME and FAEE individual compounds and mixtures which can be used to calibrate the GC instrument prior to analysis or as Quality Control Materials during analysis. Deuterated versions are also available for use as internal standards. Such products may be offered as neat materials or in pre-prepared liquid matrices.

Unsaturated Methyl Esters

Product No.	Description	Concentration in Matrix	Pack Size
REUFA001N	Methyl cis-9-hexadecenoate (Palmitoleate) C16:1	Neat	10mg
REUFA001S	Methyl cis-9-hexadecenoate (Palmitoleate) C16:1	10000µg/ml in Heptane	1ml
REUFA002N	Methyl trans-9-hexadecenoate C16:1	Neat	10mg
REUFA002S	Methyl trans-9-hexadecenoate C16:1	10000µg/ml in Heptane	1ml
REUFA003N	Methyl cis-6-octadecenoate (Petroselinate) C18:1	Neat	10mg
REUFA003S	Methyl cis-6-octadecenoate (Petroselinate) C18:1	10000µg/ml in Heptane	1ml
REUFA004N	Methyl trans-6-octadecenoate (Petroselaidate) C18:1	Neat	10mg
REUFA004S	Methyl trans-6-octadecenoate (Petroselaidate) C18:1	10000µg/ml in Heptane	1ml
REUFA005N	Methyl cis-9-octadecenoate (Oleate) C18:1 112-62-9	Neat	10mg
REUFA005S	Methyl cis-9-octadecenoate (Oleate) C18:1 112-62-9	10000µg/ml in Heptane	1ml
REUFA006N	Methyl trans-9-octadecenoate (Elaidate) C18:1 2462-84-2	Neat	10mg
REUFA006S	Methyl trans-9-octadecenoate (Elaidate) C18:1 2462-84-2	10000µg/ml in Heptane	1ml
REUFA007N	Methyl cis-11-octadecenoate (Vaccenate) C18:1 1937-63-9	Neat	10mg
REUFA007S	Methyl cis-11-octadecenoate (Vaccenate) C18:1 1937-63-9	10000µg/ml in Heptane	1ml
REUFA008N	Methyl 12-hydroxy-cis-9-octadecenoate (Ricinoleate) C18:1	Neat	10mg
REUFA008S	Methyl 12-hydroxy-cis-9-octadecenoate (Ricinoleate) C18:1	10000µg/ml in Heptane	1ml
REUFA010N	Methyl linoleate (Linoleate) C18:2	Neat	10mg
REUFA010S	Methyl linoleate (Linoleate) C18:2	10000µg/ml in Heptane	1ml
REUFA011N	Methyl linolelaidate (Linoelaidate) C18:2	Neat	10mg
REUFA011S	Methyl linolelaidate (Linoelaidate) C18:2	10000µg/ml in Heptane	1ml
REUFA012N	Methyl octadecadienoate (Conjugated) C18:2	Neat	10mg
REUFA012S	Methyl octadecadienoate (Conjugated) C18:2	10000µg/ml in Heptane	1ml
REUFA014N	Methyl linolenate (Linolenate) C18:3	Neat	10mg
REUFA014S	Methyl linolenate (Linolenate) C18:3	10000µg/ml in Heptane	1ml
REUFA015N	Methyl g-linolenate (Gamma Linolenate) C18:3	Neat	10mg
REUFA015S	Methyl g-linolenate (Gamma Linolenate) C18:3	10000µg/ml in Heptane	1ml
REUFA016N	Methyl trans-11-eicosenoate C20:1	Neat	10mg

Unsaturated Methyl Esters

Product No.	Description	Concentration in Matrix	Pack Size
REUFA016S	Methyl trans-11-eicosenoate C20:1	10000µg/ml in Heptane	1ml
REUFA017N	Methyl cis-8-eicosenoate C20:1	Neat	10mg
REUFA017S	Methyl cis-8-eicosenoate C20:1	10000µg/ml in Heptane	1ml
REUFA018N	Methyl cis-11-eicosenoate C20:1	Neat	10mg
REUFA018S	Methyl cis-11-eicosenoate C20:1	10000µg/ml in Heptane	1ml
REUFA019N	Methyl cis-5-eicosenoate C20:1	Neat	10mg
REUFA019S	Methyl cis-5-eicosenoate C20:1	10000µg/ml in Heptane	1ml
REUFA020N	Methyl cis-11,14-eicosadienoate C20:2	Neat	10mg
REUFA020S	Methyl cis-11,14-eicosadienoate C20:2	10000µg/ml in Heptane	1ml
REUFA022N	Methyl cis-8,11,14-eicosatrienoate (Homogamma linolenate) C20:3	Neat	10mg
REUFA022S	Methyl cis-8,11,14-eicosatrienoate (Homogamma linolenate) C20:3	10000µg/ml in Heptane	1ml
REUFA023N	Methyl cis-11,14,17-eicosatrienoate C20:3	Neat	10mg
REUFA023S	Methyl cis-11,14,17-eicosatrienoate C20:3	10000µg/ml in Heptane	1ml
REUFA024N	Methyl arachidonate (Arachidonate) C20:4	Neat	10mg
REUFA024S	Methyl arachidonate (Arachidonate) C20:4	10000µg/ml in Heptane	1ml
REUFA025N	Methyl 5,8,11,14,17-Eicosapentaenoate C20:5	Neat	10mg
REUFA025S	Methyl 5,8,11,14,17-Eicosapentaenoate C20:5	10000µg/ml in Heptane	1ml
REUFA026N	Methyl cis-7,10,13,16,19-Docosapentaenoate (DPA) C22:5	Neat	10mg
REUFA026S	Methyl cis-7,10,13,16,19-Docosapentaenoate (DPA) C22:5	10000µg/ml in Heptane	1ml
REUFA027N	Methyl cis-13-docosenoate (Erucate) C22:1	Neat	10mg
REUFA027S	Methyl cis-13-docosenoate (Erucate) C22:1	10000µg/ml in Heptane	1ml
REUFA028N	Methyl trans-13-docosenoate (Brassidate) C22:1	Neat	10mg
REUFA028S	Methyl trans-13-docosenoate (Brassidate) C22:1	10000µg/ml in Heptane	1ml
REUFA029N	Methyl cis-13,16-docosadienoate C22:2	Neat	10mg
REUFA029S	Methyl cis-13,16-docosadienoate C22:2	10000µg/ml in Heptane	1ml
REUFA030N	Methyl cis-13,16,19-docosatrienoate C22:3	Neat	10mg
REUFA030S	Methyl cis-13,16,19-docosatrienoate C22:3	10000µg/ml in Heptane	1ml
REUFA031N	Methyl cis-7,10,13,16-Docosatetraenoate C22:4	Neat	10mg
REUFA031S	Methyl cis-7,10,13,16-Docosatetraenoate C22:4	10000µg/ml in Heptane	1ml
REUFA032N	Methyl cis-4,7,10,13,16,19-Docosahexenoate C22:6	Neat	10mg
REUFA032S	Methyl cis-4,7,10,13,16,19-Docosahexenoate C22:6	10000µg/ml in Heptane	1ml
REUFA033N	Methyl cis-15-tetracosenoate (Nervonate) C24:1	Neat	10mg
REUFA033S	Methyl cis-15-tetracosenoate (Nervonate) C24:1	10000µg/ml in Heptane	1ml

Saturated Methyl Esters

Product No.	Description	Concentration in Matrix	Pack Size
RESFA001N	Methyloctanoate (Caprylate) C8:0	Neat	10mg
RESFA001S	Methyloctanoate (Caprylate) C8:0	10000µg/ml in Heptane	1ml
RESFA002N	Methylnonoate (Pelargonate) C9:0	Neat	10mg
RESFA002S	Methylnonoate (Pelargonate) C9:0	10000µg/ml in Heptane	1ml
RESFA003N	Methyldecanoate (Caprate) C10:0	Neat	10mg
RESFA003S	Methyldecanoate (Caprate) C10:0	10000µg/ml in Heptane	1ml
RESFA004N	Methylundecanoate C11:0	Neat	10mg
RESFA004S	Methylundecanoate C11:0	10000µg/ml in Heptane	1ml
RESFA005N	Methyldodecanoate (Laurate) C12:0	Neat	10mg
RESFA005S	Methyldodecanoate (Laurate) C12:0	10000µg/ml in Heptane	1ml
RESFA006N	Methyltridecanoate C13:0	Neat	10mg
RESFA006S	Methyltridecanoate C13:0	10000µg/ml in Heptane	1ml
RESFA007N	Methyltetradecanoate (Myristate) C14:0	Neat	10mg
RESFA007S	Methyltetradecanoate (Myristate) C14:0	10000µg/ml in Heptane	1ml
RESFA008N	Methylpentadecanoate C15:0	Neat	10mg
RESFA008S	Methylpentadecanoate C15:0	10000µg/ml in Heptane	1ml
RESFA009N	Methylhexadecanoate (Palmitate) C16:0	Neat	10mg
RESFA009S	Methylhexadecanoate (Palmitate) C16:0	10000µg/ml in Heptane	1ml
RESFA010N	Methylheptadecanoate (Margarate) C17:0	Neat	10mg
RESFA010S	Methylheptadecanoate (Margarate) C17:0	10000µg/ml in Heptane	1ml
RESFA011N	Methyloctadecanoate (Stearate) C18:0	Neat	10mg
RESFA011S	Methyloctadecanoate (Stearate) C18:0	10000µg/ml in Heptane	1ml
RESFA012N	Methyl 12-hydroxystearate C18:0	Neat	10mg
RESFA012S	Methyl 12-hydroxystearate C18:0	10000µg/ml in Heptane	1ml
RESFA013N	Methylnonadecanoate C19:0	Neat	10mg
RESFA013S	Methylnonadecanoate C19:0	10000µg/ml in Heptane	1ml
RESFA014N	Methyleicosanoate (Arachidate) C20:0	Neat	10mg
RESFA014S	Methyleicosanoate (Arachidate) C20:0	10000µg/ml in Heptane	1ml
RESFA015N	Methylheneicosanoate C21:0	Neat	10mg
RESFA015S	Methylheneicosanoate C21:0	10000µg/ml in Heptane	1ml
RESFA016N	Methyldocosanoate (Behenate) C22:0	Neat	10mg
RESFA016S	Methyldocosanoate (Behenate) C22:0	10000µg/ml in Heptane	1ml
RESFA017N	Methyltricosanoate C23:0	Neat	10mg
RESFA017S	Methyltricosanoate C23:0	10000µg/ml in Heptane	1ml
RESFA018N	Methyltetracosanoate (Lignocerate) C24:0	Neat	10mg
RESFA018S	Methyltetracosanoate (Lignocerate) C24:0	10000µg/ml in Heptane	1ml

Fatty Acid Ethyl Esters

Product No.	Description	Concentration in Matrix	Pack Size
REFAEE001N	Ethyl palmitoleate	Neat	100mg
REFAEE001S	Ethyl palmitoleate	10mg/ml in Hexane	1ml
REFAEE002N	Ethyl caprylate	Neat	100mg
REFAEE002S	Ethyl caprylate	10mg/ml in Hexane	1ml
REFAEE003N	Ethyl caprate	Neat	100mg
REFAEE003S	Ethyl caprate	10mg/ml in Hexane	1ml
REFAEE004N	Ethyl laurate	Neat	100mg
REFAEE004S	Ethyl laurate	10mg/ml in Hexane	1ml
REFAEE005N	Ethyl myristate	Neat	100mg
REFAEE005S	Ethyl myristate	10mg/ml in Hexane	1ml
REFAEE006N	Ethyl palmitate	Neat	100mg
REFAEE006S	Ethyl palmitate	10mg/ml in Hexane	1ml
REFAEE007N	Ethyl stearate	Neat	100mg
REFAEE007S	Ethyl stearate	10mg/ml in Hexane	1ml
REFAEE008N	Ethyl arachidate	Neat	100mg
REFAEE008S	Ethyl arachidate	10mg/ml in Hexane	1ml
REFAEE009N	Ethyl behenate	Neat	100mg
REFAEE009S	Ethyl behenate	10mg/ml in Hexane	1ml
REFAEE010N	Ethyl lignocerate	Neat	100mg
REFAEE010S	Ethyl lignocerate	10mg/ml in Hexane	1ml
REFAEE011N	Ethyl erucate	Neat	100mg
REFAEE011S	Ethyl erucate	10mg/ml in Hexane	1ml
REFAEE012N	Ethyl linoleate	Neat	100mg
REFAEE012S	Ethyl linoleate	10mg/ml in Hexane	1ml
REFAEE013N	Ethyl nervonate	Neat	100mg
REFAEE013S	Ethyl nervonate	10mg/ml in Hexane	1ml
REFAEE014N	Ethyl oleate	Neat	100mg
REFAEE014S	Ethyl oleate	10mg/ml in Hexane	1ml
REFAEE015N	Ethyl heptadecanoate	Neat	100mg
REFAEE015S	Ethyl heptadecanoate	10mg/ml in Hexane	1ml
REFAEE016N	Ethyl linolenate	Neat	100mg
REFAEE016S	Ethyl linolenate	10mg/ml in Hexane	1ml

Should you require FAMEs or FAEEs in deuterated form, please email sales@reagecon.ie

FAME Calibration Standards

Product No.	Description	% Concentration	Solvent	Pack Size
REFAME-CAL0.5V-250	FAME	0.5	Cyclohexane	250ml
REFAME-CAL1.25V-250	FAME	1.25	Cyclohexane	250ml
REFAME-CAL2.5V-250	FAME	2.5	Cyclohexane	250ml
REFAME-CAL3.75V-250	FAME	3.75	Cyclohexane	250ml
REFAME-CAL5V-250	FAME	5	Cyclohexane	250ml
REFAME-CAL7V-250	FAME	7	Cyclohexane	250ml
REFAME-CAL2V-250	FAME	2	Chevron Phillips High Cetone	250ml
REFAME-CAL4V-250	FAME	4	Chevron Phillips High Cetone	250ml
REFAME-CAL6V-250	FAME	6	Chevron Phillips High Cetone	250ml
REFAME-ENCAL7V-250	FAME	7	Chevron Phillips High Cetone	250ml
REFAME-CAL10V-250	FAME	10	Chevron Phillips High Cetone	250ml
REFAME-CAL15V-250	FAME	15	Chevron Phillips High Cetone	250ml
REFAME-CAL20V-250	FAME	20	Chevron Phillips High Cetone	250ml
REFAME-CAL25V-250	FAME	25	Chevron Phillips High Cetone	250ml
REFAME-CAL30V-250	FAME	30	Chevron Phillips High Cetone	250ml

Nitrosamine Standards

Nitrosamines are products that are formed by the chemical reaction of amines and nitrogen containing agents such as nitrates, nitrogen oxides or nitrous acids. The products can be detected in air, water, soil, beverages, milk, cosmetics and in the alimentary tract of both humans and animals. Nitrosamines are now classified as known carcinogens and much attention in particular is being paid to the presence of a substance called N-Nitrosodi-Methylamine (NDMA) and several other nitrosamines in drinking water. This substance is accidently produced during a process called chloramination which is used in water treatment plants to reduce or eliminate trihalomethane levels in drinking water.

The occurrence of several nitrosamines including NDMA has been documented in recycled water, effluent, industrial waste water discharges and sewage sludge. All of these are sources of groundwater contamination and all have the potential to move from groundwater into the potable water system. NDMA is now considered a priority pollutant and a number of local, national and international authorities have set regulatory guidelines for this and other nitrosamines in drinking water. Apart from NDMA, N-Nitrosomethyethylamine (NMEA), N-Nitrosodiethylamine (NDEA), N-Nitrosopyrollidine (NPYR), N-Nitrososodi-N-Propylamine (NDPA), N-Nitrosopiperidine (NPIP) and N-Nitrosodi-N-Buthylamine (NDBA) are all considered significant.

Since nitrosamines may only be present in various matrices in ppb of ppt levels a high degree of sensitivity in sample management is necessary to monitor their presence. High quality, pure and well characterised standards are an imperative for successful qualitative and quantitative detection and measurement. Reagecon offers neat, single and multi component Standards for Nitrosamine analysis. These Standards are characterised and screened for identity, purity, stability and homogeneity. The products are prepared and certified gravimetrically and verified using GC-MS.

As for all of Reagecon's Standards and Certified Reference Materials (CRM's), the company can produce customised Standards and Private Label options in our Global Metrology Centre in Shannon.

Product No.	Analyte	Concentration & Matrix	Pack Size
RENIT001	N-Nitrosodiethylamine	1000µg/ml in Purge & Trap Methanol	1ml
RENIT002	N-Nitrosodiethylamine	2000µg/ml in Purge & Trap Methanol	1ml
RENIT003	N-Nitrosodimethylamine	1000µg/ml in Purge & Trap Methanol	1ml
RENIT004	N-Nitrosodimethylamine	2000µg/ml in Purge & Trap Methanol	1ml
RENIT005	N-Nitrosodi-n-propylamine	1000µg/ml in Methylene Chloride	1ml
RENIT006	N-Nitrosodi-n-propylamine	2000µg/ml in Methylene Chloride	1ml
RENIT007	N-Nitrosodiphenylamine	1000µg/ml in Methylene Chloride	1ml
RENIT008	N-Nitrosodiphenylamine	2000µg/ml in Methylene Chloride	1ml
RENIT009	N-Nitrosomethylethylamine	1000µg/ml in Purge & Trap Methanol	1ml
RENIT010	N-Nitrosomethylethylamine	2000µg/ml in Purge & Trap Methanol	1ml
RENIT011	N-Nitrosomorpholine	1000µg/ml in Purge & Trap Methanol	1ml
RENIT012	N-Nitrosomorpholine	2000µg/ml in Purge & Trap Methanol	1ml
RENIT013	N-Nitrosopiperidine	1000µg/ml in Purge & Trap Methanol	1ml
RENIT014	N-Nitrosopiperidine	2000µg/ml in Purge & Trap Methanol	1ml
RENIT015	N-Nitrosopyrrolidine	1000µg/ml in Purge & Trap Methanol	1ml
RENIT016	N-Nitrosopyrrolidine	2000µg/ml in Purge & Trap Methanol	1ml

Polybrominated Biphenyl Standards (PBBs)

Polybrominated biphenyls (PBB's) which may also be called brominated biphenyls, or polybromobiphenyls, are the bromine analogs of Polychlorinated biphenyls (PCB's). Like PCB's, they are man made, hazardous to mammalian health, controlled, or prescribed environmentally but not nearly as commonly used as PCB's in industrial applications.

Like PCB's there are 209 possible congeners which differ from each other in the number and position of the bromine atoms in the two phenyl rings. Also like the PCB's the benzene rings can rotate around the central bond that connects the rings allowing planar and non-planar configurations. These differences in molecular structure are highly relevant in terms of the interaction with different receptors in determining possible toxicological or pathological properties of PBB's.

The products are used as flame retardants and form a subset of the brominated flame retardant group. The products are added to polymers and fibres and have made their way into several types of consumer goods, including computer peripherals, electrical goods, textiles and some furniture products, always to render them, less flammable. PBB's are also highly lipophilic and will accumulate in lipid rich tissues. There is significant evidence of hazards to human health from these products which are certainly proven to be absorbed through the gastrointestinal tract. Such pathological effects include evidence of poor neurodevelopment, specific cancers, and hormonal effects on fertility. Some evidence of immunotoxicity has also been reported.

Reagecon is developing a growing offering of PBB congeners mostly in ready to use format in an isooctane matrix. However, customised matrices, mixtures and other concentrations are also available upon request. Some of the congeners are also offered in neat form. For additional information on this rapidly growing range please visit www.reagecon.com

Native PBBs (polybromobiphenyls)

Product No.	Description	Concentration	Pack Size
REPBB001	2-Bromobiphenyl (PBB-1)	50µg/mL in isooctane	1ml
REPBB002	3-Bromobiphenyl (PBB-2)	50µg/mL in isooctane	1ml
REPBB003	4-Bromobiphenyl (PBB-3)	50µg/mL in isooctane	1ml
REPBB004	2,2'-Dibromobiphenyl (PBB-4)	50µg/mL in isooctane	1ml
REPBB007	2,4-Dibromobiphenyl (PBB-7)	50µg/mL in isooctane	1ml
REPBB009	2,5-Dibromobiphenyl (PBB-9)	50µg/mL in isooctane	1ml
REPBB010	2,6-Dibromobiphenyl (PBB-10)	50µg/mL in isooctane	1ml
REPBB015	4,4'-Dibromobiphenyl (PBB-15)	50µg/mL in isooctane	1ml
REPBB018	2,2',5-Tribromobiphenyl (PBB-18)	50µg/mL in isooctane	1ml
REPBB026	2,3',5-Tribromobiphenyl (PBB-26)	50µg/mL in isooctane	1ml
REPBB029	2,4,5-Tribromobiphenyl (PBB-29)	50µg/mL in isooctane	1ml
REPBB031	2,4',5-Tribromobiphenyl (PBB-31)	50µg/mL in isooctane	1ml
REPBB038	3,4,5-Tribromobiphenyl (PBB-38)	50µg/mL in isooctane	1ml
REPBB049	2,2',4,5'-Tetrabromobiphenyl (PBB-49)	50µg/mL in isooctane	1ml
REPBB052	2,2',5,5'-Tetrabromobiphenyl (PBB-52)	50µg/mL in isooctane	1ml
REPBB056	2,2',5,6'-Tetrabromobiphenyl (PBB-56)	50µg/mL in isooctane	1ml
REPBB077	3,3',4,4'-Tetrabromobiphenyl (PBB-77)	50µg/mL in isooctane	1ml
REPBB080	3,3',5,5'-Tetrabromobiphenyl (PBB-80)	50µg/mL in isooctane	1ml
REPBB103	2,2',4,5',6-Pentabromobiphenyl (PBB-103)	50µg/mL in isooctane	1ml
REPBB126	3,3',4,5,5'-Pentabromobiphenyl (PBB-126)	50µg/mL in isooctane	1ml
REPBB153	2,2',4,4',5,5'-Hexabromobiphenyl (PBB-153)	50µg/mL in hexane	1ml
REPBB155	2,2',4,4',6,6'-Hexabromobiphenyl (PBB-155)	50µg/mL in isooctane	1ml
REPBB169	3,3',4,4',5,5'-Hexabromobiphenyl (PBB-169)	10µg/mL in cyclohexane	1ml
REPBB189	2,3,3',4,4',5,5'-Heptabromobiphenyl (PBB-189)	50µg/mL in isooctane	1ml
REPBB194	2,2',3,3',4,4',5,5'-Octabromobiphenyl (PBB-194)	50µg/mL in isooctane	1ml
REPBB203	2,2',3,4,4',5,5',6-Octabromobiphenyl (PBB-203)	50µg/mL in isooctane	1ml
REPBB205	2,3,3',4,4',5,5',6-Octabromobiphenyl (PBB-205)	50µg/mL in isooctane	1ml
REPBB206	2,2',3,3',4,4',5,5',6-Nonabromobiphenyl (PBB-206)	50µg/mL in isooctane	1ml
REPBB209	Decabromobiphenyl (PBB-209)	50µg/mL in isooctane	1ml
REPBB209N	Decabromobiphenyl (PBB-209)	Neat	5mg

Polybrominated Diphenyl Ethers (PBDEs) & Other Flame Retardant Standards

Polybrominated Diphenyl Ethers (PBDE's) & Other Flame Retardants

Polybrominated Diphenyl Ethers (PBDE's) are a subgroup of the wider brominated flame retardant family. Structurally, they are similar to Polychlorinated Biphenyls (PCB's) and like PCB's there are, in total, 209 different congeners or isomers. The compounds are classified according to the average number of Bromine atoms in the molecule.

The congeners occur as mono-, di-, tri-, tetra-, penta-, hexa-, hepta-, octa-, nono-, and decabromodiphenyl ethers and the numbers of each respectively are 3, 12, 24, 42, 46, 42, 24, 12, 3, and 1, all adding up to 209 in total. The three main commercial mixtures that were available on the market include pentaBDE, octaBDE and decaBDE. The pentaBDE mixture contains tetrabromates, hexabromates and traces of tribromates in addition to the pentabromates. OctaBDE includes hexa, hepta, nona and decabromates as well as the octa congeners. There are no known natural sources of PBDE's, although some evidence exists in the literature that PBDE variants may be produced by marine organisms, but all commercial mixtures were man made.

PBDE's have been used in a wide variety of products as flame retardants, including building materials, electronics, furnishings, motor vehicles, household appliances, plastics, foams and textiles. Like PCB's, these products exhibit high lipophilicity and therefore accumulate in fatty tissues. Unlike PCB's, they are easier to degrade because of the weaker bromine bonds and unlike PCB's there is less concern about their toxicity upon degradation.

There is evidence from animal studies that PBDE's are injurious to health, but the evidence is spurious, and specific effects are not clearly elucidated. There is evidence of the products acting as endocrine disruptors, possibilities that they may act as a teratogen and some studies have identified neurodevelopmental toxicity in mice.

Humans may either ingest orally or through the respiratory tract. Waters used in the manufacture of PBDE containing products are at high risk of contamination and pose risks if ingested. Staff in repair or recycling plants are also at risk but inhalation or food ingestion in a domestic context also poses potential health hazards. The products have also been detected in dust, sludge and wastewater effluent and there is no doubt about their ability to bioaccumulate. Detection methods include GC, GC-MS and various LC combinations.

Native PBDEs

Product No.	Description	Concentration	Pack Size
REPBDE001	2-Bromodiphenyl ether (PBDE-1)	50µg/mL in isooctane	1ml
REPBDE002	3-Bromodiphenyl ether (PBDE-2)	50µg/mL in isooctane	1ml
REPBDE003	4-Bromodiphenyl ether (PBDE-3)	50µg/mL in isooctane	1ml
REPBDE003N	4-Bromodiphenyl ether (PBDE-3)	Neat	5mg
REPBDE007	2,4-Dibromodiphenyl ether (PBDE-7)	50µg/mL in isooctane	1ml
REPBDE0013	3,4'-Dibromodiphenyl ether (PBDE-13)	50µg/mL in isooctane	1ml
REPBDE0015	4,4'-Dibromodiphenyl ether (PBDE-15)	50µg/mL in isooctane	1ml
REPBDE0015N	4,4'-Dibromodiphenyl ether (PBDE-15)	Neat	5mg
REPBDE0017	2,2',4-Tribromodiphenyl ether (PBDE-17)	50µg/mL in isooctane	1ml

Product No.	Description	Concentration	Pack Size
REPBDE0017N	2,2',4-Tribromodiphenyl ether (PBDE-17)	Neat	5mg
REPBDE0025	2,3',4-Tribromodiphenyl ether (PBDE-25)	50µg/mL in isooctane	1ml
REPBDE0025N	2,3',4-Tribromodiphenyl ether (PBDE-25)	Neat	5mg
REPBDE0028	2,4,4'-Tribromodiphenyl ether (PBDE-28)	50µg/mL in isooctane	1ml
REPBDE0028N	2,4,4'-Tribromodiphenyl ether (PBDE-28)	Neat	5mg
REPBDE0033	3,3',4-Tribromodiphenyl ether (PBDE-33)	50µg/mL in isooctane	1ml
REPBDE0033N	3,3',4-Tribromodiphenyl ether (PBDE-33)	Neat	5mg
REPBDE0047	2,2',4,4'-Tetrabromodiphenyl ether (PBDE-47)	50µg/mL in isooctane	1ml
REPBDE0047N	2,2',4,4'-Tetrabromodiphenyl ether (PBDE-47)	Neat	5mg
REPBDE0049	2,2',4,5'-Tetrabromodiphenyl ether (PBDE-49)	50µg/mL in isooctane	1ml
REPBDE0049N	2,2',4,5'-Tetrabromodiphenyl ether (PBDE-49)	Neat	5mg
REPBDE0066	2,3',4,4'-Tetrabromodiphenyl ether (PBDE-66)	50µg/mL in isooctane	1ml
REPBDE0066N	2,3',4,4'-Tetrabromodiphenyl ether (PBDE-66)	Neat	5mg
REPBDE0071	2,3',4',6-Tetrabromodiphenyl ether (PBDE-71)	50µg/mL in isooctane	1ml
REPBDE0071N	2,3',4',6-Tetrabromodiphenyl ether (PBDE-71)	Neat	5mg
REPBDE0075	2,4,4',6-Tetrabromodiphenyl ether (PBDE-75)	50µg/mL in isooctane	1ml
REPBDE0075N	2,4,4',6-Tetrabromodiphenyl ether (PBDE-75)	Neat	5mg
REPBDE0077	3,3',4,4'-Tetrabromodiphenyl ether (PBDE-77)	50µg/mL in isooctane	1ml
REPBDE0077N	3,3',4,4'-Tetrabromodiphenyl ether (PBDE-77)	Neat	5mg
REPBDE0085	2,2',3,4,4'-Pentabromodiphenyl ether (PBDE-85)	50µg/mL in isooctane	1ml
REPBDE0085N	2,2',3,4,4'-Pentabromodiphenyl ether (PBDE-85)	Neat	5mg
REPBDE0099	2,2',4,4',5-Pentabromodiphenyl ether (PBDE-99)	50µg/mL in isooctane	1ml
REPBDE0099N	2,2',4,4',5-Pentabromodiphenyl ether (PBDE-99)	Neat	5mg
REPBDE0100	2,2',4,4',6-Pentabromodiphenyl ether (PBDE-100)	50µg/mL in isooctane	1ml
REPBDE0100N	2,2',4,4',6-Pentabromodiphenyl ether (PBDE-100)	Neat	5mg
REPBDE0118	2,3',4,4',5-Pentachlorobiphenyl ether (PBDE-118)	50µg/mL in isooctane	1ml
REPBDE0119	2,3',4,4',6-Pentabromodiphenyl ether (PBDE-119)	50µg/mL in isooctane	1ml
REPBDE0119N	2,3',4,4',6-Pentabromodiphenyl ether (PBDE-119)	Neat	5mg
REPBDE0138	2,2',3,4,4',5-Hexabromodiphenyl ether (PBDE-138)	50µg/mL in isooctane	1ml
REPBDE0138N	2,2',3,4,4',5-Hexabromodiphenyl ether (PBDE-138)	Neat	5mg
REPBDE0153	2,2',4,4',5,5'-Hexabromodiphenyl ether (PBDE-153)	50µg/mL in isooctane	1ml
REPBDE0153N	2,2',4,4',5,5'-Hexabromodiphenyl ether (PBDE-153)	Neat	5mg
REPBDE0154	2,2',4,4',5,6'-Hexabromodiphenyl ether (PBDE-154)	50µg/mL in isooctane	1ml
REPBDE0154N	2,2',4,4',5,6'-Hexabromodiphenyl ether (PBDE-154)	Neat	5mg
REPBDE0181	2,2',3,4,4',5,6-Heptabromodiphenyl ether (PBDE-181)	50µg/mL in isooctane	1ml
REPBDE0183	2,2',3,4,4',5',6-Heptabromodiphenyl ether (PBDE-183)	50µg/mL in isooctane	1ml
REPBDE0183N	2,2',3,4,4',5',6-Heptabromodiphenyl ether (PBDE-183)	Neat	5mg
REPBDE0190	2,3,3',4,4',5,6-Heptabromodiphenyl ether (PBDE-190)	50µg/mL in isooctane	1ml
REPBDE0190N	2,3,3',4,4',5,6-Heptabromodiphenyl ether (PBDE-190)	Neat	5mg
REPBDE0195	2,2',3,3',4,4',5,6-Octabromodiphenyl ether (PBDE-195)	50µg/mL in isooctane	1ml
REPBDE0196	2,2',3,3',4,4',5,6'-Octabromodiphenyl ether (PBDE-196)	50µg/mL in isooctane	1ml
REPBDE0203	2,2',3,4,4',5,5',6'-Octabromodiphenyl ether (PBDE-203)	50µg/mL in Isooctane	1ml
REPBDE0203N	2,2',3,4,4',5,5',6'-Octabromodiphenyl ether (PBDE-203)	Neat	5mg

Native PBDEs

Product No.	Description	Concentration	Pack Size
REPBDE0205	2,3,3',4,4',5,5',6-Octabromodiphenyl ether (PBDE-205)	50µg/mL in isooctane	1ml
REPBDE0205N	2,3,3',4,4',5,5',6-Octabromodiphenyl ether (PBDE-205)	Neat	5mg
REPBDE0206	2,2',3,3',4,4',5,5',6-Nonabromodiphenyl ether (PBDE-206)	50µg/mL in isooctane	1ml
REPBDE0207	2,2',3,3',4,4',5,6,6'-Nonabromodiphenyl ether (PBDE-207)	50µg/mL in isooctane	1ml
REPBDE0208	2,2',3,3',4,5,5',6,6'-Nonabromodiphenyl ether (PBDE-208)	50µg/mL in isooctane	1ml
REPBDE0209	Decabromodiphenyl ether (PBDE-209)	50µg/mL in toluene	1ml
REPBDE0209N	Decabromodiphenyl ether (PBDE-209)	Neat	5mg

Halogenated Flame Retardants

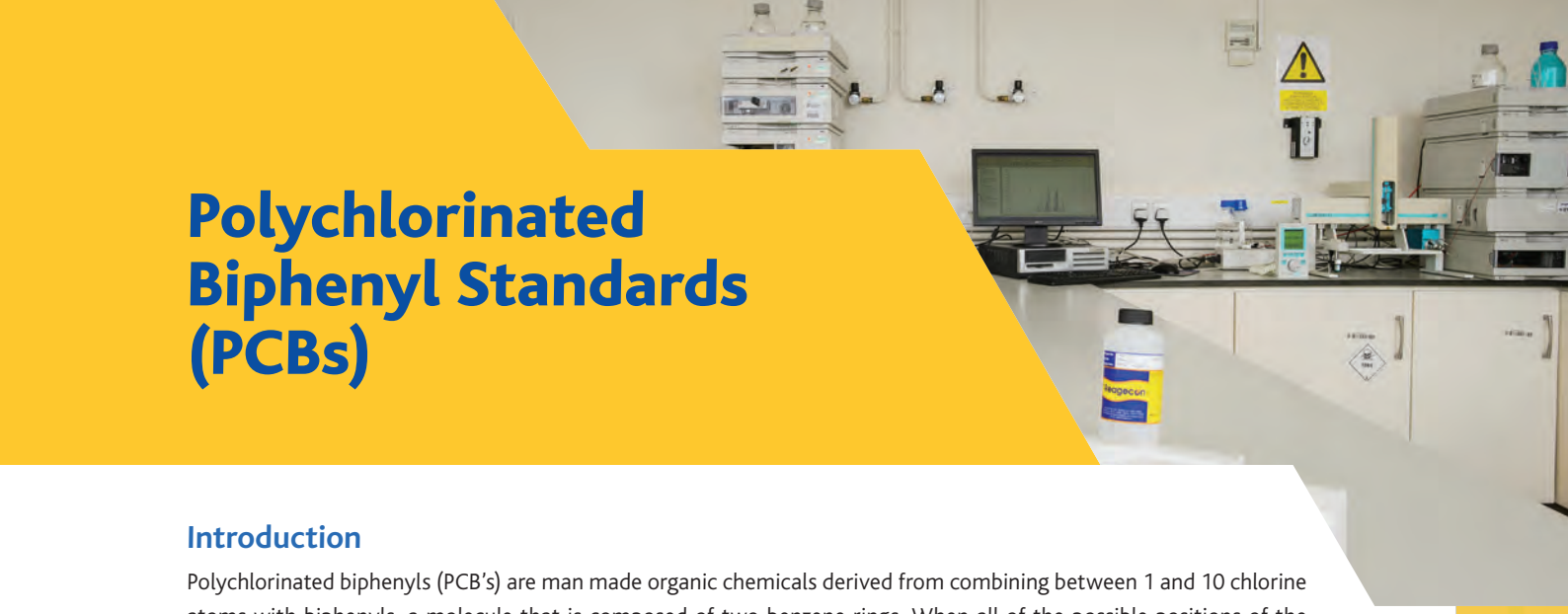
Product No.	Description	Concentration	Pack Size
REPBDE0400	2,2-Bis[3,5-dibromo-4-(2,3-dibromopropoxy) phenyl]propane	50µg/mL in toluene	1ml
REPBDE0401	1,2-Bis(2,4,6-tribromophenoxy)ethane	50µg/mL in toluene	1ml
REPBDE0402	Butyldiphenylphosphate	1000µg/mL in isopropanol	1ml
REPBDE0403	Decabromodiphenylethane	50µg/mL in chlorobenzene	1ml
REPBDE0404	Dechlorane plus	50µg/mL in toluene	1ml
REPBDE0405	Dibromoneopentylglycol	50µg/mL in isopropanol	1ml
REPBDE0406	Dibutylphenylphosphate	1000µg/mL in isopropanol	1ml
REPBDE0407	Ethylene bis(tetrabromophthalamide	Neat	10mg
REPBDE0408	1,2,3,4,5,6-Hexabromocyclohexane	50µg/mL in isooctane	1ml
REPBDE0409	1,2,5,6,9,10-Hexabromocyclododecane	1000µg/mL in toluene	1ml
REPBDE0410	Pentabromoethylbenzene	50µg/mL in isooctane	1ml
REPBDE0411	3,3',5,5'-Tetrabromobisphenol A	50µg/mL in isooctane	1ml
REPBDE0412	2,2',6,6'-Tetrabromobisphenol A diallyl ether	50µg/mL in toluene	1ml
REPBDE0413	3,3',5,5'-Tetrabromobisphenol A dimethyl ether	50µg/mL in isooctane	1ml
REPBDE0414	3,3',5,5'-Tetrabromobisphenol A bis(2,3-dibromopropyl) ether	50µg/mL in isooctane	1ml
REPBDE0415	3,3',5,5'-Tetrabromobisphenol A bis(2-hydroxyethyl) ether	50µg/mL in isooctane	1ml
REPBDE0416	2,4,6-Tribromophenylallyl ether	50µg/mL in isooctane	1ml
REPBDE0417	Tetrabromophthalic anhydride	50µg/mL in isooctane	1ml
REPBDE0418	Tetradecabromo-1,4-diphenoxybenzene	50µg/mL in cyclohexane	1ml

Flame Retardants / F-PBDE Internal Standards

Product No.	Description	Concentration	Pack Size
REPBDE0300	2-Fluorodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0301	4-Fluorodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0302	2,4'-Difluorodiphenyl ether	1000µg/mL in isooctane	1ml
REPBDE0303	3,3'-Difluorodiphenyl ether	1000µg/mL in isooctane	1ml
REPBDE0304	3-Bromo-4'-fluorodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0305	3'-Fluoro-2,4-dibromodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0306	3'-Fluoro-3,4-dibromodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0307	4'-Fluoro-2,3',4-tribromodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0308	4'-Fluoro-2,3',6-tribromodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0309	2'-Fluoro-2,4,4'-tribromodiphenyl ether	50µg/mL in toluene	1ml
REPBDE0310	2'-Fluoro-2,4,4'-tribromodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0311	6-Fluoro-2,2',4,4'-tetrabromodiphenyl ether	50µg/mL in toluene	1ml
REPBDE0312	6-Fluoro-2,2',4,4'-tetrabromodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0313	5,5'-Difluoro-2,2',4,4'-tetrabromodiphenyl ether (2,2',4,4'-Tetrabromo-5,5'-difluorodiphenyl ether)	50µg/mL in toluene	1ml
REPBDE0314	5,5'-Difluoro-2,2',4,4'-tetrabromodiphenyl ether (2,2',4,4'-Tetrabromo-5,5'-difluorodiphenyl ether)	50µg/mL in isooctane	1ml
REPBDE0315	6-Fluoro-2,3',4,4'-tetrabromodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0316	4'-Fluoro-2,3',4,6-tetrabromodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0317	5,6-Difluoro-2,2',3,4,4'-pentabromodiphenyl ether (2,2',3,4,4'-Pentabromo-5,6-difluorodiphenyl ether)	50µg/mL in isooctane	1ml
REPBDE0318	3,6-Difluoro-2,2',4,4',5-pentabromodiphenyl ether (2,2',4,4',5-Pentabromo-3,6-difluorodiphenyl ether)	50µg/mL in isooctane	1ml
REPBDE0319	3-Fluoro-2,2',4,4',6-pentabromodiphenyl ether	50µg/mL in toluene	1ml
REPBDE0320	3-Fluoro-2,2',4,4',6-pentabromodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0321	3-Fluoro-2,3',4,4',6-pentabromodiphenyl ether	50µg/mL in Isooctane	1ml
REPBDE0322	3,5-Difluoro-2,3',4,4',6-pentabromodiphenyl ether (2,3',4,4',6-Pentabromo-3,5-difluorodiphenyl ether)	50µg/mL in isooctane	1ml
REPBDE0323	4'-Fluoro-2,3,3',4,5,6-hexabromodiphenyl ether	50µg/mL in toluene	1ml
REPBDE0324	3-Fluoro-2,2',4,4',5,5',6-heptabromodiphenyl ether	50µg/mL in toluene	1ml
REPBDE0325	4',6-Difluoro-2,2',3,3',4,5,5',6'-octabromodiphenyl ether	50µg/mL in toluene	1ml
REPBDE0326	4'-Fluoro-2,2',3,3',4,5,5',6,6'-nonabromodiphenyl ether	50µg/mL in isooctane	1ml
REPBDE0327	4'-Fluoro-2,2',3,3',4,5,5',6,6'-nonabromodiphenyl ether	50µg/mL in toluene	1ml

Phosphor-Phosphate-based Flame Retardants

Product No.	Description	Concentration	Pack Size
REPBDE0500	Bis(2,3-dibromopropyl)phosphate, tech.	50µg/mL in isooctane	1ml
REPBDE0501	Bis(2,3-dibromopropyl)phosphate	50µg/mL in isooctane	1ml
REPBDE0502	Bisphenol A bis(diphenyl)phosphate	50µg/mL in methanol	1ml
REPBDE0503	9,10-Dihydro-9-Oxa-10-Phospaphenantrene-10-Oxide	50µg/mL in isooctane	1ml
REPBDE0504	2-Ethylhexyldiphenylphosphate	Neat	1g
REPBDE0505	Isopropylated trisphenyl phosphate (Phenol, isopropylated, phosphate)	Neat	1g
REPBDE0506	Phenoxyterminated carbonate oligomer of tetrabromobisphenol A	Neat	1g
REPBDE0507	Polyphosphoric acids ammonium salt	Neat	1g
REPBDE0508	2,4,6-Tribromophenylterminated tetrabromobisphenol	Neat	1g
REPBDE0509	Tetraphenylrecorcinol bis(diphenylphosphate	50µg/mL in methanol	1ml
REPBDE0510	Tris-(aziridinyl)-phosphineoxide	100µg/mL in methanol	1ml
REPBDE0511	Tris-(aziridinyl)-phosphineoxide	500µg/mL in methanol	1ml
REPBDE0512	Tris(2,3-dibromopropyl)phosphate, tech.	Neat	100mg
REPBDE0513	Tris(2,3-dibromopropyl)phosphate	50µg/mL in methanol	1ml
REPBDE0514	Tris(2,3-dichloropropyl)phosphate	1000µg/mL in methanol	1ml
REPBDE0515	Tris(2-ethylhexyl)phosphate	1000µg/mL in methanol	1ml
REPBDE0516	Tri-n-butylphosphate-d27	100µg/mL in isooctane	1ml
REPBDE0517	Triethylphosphate-d15	100µg/mL in isooctane	1ml
REPBDE0518	Trimethylphosphate-d9	100µg/mL in isooctane	1ml
REPBDE0519	Triphenylphosphate-d15	100µg/mL in isooctane	1ml
REPBDE0520	Tri-n-propylphosphate-d21	100µg/mL in isooctane	1ml



Polychlorinated Biphenyl Standards (PCBs)

Introduction

Polychlorinated biphenyls (PCB's) are man made organic chemicals derived from combining between 1 and 10 chlorine atoms with biphenyls, a molecule that is composed of two benzene rings. When all of the possible positions of the chlorine atoms on the benzene rings are taken into account, a total of 209 configurations are possible and these are called congeners.

Of these 209 congeners about 130 have been used in commercial preparations, since the introduction of the products into the marketplace by a company called Swann Chemical Company, which commenced production in 1929. Synthesis at laboratory scale began in 1881 and from then significant amounts of PCB's were already being released into the environment.

Applications

The commercial uses of PCB's were based on the products being good insulators, chemically stable and of low flammability. Therefore, they were used for a range of applications that include: coolants and insulating fluids for capacitors and transformers, hydraulic fluids, cutting oils, copying paper, plasticisers in paints and cements, additives in PVC coatings and as pesticide extenders. They also had a myriad of other commercial uses, description of which is beyond the scope of this document.

Often PCB's were sold as commercial mixtures under trade names, including Arochlor's, which is a brand name of Monsanto. Such Aroclor's had a four digit numbering system, with the first two digits referring to the number of carbons in the two benzene rings (12 in the case of PCB's) and the second two digits referred to the percentage of chlorine by mass in the mixture, although there are exceptions to this nomenclature. Aroclor's varied in terms of what they were used for, depending on availability and suitability for particular applications.

Presence in the Environment

PCB's are highly resistant to oxidation or reduction processes, which makes them stable and persistent pollutants (POPs). They are unstable in water, which makes them more stable in the environment chemically and either intentional or natural destruction may lead to the generation and release of extremely toxic materials such as Dibenzodioxins and Dibenzofurans through partial oxidation.

Many rivers, lakes, buildings and other sites are contaminated by PCB's and they have been found also in soil and air. Because of their lipophilic properties, they are to be found in foodstuffs and at various points of the food chain.

Health Effects

PCB's are readily absorbed through skin, but can also be absorbed through polyvinyl chloride (PVC) or latex rubber. However, most human absorption is through the alimentary or respiratory routes and once ingested they may change in chemical structure. One of the physical properties of PCB's includes lipophilicity which causes bioaccumulation in both adipose tissue and in liver tissue.

Persons exposed to very high levels may experience skin lesions, liver damage, ocular lesions, lowered immunity and irregular menstrual cycles by interference with estradiol. Generalised symptoms can include headaches, fatigue and cough. More severe symptomatic outcomes may include cancers, sexual, skeletal, and mental under-development in both sexes. In fact, evidence of reduced levels of certain thyroid hormones could have an adverse effect on every physiological process within the body.

Analytical Methods

Generally the analytical method of choice for PCB's is Gas Chromatography using very specific columns and detectors. Reagecon can now offer over 80 of the most commercially sought after PCB standards ready to use in either isooctane or cyclohexane or as neat materials. We can also offer a wide range of PCB mixtures and offer several Aroclor's in various matrices.

PCB Single Element Congeners

Product No.	Description	Concentration in Matrix	Pack Size
REPCB1001	4-Chlorobiphenyl (PCB-3)	100µg/mL in Isooctane	1ml
REPCB1001N	4-Chlorobiphenyl (PCB-3)	Neat	5mg
REPCB1002	2,4-Dichlorobiphenyl (PCB-7)	100µg/mL in Isooctane	1ml
REPCB1002N	2,4-Dichlorobiphenyl (PCB-7)	Neat	5mg
REPCB1003	2,4'-Dichlorobiphenyl (PCB-8)	100µg/mL in Isooctane	1ml
REPCB1003N	2,4'-Dichlorobiphenyl (PCB-8)	Neat	5mg
REPCB1004	2,6-Dichlorobiphenyl (PCB-10)	100µg/mL in Isooctane	1ml
REPCB1004N	2,6-Dichlorobiphenyl (PCB-10)	Neat	5mg
REPCB1005	3,5-Dichlorobiphenyl (PCB-14)	100µg/mL in Isooctane	1ml
REPCB1005N	3,5-Dichlorobiphenyl (PCB-14)	Neat	5mg
REPCB1006	4,4'-Dichlorobiphenyl (PCB-15)	100µg/mL in Isooctane	1ml
REPCB1006N	4,4'-Dichlorobiphenyl (PCB-15)	Neat	5mg
REPCB1007	2,2',5-Trichlorobiphenyl (PCB-18)	100µg/mL in Isooctane	1ml
REPCB1007N	2,2',5-Trichlorobiphenyl (PCB-18)	Neat	5mg
REPCB1008	2,3,3'-Trichlorobiphenyl (PCB-20)	100µg/mL in Isooctane	1ml
REPCB1008N	2,3,3'-Trichlorobiphenyl (PCB-20)	Neat	5mg
REPCB1009	2,3,4'-Trichlorobiphenyl (PCB-22)	100µg/mL in isooctane	1ml
REPCB1009N	2,3,4'-Trichlorobiphenyl (PCB-22)	Neat	5mg
REPET195	2,4,4'-Trichlorobiphenyl (PCB-28)	100µg/mL in Isooctane	1ml
REPET195N	2,4,4'-Trichlorobiphenyl (PCB-28)	Neat	5mg
REPCB1011	2,4,5-Trihlorobiphenyl (PCB-29)	100µg/mL in Isooctane	1ml
REPCB1011N	2,4,5-Trihlorobiphenyl (PCB-29)	Neat	5mg
REPCB1012	2,4,6-Trichlorobiphenyl (PCB-30)	100µg/mL in Isooctane	1ml
REPCB1012N	2,4,6-Trichlorobiphenyl (PCB-30)	Neat	5mg
REPCB1013	2,4',5-Trichlorobiphenyl (PCB-31)	100µg/mL in Isooctane	1ml
REPCB1013N	2,4',5-Trichlorobiphenyl (PCB-31)	Neat	5mg
REPCB1014	2',3,5-Trichlorobiphenyl (PCB-34)	100µg/mL in Isooctane	1ml
REPCB1014N	2',3,5-Trichlorobiphenyl (PCB-34)	Neat	5mg
REPCB1015	3,3',4-Trichlorobiphenyl (PCB-35)	100µg/mL in Isooctane	1ml
REPCB1015N	3,3',4-Trichlorobiphenyl (PCB-35)	Neat	5mg
REPCB1016	3,4,4'-Trichlorobiphenyl (PCB-37)	100µg/mL in isooctane	1ml
REPCB1016N	3,4,4'-Trichlorobiphenyl (PCB-37)	Neat	5mg
REPCB1017	3,4',5-Trichlorobiphenyl (PCB-39)	100µg/mL in isooctane	1ml
REPCB1017N	3,4',5-Trichlorobiphenyl (PCB-39)	Neat	5mg
REPCB1018	2,2',3,4'-Tetrachlorobiphenyl (PCB-42)	100µg/mL in isooctane	1ml

Product No.	Description	Concentration in Matrix	Pack Size
REPCB1018N	2,2',3,4'-Tetrachlorobiphenyl (PCB-42)	Neat	5mg
REPCB1019	2,2',3,5'-Tetrachlorobiphenyl (PCB-44)	100µg/mL in Isooctane	1ml
REPCB1019N	2,2',3,5'-Tetrachlorobiphenyl (PCB-44)	Neat	5mg
REPCB1020	2,2',4,4'-Tetrachlorobiphenyl (PCB-47)	100µg/mL in isooctane	1ml
REPCB1020N	2,2',4,4'-Tetrachlorobiphenyl (PCB-47)	Neat	5mg
REPCB1021	2,2',4,5'-Tetrachlorobiphenyl (PCB-49)	100µg/mL in isooctane	1ml
REPCB1021N	2,2',4,5'-Tetrachlorobiphenyl (PCB-49)	Neat	5mg
REPET196	2,2',5,5'-Tetrachlorobiphenyl (PCB-52)	100µg/mL in Isooctane	1ml
REPET196N	2,2',5,5'-Tetrachlorobiphenyl (PCB-52)	Neat	5mg
REPCB1023	2,2',5,6'-Tetrachlorobiphenyl (PCB-53)	100µg/mL in Isooctane	1ml
REPCB1023N	2,2',5,6'-Tetrachlorobiphenyl (PCB-53)	Neat	5mg
REPCB1024	2,2',6,6'-Tetrachlorobiphenyl (PCB-54)	100µg/mL in Isooctane	1ml
REPCB1024N	2,2',6,6'-Tetrachlorobiphenyl (PCB-54)	Neat	5mg
REPCB1025	2,3,3',4-Tetrahlorobiphenyl (PCB-55)	100µg/mL in Isooctane	1ml
REPCB1025N	2,3,3',4-Tetrahlorobiphenyl (PCB-55)	Neat	5mg
REPCB1026	2,3,5,6-Tetrachlorobiphenyl (PCB-65)	100µg/mL in methanol	1ml
REPCB1026N	2,3,5,6-Tetrachlorobiphenyl (PCB-65)	Neat	5mg
REPCB1027	2,3',4,4'-Tetrachlorobiphenyl (PCB-66)	100µg/mL in isooctane	1ml
REPCB1027N	2,3',4,4'-Tetrachlorobiphenyl (PCB-66)	Neat	5mg
REPCB1028	2,3',4,5-Tetrachlorobiphenyl (PCB-67)	100µg/mL in isooctane	1ml
REPCB1028N	2,3',4,5-Tetrachlorobiphenyl (PCB-67)	Neat	5mg
REPCB1029	2,4,4',5-Tetrachlorobiphenyl (PCB-74)	100µg/mL in Isooctane	1ml
REPCB1029N	2,4,4',5-Tetrachlorobiphenyl (PCB-74)	Neat	5mg
REPCB1030	3,3',4,4'-Tetrachlorobiphenyl (PCB-77)	100µg/mL in Isooctane	1ml
REPCB1030N	3,3',4,4'-Tetrachlorobiphenyl (PCB-77)	Neat	5mg
REPCB1031	3,3',4,5-Tetrachlorobiphenyl (PCB-78)	100µg/mL in Isooctane	1ml
REPCB1031N	3,3',4,5-Tetrachlorobiphenyl (PCB-78)	Neat	5mg
REPCB1032	3,4,4',5-Tetrachlorobiphenyl (PCB-81)	100µg/mL in Isooctane	1ml
REPCB1032N	3,4,4',5-Tetrachlorobiphenyl (PCB-81)	Neat	5mg
REPCB1033	2,2',3,5',6-Pentachlorobiphenyl (PCB-95)	100µg/mL in Isooctane	1ml
REPCB1033N	2,2',3,5',6-Pentachlorobiphenyl (PCB-95)	Neat	5mg
REPCB1034	2,2',4,4',5-Pentachlorobiphenyl (PCB-99)	100µg/mL in Isooctane	1ml
REPCB1034N	2,2',4,4',5-Pentachlorobiphenyl (PCB-99)	Neat	5mg
REPCB1035	2,2',4,4',6-Pentachlorobiphenyl (PCB-100)	100µg/mL in Isooctane	1ml
REPCB1035N	2,2',4,4',6-Pentachlorobiphenyl (PCB-100)	Neat	5mg
REPET197	2,2',4,5,5'-Pentachlorobiphenyl (PCB-101)	100µg/mL in Isooctane	1ml

PCB Single Element Congeners

Product No.	Description	Concentration in Matrix	Pack Size
REPET197N	2,2',4,5,5'-Pentachlorobiphenyl (PCB-101)	Neat	5mg
REPCB1037	2,2',4,6,6'-Pentachlorobiphenyl (PCB-104)	100µg/mL in Isooctane	1ml
REPCB1037N	2,2',4,6,6'-Pentachlorobiphenyl (PCB-104)	Neat	5mg
REPCB1038	2,3,3',4,4'-Pentachlorobiphenyl (PCB-105)	100µg/mL in Isooctane	1ml
REPCB1038N	2,3,3',4,4'-Pentachlorobiphenyl (PCB-105)	Neat	5mg
REPCB1039	2,3,3',5,5'-Pentachlorobiphenyl (PCB-111)	100µg/mL in isooctane	1ml
REPCB1039N	2,3,3',5,5'-Pentachlorobiphenyl (PCB-111)	Neat	5mg
REPCB1040	2,3,3',5,6-Pentachlorobiphenyl (PCB-112)	100µg/mL in isooctane	1ml
REPCB1040N	2,3,3',5,6-Pentachlorobiphenyl (PCB-112)	Neat	5mg
REPCB1041	2,3,4,4',5-Pentachlorobiphenyl (PCB-114)	100µg/mL in Isooctane	1ml
REPCB1041N	2,3,4,4',5-Pentachlorobiphenyl (PCB-114)	Neat	5mg
REPCB1042	2,3,4',5,6-Pentachlorobiphenyl (PCB-117)	100µg/mL in Isooctane	1ml
REPCB1042N	2,3,4',5,6-Pentachlorobiphenyl (PCB-117)	Neat	5mg
REPCB1043	2,3',4,4',5-Pentachlorobiphenyl (PCB-118)	100µg/mL in Isooctane	1ml
REPCB1043N	2,3',4,4',5-Pentachlorobiphenyl (PCB-118)	Neat	5mg
REPCB1044	2,3',4,4',6-Pentachlorobiphenyl (PCB-119)	100µg/mL in Isooctane	1ml
REPCB1044N	2,3',4,4',6-Pentachlorobiphenyl (PCB-119)	Neat	5mg
REPCB1045	2',3,4,4',5-Pentachlorobiphenyl (PCB-123)	100µg/mL in Isooctane	1ml
REPCB1045N	2',3,4,4',5-Pentachlorobiphenyl (PCB-123)	Neat	5mg
REPCB1046	2,3',4',5',6-Pentachlorobiphenyl (PCB-125)	100µg/mL in isooctane	1ml
REPCB1046N	2,3',4',5',6-Pentachlorobiphenyl (PCB-125)	Neat	5mg

Product No.	Description	Concentration in Matrix	Pack Size
REPCB1047	3,3',4,4',5-Pentachlorobiphenyl (PCB-126)	100µg/mL in Isooctane	1ml
REPCB1047N	3,3',4,4',5-Pentachlorobiphenyl (PCB-126)	Neat	5mg
REPCB1048	2,2',3,4,4',5-Hexachlorobiphenyl (PCB-137)	100µg/mL in isooctane	1ml
REPCB1048N	2,2',3,4,4',5-Hexachlorobiphenyl (PCB-137)	Neat	5mg
REPET198	2,2',3,4,4',5'-Hexachlorobiphenyl (PCB-138)	100µg/mL in Isooctane	1ml
REPET198N	2,2',3,4,4',5'-Hexachlorobiphenyl (PCB-138)	Neat	5mg
REPCB1050	2,2',3,4,5,5'-Hexachlorobiphenyl (PCB-141)	100µg/mL in Isooctane	1ml
REPCB1050N	2,2',3,4,5,5'-Hexachlorobiphenyl (PCB-141)	Neat	5mg
REPCB1051	2,2',3,4,5,6'-Hexachlorobiphenyl (PCB-143)	100µg/mL in Isooctane	1ml
REPCB1051N	2,2',3,4,5,6'-Hexachlorobiphenyl (PCB-143)	Neat	5mg
REPCB1052	2,2',3,4',5',6-Hexachlorobiphenyl (PCB-149)	100µg/mL in Isooctane	1ml
REPCB1052N	2,2',3,4',5',6-Hexachlorobiphenyl (PCB-149)	Neat	5mg
REPET199	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB-153)	100µg/mL in Isooctane	1ml
REPET199N	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB-153)	Neat	5mg
REPCB1054	2,2',4,4',6,6'-Hexachlorobiphenyl (PCB-155)	100µg/mL in Isooctane	1ml
REPCB1054N	2,2',4,4',6,6'-Hexachlorobiphenyl (PCB-155)	Neat	5mg
REPCB1055	2,3,3',4,4',5-Hexachlorobiphenyl (PCB-156)	100µg/mL in Isooctane	1ml
REPCB1055N	2,3,3',4,4',5-Hexachlorobiphenyl (PCB-156)	Neat	5mg
REPCB1056	2,3,3',4,4',5'-Hexachlorobiphenyl (PCB-157)	100µg/mL in Isooctane	1ml
REPCB1056N	2,3,3',4,4',5'-Hexachlorobiphenyl (PCB-157)	Neat	5mg
REPCB1057	2,3,3',4,5,6-Hexachlorobiphenyl (PCB-160)	100µg/mL in Isooctane	1ml
REPCB1057N	2,3,3',4,5,6-Hexachlorobiphenyl (PCB-160)	Neat	5mg

Product No.	Description	Concentration in Matrix	Pack Size
REPCB1058	2,3,3',4',5,6-Hexachlorobiphenyl (PCB-163)	100µg/mL in Isooctane	1ml
REPCB1058N	2,3,3',4',5,6-Hexachlorobiphenyl (PCB-163)	Neat	5mg
REPCB1059	2,3,3',5,5',6-Hexachlorobiphenyl (PCB-165)	100µg/mL in Isooctane	1ml
REPCB1059N	2,3,3',5,5',6-Hexachlorobiphenyl (PCB-165)	Neat	5mg
REPCB1060	2,3,4,4',5,6-Hexachlorobiphenyl (PCB-166)	100µg/mL in Isooctane	1ml
REPCB1060N	2,3,4,4',5,6-Hexachlorobiphenyl (PCB-166)	Neat	5mg
REPCB1061	2,3',4,4',5,5'-Hexachlorobiphenyl (PCB-167)	100µg/mL in Isooctane	1ml
REPCB1061N	2,3',4,4',5,5'-Hexachlorobiphenyl (PCB-167)	Neat	5mg
REPCB1062	3,3',4,4',5,5'-Hexachlorobiphenyl (PCB-169)	100µg/mL in Isooctane	1ml
REPCB1062N	3,3',4,4',5,5'-Hexachlorobiphenyl (PCB-169)	Neat	5mg
REPCB1063	2,2',3,3',4,4',5-Heptachlorobiphenyl (PCB-170)	100µg/mL in Isooctane	1ml
REPCB1063N	2,2',3,3',4,4',5-Heptachlorobiphenyl (PCB-170)	Neat	5mg
REPCB1064	2,2',3,3',4',5,6-Heptachlorobiphenyl (PCB-177)	100µg/mL in Isooctane	1ml
REPCB1064N	2,2',3,3',4',5,6-Heptachlorobiphenyl (PCB-177)	Neat	5mg
REPCB1065	2,2',3,3',4',5,6-Heptachlorobiphenyl (PCB-178)	100µg/mL in Isooctane	1ml
REPCB1065N	2,2',3,3',4',5,6-Heptachlorobiphenyl (PCB-178)	Neat	5mg
REPET200	2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB-180)	100µg/mL in Isooctane	1ml
REPET200N	2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB-180)	Neat	5mg
REPCB1067	2,2',3,4,4',5',6-Heptachlorobiphenyl (PCB-183)	100µg/mL in Isooctane	1ml
REPCB1067N	2,2',3,4,4',5',6-Heptachlorobiphenyl (PCB-183)	Neat	5mg
REPCB1068	2,2',3,4',5,5',6-Heptachlorobiphenyl (PCB-187)	100µg/mL in Isooctane	1ml
REPCB1068N	2,2',3,4',5,5',6-Heptachlorobiphenyl (PCB-187)	Neat	5mg

Product No.	Description	Concentration in Matrix	Pack Size
REPCB1069	2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB-189)	100µg/mL in Isooctane	1ml
REPCB1069N	2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB-189)	Neat	5mg
REPCB1070	2,3,3',4,4',5,6-Heptachlorobiphenyl (PCB-190)	100µg/mL in Isooctane	1ml
REPCB1070N	2,3,3',4,4',5,6-Heptachlorobiphenyl (PCB-190)	Neat	5mg
REPCB1071	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB-194)	100µg/mL in Isooctane	1ml
REPCB1071N	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB-194)	Neat	5mg
REPCB1072	2,2',3,3',4,4',5',6-Octachlorobiphenyl (PCB-196)	100µg/mL in Isooctane	1ml
REPCB1072N	2,2',3,3',4,4',5',6-Octachlorobiphenyl (PCB-196)	Neat	5mg
REPET201	2,2',3,3',4,5,5',6-Octachlorobiphenyl (PCB-198)	100µg/mL in Isooctane	1ml
REPET201N	2,2',3,3',4,5,5',6-Octachlorobiphenyl (PCB-198)	Neat	5mg
REPCB1074	2,2',3,3',4',5,5',6-Octachlorobiphenyl (PCB-199)	100µg/mL in Isooctane	1ml
REPCB1074N	2,2',3,3',4',5,5',6-Octachlorobiphenyl (PCB-199)	Neat	5mg
REPCB1075	2,2',3,4,4',5,6,6'-Octachlorobiphenyl (PCB-204)	100 µg/mL in isooctane	1ml
REPCB1075N	2,2',3,4,4',5,6,6'-Octachlorobiphenyl (PCB-204)	Neat	5mg
REPCB1076	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl (PCB-207)	100 µg/mL in isooctane	1ml
REPCB1076N	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl (PCB-207)	Neat	5mg
REPET202	Decachlorobiphenyl (PCB-209)	100µg/mL in cyclohexane	1ml
REPET202N	Decachlorobiphenyl (PCB-209)	Neat	5mg

Aroclor Standards

Product No.	Description	Concentration in Matrix	US EPA Methods	Pack Size
REA1016-H	Aroclor 1016	1,000ug/ml in high purity Hexane	625,8270C	1ml
REA1016-I	Aroclor 1016	1000ug/ml in high purity Isooctane	625,8270C	1ml
REA1221	Aroclor 1221	200ug/ml in high purity Hexane	625,8270C	1ml
REA1221-H	Aroclor 1221	1,000ug/ml in high purity Hexane	625,8270C	1ml
REA1221-I	Aroclor 1221	1000ug/ml in high purity Isooctane	625,8270C	1ml
REA1232	Aroclor 1232	200ug/ml in high purity Hexane	625,8270C	1ml
REA1232-H	Aroclor 1232	1,000ug/ml in high purity Hexane	625,8270C	1ml
REA1232-I	Aroclor 1232	1000ug/ml in high purity Isooctane	625,8270C	1ml
REA1242	Aroclor 1242	200ug/ml in high purity Hexane	625,8270C	1ml
REA1242-H	Aroclor 1242	1,000ug/ml in high purity Hexane	625,8270C	1ml
REA1242-I	Aroclor 1242	1000ug/ml in high purity Isooctane	625,8270C	1ml
REA1248	Aroclor 1248	200ug/ml in high purity Hexane	625,8270C	1ml
REA1248-H	Aroclor 1248	1,000ug/ml in high purity Hexane	625,8270C	1ml
REA1248-I	Aroclor 1248	1000ug/ml in high purity Isooctane	625,8270C	1ml
REA1254	Aroclor 1254	200ug/ml in high purity Hexane	625,8270C	1ml
REA1254-H	Aroclor 1254	1,000ug/ml in high purity Hexane	625,8270C	1ml
REA1254-I	Aroclor 1254	1000ug/ml in high purity Isooctane	625,8270C	1ml
REA1260	Aroclor 1260	200ug/ml in high purity Hexane	625,8270C	1ml
REA1260-H	Aroclor 1260	1,000ug/ml in high purity Hexane	625,8270C	1ml
REA1260-I	Aroclor 1260	1000ug/ml in high purity Isooctane	625,8270C	1ml
REA1262	Aroclor 1262	200ug/ml in high purity Hexane	625,8270C	1ml
REA1262-H	Aroclor 1262	1,000ug/ml in high purity Hexane	625,8270C	1ml
REA1262-I	Aroclor 1262	1000ug/ml in high purity Isooctane	625,8270C	1ml
REA1268	Aroclor 1268	200ug/ml in high purity Hexane	625,8270C	1ml
REA1268-H	Aroclor 1268	1000ug/ml in high purity Hexane	625,8270C	1ml
REA1268-I	Aroclor 1268	1000ug/ml in high purity Isooctane	625,8270C	1ml

Phthalate Standards

Phthalates are esters produced by esterification of phthalic acid with different alcohols. They are the most commonly used plasticisers, which are added to plastics to increase their flexibility, transparency and durability. Phthalates may be classified into two groups, based on molecular weight, comprising low molecular weight phthalates (ester side-chain lengths, one to four carbons) which include dibutyl phthalate (DBP), diethyl phthalate (DEP) and dimethyl phthalate (DMP) and high-molecular-weight phthalates (ester side-chain lengths, five or more carbons), which include bis (2-n-ethylhexyl) phthalate (DEHP) and dinonyl phthalate (DINP). These compounds can be found in a wide range of products, including adhesives and glues, electronics, medical devices, tubing, packaging, cosmetics, children's toys and food. Their presence in different products of everyday use means they can be found in all parts of the environment.

Since phthalates are incorporated in the polymer matrix in almost all plastic materials, these can easily migrate into foods and drinking water from the packaging or bottling material. Thus phthalates can bioaccumulate in tissues and in the food chain. Phthalates are poorly biodegradable and are potentially toxic. They have been associated with a number of health problems that include endocrine, respiratory, neurological and reproductive disorders. Several phthalates have been prioritised as significantly hazardous substances by many protection organisations.[1] For example, certain phthalates have been identified as priority hazardous substances by the European Union (EU), the US Environmental Protection Agency (EPA) and other international organisations.

In order to protect the consumers, sensitive and reliable methods for rapid detection of phthalates present in food and food contact materials are clearly needed. Although, liquid chromatography-mass spectrometry (LC-MS) methods for phthalates have been described, gas chromatography-mass spectrometry (GC-MS) is the preferred method for phthalate measurement due to the high reproducibility and specificity obtained.

Irrespective of analytical methodology, there is a requirement for high quality, pure, well characterised phthalate standards. Such standards have recently been developed in this laboratory and we have as part of this work, participated in a significant study on the quantification of phthalates in commercially available drinking water from different producers. Furthermore, this study provides specific data about the concentration of DBP and DEHP attributable to the migration of phthalates from food contact materials.[1]

(1) Improved method for rapid detection of phthalates in bottled water by gas chromatography–mass spectrometry
Paz Otero[a], Sushanta Kumar Saha[a], Siobhan Moaneaa, John Barron[b], Gerard Clancy[b], Patrick Murray[a]

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Monophthalate Esters

Product No.	Analyte	Concentration & Matrix	Pack size
REPHT023	Monomethyl phthalate	1000µg/ml in Isooctane	1ml
REPHT024	Monoethyl phthalate	1000µg/ml in Isooctane	1ml
REPHT025	Mono-n-butyl phthalate	1000µg/ml in Isooctane	1ml
REPHT026	Mono-iso-butyl phthalate	1000µg/ml in Isooctane	1ml
REPHT027	Mono-n-pentyl phthalate	1000µg/ml in Isooctane	1ml
REPHT028	Mono-iso-pentyl phathalate	1000µg/ml in Isooctane	1ml
REPHT029	Monobenzyl phthalate	1000µg/ml in Dischloromethane	1ml
REPHT030	Mono-n-hexyl phthalate	1000µg/ml in Isooctane	1ml
REPHT031	Mono(2-ethylhexyl) phthalate	1000µg/ml in Isooctane	1ml
REPHT032	Monobornyl phthalate	1000µg/ml in Isooctane	1ml
REPHT033	Monocholestryl phthalate	1000µg/ml in Isooctane	1ml

Diphthalate Esters

Product No.	Analyte	Concentration & Matrix	Pack size
REPHT011	Bis(2-ethylhexyl) phthalate	1000µg/ml in Purge & Trap Methanol	1ml
REPHT012	Bis(2-ethylhexyl) phthalate	2000µg/ml in Purge & Trap Methanol	1ml
REPHT013	Butyl benzyl phthalate	1000µg/ml in Methylene Chloride	1ml
REPHT014	Butyl benzyl phthalate	2000µg/ml in Methylene Chloride	1ml
REPHT015	Diethyl phthalate	1000µg/ml in Purge & Trap Methanol	1ml
REPHT016	Diethyl phthalate	2000µg/ml in Purge & Trap Methanol	1ml
REPHT017	Dimethyl phthalate	1000µg/ml in Purge & Trap Methanol	1ml
REPHT018	Dimethyl phthalate	2000µg/ml in Purge & Trap Methanol	1ml
REPHT019	Di-n-butyl phthalate	1000µg/ml in Purge & Trap Methanol	1ml
REPHT020	Di-n-butyl phthalate	2000µg/ml in Purge & Trap Methanol	1ml
REPHT021	Di-n-octyl phthalate	1000µg/ml in Purge & Trap Methanol	1ml
REPHT022	Di-n-octyl phthalate	2000µg/ml in Purge & Trap Methanol	1ml
REPHT034	Dimethyl phthalate	1000µg/ml in Isooctane	1ml
REPHT035	Dimethyl phthalate	neat	10mg
REPHT036	Diethyl phthalate	1000µg/ml in Isooctane	1ml
REPHT037	Diethyl phthalate	neat	10mg
REPHT038	Di-n-propyl phthalate	1000µg/ml in Isooctane	1ml
REPHT039	Di-n-propyl phthalate	neat	10mg
REPHT040	Di-iso-propyl phthalate	1000µg/ml in Isooctane	1ml
REPHT041	Bis(2-methoxyethyl) phthalate	1000µg/ml in Isooctane	1ml
REPHT042	Bis(2-methoxyethyl) phthalate	neat	10mg
REPHT043	Di-iso-butyl phthalate (Di-2-methylpropyl phthalate)	1000µg/ml in Isooctane	1ml

Diphthalate Esters

Product No.	Analyte	Concentration & Matrix	Pack size
REPHT044	Di-iso-butyl phthalate (Di-2-methylpropyl phthalate)	neat	10mg
REPHT045	n-Butyl iso-butyl phthalate (n-Butyl 2-methylpropyl phthalate)	1000µg/ml in Isooctane	1ml
REPHT046	n-Butyl iso-butyl phthalate (n-Butyl 2-methylpropyl phthalate)	neat	10mg
REPHT047	n-Butyl n-pentyl phthalate	100µg/ml in Isooctane	1ml
REPHT048	n-Butyl n-pentyl phthalate	1000µg/ml in Isooctane	1ml
REPHT049	n-Butyl n-pentyl phthalate	neat	10mg
REPHT050	iso-Butyl n-pentyl phthalate	100µg/ml in Isooctane	1ml
REPHT051	iso-Butyl n-pentyl phthalate	1000µg/ml in Isooctane	1ml
REPHT052	iso-Butyl n-pentyl phthalate	neat	10mg
REPHT053	n-Butyl iso-pentyl phthalate (n-Butyl 3-methylbutyl phthalate)	100µg/ml in Isooctane	1ml
REPHT054	n-Butyl iso-pentyl phthalate (n-Butyl 3-methylbutyl phthalate)	1000µg/ml in Isooctane	1ml
REPHT055	n-Butyl iso-pentyl phthalate (n-Butyl 3-methylbutyl phthalate)	neat	10mg
REPHT056	Bis(2-ethoxyethyl) phthalate	1000µg/ml in Isooctane	1ml
REPHT057	Bis(2-ethoxyethyl) phthalate	neat	10mg
REPHT058	Di-n-pentyl phthalate	1000µg/ml in Isooctane	1ml
REPHT059	Di-n-pentyl phthalate	neat	10mg
REPHT060	Diisopentyl phthalate (diisoamyl phthalate)	1000µg/ml in Isooctane	1ml
REPHT061	Diisopentyl phthalate (diisoamyl phthalate)	neat	10mg
REPHT062	n-Pentyl iso-pentyl phthalate (n-Pentyl 3-methlybutyl phthalate)	100µg/ml in Isooctane	1ml
REPHT063	n-Pentyl iso-pentyl phthalate (n-Pentyl 3-methlybutyl phthalate)	1000µg/ml in Isooctane	1ml
REPHT064	n-Pentyl iso-pentyl phthalate (n-Pentyl 3-methlybutyl phthalate)	neat	10mg
REPHT065	n-Pentyl benzyl phthalate	100µg/ml in Isooctane	1ml
REPHT066	n-Pentyl benzyl phthalate	1000µg/ml in Isooctane	1ml

Diphthalate Esters

Product No.	Analyte	Concentration & Matrix	Pack size
REPHT067	n-Pentyl benzyl phthalate	neat	10mg
REPHT068	Iso-pentyl benzyl phthalate (3-Methylbutyl benzyl phthalate)	100µg/ml in Isooctane	1ml
REPHT069	Iso-pentyl benzyl phthalate (3-Methylbutyl benzyl phthalate)	1000µg/ml in Isooctane	1ml
REPHT070	Iso-pentyl benzyl phthalate (3-Methylbutyl benzyl phthalate)	neat	10mg
REPHT071	iso-Butyl benzyl phthalate (2-Methylpropyl benzyl phthalate)	100µg/ml in Isooctane	1ml
REPHT072	iso-Butyl benzyl phthalate (2-Methylpropyl benzyl phthalate)	1000µg/ml in Isooctane	1ml
REPHT073	iso-Butyl benzyl phthalate (2-Methylpropyl benzyl phthalate)	neat	10mg
REPHT074	Diphenyl phthalate	100µg/ml in Isooctane	1ml
REPHT075	Dicyclohexyl phthalate	1000µg/ml in Isooctane	1ml
REPHT076	Dicyclohexyl phthalate	neat	10mg
REPHT077	Bis(2-n-butoxyethyl) phthalate	1000µg/ml in Isooctane	1ml
REPHT078	Bis(2-n-butoxyethyl) phthalate	neat	10mg
REPHT079	Bis(4-methyl-2-pentyl) phthalate	1000µg/ml in Isooctane	1ml
REPHT080	Bis(4-methyl-2-pentyl) phthalate	neat	10mg
REPHT081	n-Butyl n-octyl phthalate	1000µg/ml in Isooctane	1ml
REPHT082	n-Butyl n-octyl phthalate	neat	10mg
REPHT083	2-Ethylhexyl n-octyl phthalate	100µg/ml in Isooctane	1ml
REPHT084	2-Ethylhexyl n-octyl phthalate	1000µg/ml in Isooctane	1ml
REPHT085	2-Ethylhexyl n-octyl phthalate	neat	10mg
REPHT086	Di-n-hexyl phthalate	1000µg/ml in Isooctane	1ml
REPHT087	Di-n-hexyl phthalate	neat	10mg
REPHT088	Dibenzyl phthalate	100µg/ml in Isooctane	1ml
REPHT089	Dibenzyl phthalate	neat	10mg
REPHT090	Di-n-heptyl phthalate	1000µg/ml in Isooctane	1ml
REPHT091	Di-n-heptyl phthalate	neat	10mg
REPHT092	Di-n-nonyl phthalate	1000µg/ml in Isooctane	1ml
REPHT093	Di-n-nonyl phthalate	neat	10mg

Semi Volatile Organic Compound Standards (SVOCs)

Summary of Features & Benefits:

Commercial Benefits

- Ready to use (dilute for use as calibration and/or quality control standards)
- Extensive range of organic compound mixes and single compound standards available
- Can be used with a variety of instruments including GC, GC-MS, HPLC and LC-MS
- Designed specifically for use in EPA or EU analytical methods
- Presented in high quality amber ampoules
- Customised formulations available

Technical Benefits

- Produced in accordance with EPA methods
- Consistency of product - Independent, Traceable, Certified
- Certificates of Analysis and Safety Data Sheets available online

These products are prepared gravimetrically on a weight/volume basis. Both solute and solvent are prepared using equipment calibrated by Reagecon engineers. Reagecon holds IEC/ISO 17025 accreditation for calibration of laboratory balances and pipettes (INAB Ref:265C). The resulting equipment Calibration Certificates are issued in accordance with the requirements of ISO/IEC 17025. The results are then reported and certified in µg/ml on the basis of weight and the density measurement of the standard. Reagecon is IEC/ISO 17025 (INAB Ref:264T) Accredited for density measurement using an Oscillating U-Tube Method in accordance with the ASTM D4052 method. The calibration of the GC-MS instrument is completed using high purity ISO Guide 34 accredited SVOC standards similar in SVOC concentration value to these products. The mass spectrum of each of the analytes is confirmed by comparison with the National Institute of Standards and Technology (NIST) mass spectral library.

Semi Volatile Organic Compound Standards (SVOCs)

Product No.	Description	Concentration in Matrix	Pack Size
RESVOC001	1,2,4,5-Tetrachlorobenzene	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC002	1,2,4,5-Tetrachlorobenzene	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC003	1,4-Naphthoquinone	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC004	1,4-Naphthoquinone	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC005	1-Acetyl-2-thiourea	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC006	1-Acetyl-2-thiourea	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC007	1-Aminonaphthalene	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC008	1-Aminonaphthalene	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC009	1-Chloronaphthalene	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC010	1-Chloronaphthalene	2000µg/ml in Purge & Trap Methanol	1ml

Semi Volatile Organic Compound Standards (SVOCs)

Product No.	Description	Concentration in Matrix	Pack Size
RESVOC011	2-Aminoanthraquinone	1000µg/ml in MeCl:Benzene:Tetrahydrofuran	1ml
RESVOC012	2-Aminoanthraquinone	2000µg/ml in MeCl:Benzene:Tetrahydrofuran	1ml
RESVOC013	2-Aminonaphthalene	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC014	2-Aminonaphthalene	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC015	2-Chloroaniline	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC016	2-Chloroaniline	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC017	2-Chloronaphthalene	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC018	2-Chloronaphthalene	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC019	2-Nitroaniline	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC020	2-Nitroaniline	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC021	3-Amino-9-ethylcarbazole.	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC022	3-Amino-9-ethylcarbazole.	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC023	3-Methylcholanthrene	1000µg/ml in Methylene Chloride	1ml
RESVOC024	3-Methylcholanthrene	2000µg/ml in Methylene Chloride	1ml
RESVOC025	3-Nitroaniline	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC026	3-Nitroaniline	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC027	4-Chloro-1,2-phenylenediamine	1000µg/ml in Acetonitrile	1ml
RESVOC028	4-Chloro-1,2-phenylenediamine	2000µg/ml in Acetonitrile	1ml
RESVOC029	4-Chloro-1,3-phenylenediamine	1000µg/ml in Acetone	1ml
RESVOC030	4-Chloro-1,3-phenylenediamine	2000µg/ml in Acetone	1ml
RESVOC031	4-Nitroaniline	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC032	4-Nitroaniline	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC033	4-Nitrobiphenyl	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC034	4-Nitrobiphenyl	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC035	5-Chloro-2-methylaniline	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC036	5-Chloro-2-methylaniline	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC037	5-Nitroacenaphthene	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC038	5-Nitroacenaphthene	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC039	Aniline	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC040	Aniline	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC041	Benzoic acid	1000µg/ml in Methylene Chloride	1ml
RESVOC042	Benzoic acid	2000µg/ml in Methylene Chloride	1ml
RESVOC043	Benzyl alcohol	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC044	Benzyl alcohol	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC045	Dibenzofuran	1000µg/ml in Purge & Trap Methanol	1ml

Product No.	Description	Concentration in Matrix	Pack Size
RESVOC046	Dibenzofuran	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC047	Diethyl sulfate	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC048	Diethyl sulfate	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC049	Diethylstilbestrol	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC050	Diethylstilbestrol	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC051	Hexachlorophene	1000µg/ml in Methylene Chloride	1ml
RESVOC052	Hexachlorophene	2000µg/ml in Methylene Chloride	1ml
RESVOC053	Hexachloropropene	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC054	Hexachloropropene	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC055	Hexamethylphosphoramide	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC056	Hexamethylphosphoramide	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC057	Hydroquinone	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC058	Hydroquinone	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC059	Maleic anhydride	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC060	Maleic anhydride	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC061	Nicotine	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC062	Nicotine	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC063	Nitroquinoline-1-oxide	1000µg/ml in Methylene Chloride	1ml
RESVOC064	Nitroquinoline-1-oxide	2000µg/ml in Methylene Chloride	1ml
RESVOC065	p-Benzoquinone	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC066	p-Benzoquinone	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC067	Resorcinol	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC068	Resorcinol	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC069	Safrole	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC070	Safrole	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC071	Tetraethyl dithiopyrophosphate	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC072	Tetraethyl dithiopyrophosphate	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC073	Thiophenol (Benzenethiol)	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC074	Thiophenol (Benzenethiol)	2000µg/ml in Purge & Trap Methanol	1ml
RESVOC075	Toluene diisocyanate	1000µg/ml in Purge & Trap Methanol	1ml
RESVOC076	Toluene diisocyanate	2000µg/ml in Purge & Trap Methanol	1ml

PIANO-PONA-PNA Standards

These complex mixes are prepared from materials of the highest available purity, accurate to four decimal places, and include a detailed data sheet on the formulation composition. The exact composition on a weight % basis for each analyte is provided on the certificate of analysis that is provdied with every bottle

PIANO, PONA & PNA Standards

Product Number Reagecon	Mix Name	Constitutents	Concentration	Matrix	Pack Size	ASTM
REPIANO-P	Piano Paraffins	N-Pentane	Varies per Batch	None	1ml	D6279
		N-Hexane				D6733
		N-Heptane				D5134
		N-Octane				D3710
		N-Nonane				D2789
		N-Decane				
		N-Undecane				
		N-Dodecane				
		N-Tridecane				
		N-Tetradecane				
		N-Pentadecane				

Product Number Reagecon	Mix Name	Constitutents	Concentration	Matrix	Pack Size	ASTM
REPIANO-I	Piano Isoparaffins	Isopentane	Varies per Batch	None	1ml	D6279
		2,3-Dimethylbutane				D6733
		2-Methylpentane				D5134
		3-Methylpentane				D3710
		2,2-Dimethylpentane				D2789
		2,4-Dimethylpentane				
		2,2,3-Trimethylbutane				
		3,3-Dimethylpentane				
		2-Methylhexane				
		2,3-Dimethylpentane				
		3-Methylhexane				
		3-Ethylpentane				
		2,2-Dimethylhexane				
		2,5-Dimethylhexane				
		2,2,3-Trimethylpentane				
		2,4-Dimethylhexane				
		2,3-Dimethylhexane				
		2-Methylheptane				
		4-Methylheptane				
		3-Methylheptane				
		3-Ethylhexane				
		3,3-Dimethylheptane				
		2,5-Dimethylheptane				
		3,5-Dimethylheptane				
		2,3-Dimethylheptane				
		3,4-Dimethylheptane				
		2-Methyloctane				
		3-Methyloctane				
		3,3-Diethylpentane				
		2,2-Dimethyloctane				
		3,3-Dimethyloctane				
		2,3-Dimethyloctane				
		3-Ethyloctane				
		2-Methylnonane				
		3-Methylnonane				

Product Number Reagecon	Mix Name	Constitutents	Concentration	Matrix	Pack Size	ASTM
REPIANO-A	PIANO Aromatics	**Benzene**	**Varies per Batch**	**None**	**1ml**	**D6279**
		Toluene				D6733
		EthylBenzene				D5134
		m-Xylene				D3710
		p-Xylene				D2789
		o-Xylene				
		Isopropylbenzene				
		n-Propylbenzene				
		1-Methyl-3-ethylbenzene				
		1-Methyl-4-ethylbenzene				
		1,3,5-Trimethylbenzene				
		1-Methyl-2-ethylbenzene				
		1,2,4-Trimethylbenzene				
		tert-Butylbenzene				
		Isobutylbenzene				
		sec-Butylbenzene				
		1-Methyl-3-isopropylbenzene				
		1-Methyl-4-isopropylbenzene				
		1-Methyl-2-isopropylbenzene				
		1-Methyl-3-n-propylbenzene				
		1-Methyl-4-n-propylbenzene				
		n-Butylbenzene				
		1,2-Diethylbenzene				
		1-Methyl-2-n-propylbenzene				
		1,4-Dimethyl-2-ethylbenzene				
		1,3-Dimethyl-5-ethylbenzene				
		1,2-Dimethyl-4-ethylbenzene				
		1,3-Dimethyl-2-ethylbenzene				
		1,2-Dimethyl-3-ethylbenzene				
		1,2,4,5-Tetramethylbenzene				
		2-Methylbutylbenzene				
		trans-1-Butyl-1-2-methylbenzene				
		n-Pentylbenzene				
		t-1-Butyl-1,3,5-dimethylbenzene				
		t-1-butyl-ethylbenzene				
		1,3,5-Triethylbenzene				
		1,2,4-Triethylbenzene				
		n-Hexylbenzene				

Product Number Reagecon	Mix Name	Constitutents	Concentration	Matrix	Pack Size	ASTM
REPIANO-N	PIANO Naphthalenes	Cyclopentane	Varies per Batch	None	1ml	D6279
		Methylcyclopentane				D6733
		Cyclohexane				D5134
		1,1-Dimethylcyclopentane				D3710
		cis-1,3-Dimethylcyclopentane				D2789
		trans-1,2-Dimethylcyclopentane				
		trans-1,3-Dimethylcyclopentane				
		Methylcyclohexane				
		Ethylcyclopentane				
		ctc-1,2,3-Trimethylcyclopentane				
		cct-1,2,4-Trimethylcyclopentane				
		ctc-1,2,4-Trimethylcyclopentane				
		trans-1,4-Dimethylcyclohexane				
		1-Ethyl-1-methylcyclopentane				
		trans-1,2-Dimethylcyclohexane				
		ccc-1,2,3-Trimethylcyclopentane				
		Isopropylcyclopentane				
		cis-1,2-Dimethylcyclohexane				
		n-Propylcyclopentane				
		ccc-1,3,5-Trimethylcyclohexane				
		1,1,4-Trimethylcyclohexane				
		ctt-1,2,4-Trimethylcyclohexane				
		ctc-1,2,4-Trimethylcyclohexane				
		1,1,2-Trimethylcyclohexane				
		Isobutylcyclopentane				
		Isopropylcyclohexane				
		n-Butylcyclopentane				
		Isobutylcyclohexane				
		t-1-Methyl-2-propylcyclohexane				
		t-1-Methyl-2-(4MP)cyclopentane				

Product Number Reagecon	Mix Name	Constitutents	Concentration	Matrix	Pack Size	ASTM
REPIANO-O	PIANO Olefins	3-Methyl-1-butene	Varies per Batch	None	1ml	D6279
		1-Pentene				D6733
		2-Methyl-1-butene				D5134
		2-Methyl-1, 3-butadiene				D3710
		trans-2-Pentene				D2789
		cis-2-Pentene				
		4-Methylpentene-1				
		1-Hexene				
		trans-2-Hexene				
		2-Methylpentene-2				
		cis-2-Hexene				
		1-Heptene				
		trans-3-Heptene				
		cis-3-Heptene				
		trans-2-Heptene				
		cis-2-Heptene				
		1-Octene				
		trans-2-Octene				
		cis-2-Octene				
		1-Nonene				
		trans-3-Nonene				
		cis-3-Nonene				
		trans-2-Nonene				
		cis-2-Nonene				
		1-Decene				

Product Number Reagecon	Mix Name	Constitutents	Concentration	Matrix	Pack Size	ASTM
REPIANO1	PIANO 1 Standard	n-Pentane	Varies per Batch	None	1ml	D6279
		n-Hexane				D6733
		n-Heptane				D5134
		n-Octane				D3710
		n-Nonane				D2789
		n-Decane				
		n-Undecane				
		n-Dodecane				
		Isopentane				
		2-Methyl Pentane				
		3-Methyl Pentane				
		2,2 Dimethylpentane				
		2,3 Dimethylpentane				
		2,4 Dimethylpentane				
		2,2,4 Trimethylpentane				
		Cylcohexane				
		Methylcyclohexane				
		Ethylcyclohexane				
		Propylcyclohexane				
		n-Butylcyclohexane				
		n-Pentylcyclohexane				
		Decalin				
		Benzene				
		Toluene				
		Propylbenzene				
		EthylBenzene				
		p-Xylene				
		Cumene				
		1,3,5-Trimethylbenzene				
		3-Ethyltoluene				
		1,2,4-Trimethylbenzene				
		1,2,4,5 Tetramethylbenzene				
		n-Butylbenzene				
		Iso-Butylbenzene				
		n-Pentelbenzene				
		1-Pentene				
		2,3,3 Trimethyl-1-Butene				
		2-Methyl-1-Heptene				
		1-Hexene				
		2,3-Dimethyl-2-Butene				
		1-Heptene				
		1-Nonene				
		1-Decene				
		1-Undecene				
		1-Dodecene				

Product Number Reagecon	Mix Name	Constitutents	Concentration	Matrix	Pack Size	ASTM
REPONA	PONA Standard	1-Butene	Varies per Batch	None	1ml	D6279
		1-Pentene				D6733
		1-Hexene				D5134
		1-Heptene				D3710
		1-Octene				D2789
		1-Nonene				D6298
		1-Decene				
		1-Undecene				
		1-Dodecene				
		N-Propane				
		N-Butane				
		N-Pentane				
		N-Hexane				
		N-Heptane				
		N-Octane				
		N-Nonane				
		N-Decane				
		N-Undecane				
		N-Dodecane				
		Methanol				
		Ethanol				
		tert- Butyl methyl ether				
		tert -Amyl methyl ether				
		tert –Butanol				
		tert– Butyl ethyl ether				
		Cyclopentane				
		Cyclohexane				
		Methylcyclohexane				
		Ethylcyclohexane				
		Propylcyclohexane				
		n-Butylcyclohexane				
		Benzene				
		Toluene				
		Ethylbenzene				
		Propylbenzene				
		N-Butylbenzene				
		N-Pentylbenzene				

Petrochemical Standards

Gas calibration Standards for use in the Petrochemical Industry

Product No.	Description	% Concentration	Solvent	Pack Size
REGASCAL-1-250	Naphtalin	3	Petrolether	250ml
	o-xylene	6.2		
	p-xylene	6		
	MTBE	10.6		
REGASCAL-2-250	Ethanol	12	Petrolether	250ml
	2-ET-Toluene	7.6		
	Mesitylen	6		
	Pseudocumen	6		
REGASCAL-3-250	TAME	14.6	Petrolether	250ml
	ET-Benzene	6.5		
	4-ET-Toluene	4		
REGASCAL-4-250	Pr-Benzene	9.8	Petrolether	250ml
	M-xylene	5.5		
	Toluene	5.3		
REGASCAL-5-250	Methanol	6	Petrolether	250ml
	3-ET-Toluene	5.2		
	Toluene	7		

Benzene Calibration Standards

Product No.	Description	% Concentration	Solvent	Pack Size
REBENCAL-B05-250	Benzene	0.5	Petrolether	250ml
	Toluene	15		
REBENCAL-B10-250	Benzene	1	Petrolether	250ml
	Mesitylen	7		
	Pr-Benzene	7		
REBENCAL-B25-250	Benzene	2.5	Petrolether	250ml
	Toluene	5.5		
	Mesitylen	3		
	Pr-Benzene	4.5		
REBENCAL-B35-250	Benzene	3.5	Petrolether	250ml
	Mesitylen	11.5		
REBENCAL-B50-250	Benzene	5	Petrolether	250ml
	Pr-Benzene	10		

Cetane Improver Calibration Sets

Product No.	Description	% Concentration	Solvent	Pack Size
RECETIMP-CAL1-250	2-Ethylhexyl Nitrate	0.03	Chevron Phillips High Cetone	250ml
RECETIMP-CAL2-250	2-Ethylhexyl Nitrate	0.1	Chevron Phillips High Cetone	250ml
RECETIMP-CAL3-250	2-Ethylhexyl Nitrate	0.2	Chevron Phillips High Cetone	250ml
RECETIMP-CAL4-250	2-Ethylhexyl Nitrate	0.5	Chevron Phillips High Cetone	250ml

TOC/TIC Standards - Premium Range

Summary of Features & Benefits:

Commercial Benefits

- Extensive range (500ppb to 20,000ppm /0.5mg/l to 20,000mg/l)
- Presented in single - use glass vials
- Extended shelf life
- Ready to Use
- Offered as single vials or convenient kit format

Technical Benefits

- In accordance with USP <643> and <1051> guidelines
- Consistency of product - Independent, Traceable, Certified
- Certificates of Analysis and Safety Data Sheets available online
- Extremely high specification and purity
- Manufactured in a cleanroom environment
- Vials are manufactured, cleaned and leached specifically for low level TOC standards
- Products manufactured from Ultra-Pure Water, produced by a special proprietary process
- ISO/IEC 17025 Accreditation 500µg/L to 50mg/l (INAB Ref:264T)

Reagecon manufactures a range of Total Organic Carbon (TOC) and Total Inorganic Carbon (TIC) Standards for ease of use when calibrating all types of TOC analysers, irrespective of brand. All of our TOC standards are manufactured using high purity raw materials in accordance with USP <1051> and <643> guidelines. These products are prepared gravimetrically on a weight/weight basis. Both solute (salts) and solvent (water) are weighed on a balance calibrated by Reagecon engineers using OIML traceable weights. Reagecon holds ISO/IEC 17025 accreditation for calibration of laboratory balances (INAB Ref:265C). The resulting Balance Certificate of Calibration is issued in accordance with the requirements of ISO/IEC 17025. The TOC / TIC of the standard is verified using a high performance calibrated TOC analyser. The calibration of this instrument involves the use of high purity ISO Guide 34 accredited TOC standards similar in TOC value to the products listed in the following tables.

TOC/TIC Standards

Product No.	Description	Pack Size
RTOCW	USP Reagent Water Rw	35ml
RTOCRs	USP Standard Sucrose Solution Rs (0.5mg/L C)	35ml
RTOCRss	USP System Suitability Solution 1, 4-Benzoquinone (0.5mg/L C)	35ml
RTOCK08	TOC Standard 0.5mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK09	TOC Standard 1.0mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK10	TOC Standard 1.5mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK10a	TOC Standard 1.5mg/L C as Potassium Hydrogen Phthalate acidified with Hydrochloric Acid	35ml
RTOCK11	TOC Standard 10mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK12	TOC Standard 25mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK30	TOC Standard 30 mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK13	TOC Standard 50mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK14	TOC Standard 5mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK15	TOC Standard 2.5mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK16	TOC Standard 4mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK17	TOC Standard 100mg/L C as Potassium Hydrogen Phthalate	35ml
RTOC125B	TOC Standard 125ppm C as 1,4-Benzoquinone	35ml
RTOC125S	TOC Standard 125ppm C as Sucrose	35ml
RTOCK18	TOC Standard 1,000mg/L C as Potassium Hydrogen Phthalate	35ml
RTOC1000K	TOC Standard 1,000ppm C as Potassium Hydrogen Phthalate	35ml
RTOCK19	TOC Standard 5,000mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK20	TOC Standard 20,000mg/L C as Potassium Hydrogen Phthalate	35ml
RTOCK01	TOC Standard 50ppb C as Potassium Hydrogen Phthalate	35ml
RTOC200	TOC Standard 200ppb C as Sucrose	35ml
RTOC800	TOC Standard 800ppb C as Sucrose	35ml
RTICN01	TIC Standard 0.5mg/L as Sodium Carbonate	35ml
RTICN02	TIC Standard 1.0mg/L as Sodium Carbonate	35ml
RTICN03	TIC Standard 1.5mg/L as Sodium Carbonate	35ml
RTICN04	TIC Standard 2mg/L as Sodium Carbonate	35ml
RTICN09	TIC Standard 4mg/L as Sodium Carbonate	35ml
RTICN05	TIC Standard 5mg/L as Sodium Carbonate	35ml
RTICN06	TIC Standard 10mg/L as Sodium Carbonate	35ml
RTICN07	TIC Standard 25mg/L as Sodium Carbonate	35ml
RTICN08	TIC Standard 50mg/L as Sodium Carbonate	35ml
RTIC1000	TIC Standard 1000mg/L as Sodium Carbonate	35ml
RTOCS01	TOC Standard 0.5mg/L C as Sucrose	35ml
RTOCS02	TOC Standard 1.0mg/L C as Sucrose	35ml
RTOCS03	TOC Standard 2mg/L C as Sucrose	35ml
RTOCS04	TOC Standard 5mg/L C as Sucrose	35ml
RTOCS05	TOC Standard 10mg/L C as Sucrose	35ml
RTOCS06	TOC Standard 25mg/L C as Sucrose	35ml
RTOCS07	TOC Standard 50mg/L C as Sucrose	35ml
RTOCS08	TOC Standard 0.25mg/L C as Sucrose	35ml
RTOCS09	TOC Standard 0.75mg/L C as Sucrose	35ml
RTOCS10	TOC Standard 4mg/L C as Sucrose	35ml
RTOCS11	TOC Standard 500mg/L C as Sucrose	35ml

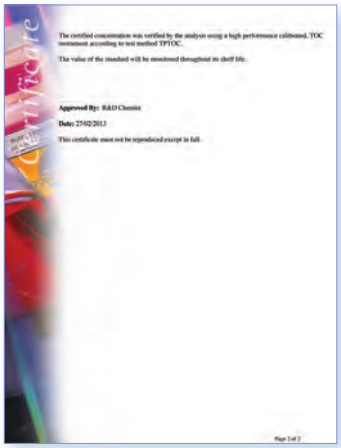
TOC/TIC Standards

Product No.	Description	Pack Size
RTOCN01	TOC Standard 50mg/L C as Nicotinamide	35ml
RTOCN02	TOC Standard 0.5mg/L C as Nicotinamide	35ml
RTOCM01	TOC Standard 0.5mg/L C as Methanol	35ml
RTOCWa	USP Reagent Water Rw acidified with HCl	35ml
RTOCRsa	USP Standard Sucrose Solution Rs (0.5mg/L C) acidified with HCl	35ml
RTOCRssa	USP System Suitability Solution 1,4-Benzoquinone (0.5mg/L C) acidified with HCl	35ml
RTOCUSP1	USP System Suitability Set consisting of 1 x 40ml vial of Reagent Water (RTOCW), Standard Solution (RTOCRs) and Suitability Solution (RTOCRss)	3 x 35ml
RTOCUSP2	2 x USP System Suitability Set consisting of 1 x 40ml vial of Reagent Water (RTOCW), Standard Solution (RTOCRs) and Suitability Solution (RTOCRss). Delivered at six month intervals	3 x 35ml
RTOCUSP4	4 x USP System Suitability Sets, consisting of: 1 x 40ml vial of Reagent Water (RTOCW), Standard Solution (RTOCRs) and Suitability Solution (RTOCRss). Delivered at three month intervals	3 x 35ml
RTOCUSP12	12 x (USP System Suitability Set consisting of 1 x 40ml vial of Reagent Water (RTOCW), Standard Solution (RTOCRs) and Suitability Solution (RTOCRss). Delivered at monthly intervals	3 x 35ml
RTOCUSP52	52 x (USP System Suitability Set consisting of 1 x 40ml vial of Reagent Water (RTOCW), Standard Solution (RTOCRs) and Suitability Solution (RTOCRss). Delivered at 2 weekly intervals	3 x 35ml
RTOCUSP260	260 x USP System Suitability Set consisting of 1 x 40ml vial of Reagent Water (RTOCW), Standard Solution (RTOCRs) and Suitability Solution (RTOCRss). Delivered at 2 weekly intervals	3 x 35ml
RC120001	Carbon Calibration Set 1-50mg/L C consisting of 1 x 40ml vial each of calibration blank (RTOCW), TOC Standards 1(RTOCK09), 5 (RTOCK14), 10 (RTOCK11), 25 (RTOCK12), 50 (RTOCK13) mg/L C as Potassium Hydrogen Phthalate, TIC Standards 1mg/L (RTICN02), 5mg/L (RTICN05), 10mg/L (RTICN06), 25mg/L (RTICN07), 50mg/L (RTICN08) C as Sodium Carbonate	11 x 35ml
RC120002	1mg C/L Carbon Standard Set consisting of 1 x 40ml vial each of calibration blank (ROTCW), 1mg/L (RTOCK09) C TOC as Potassium Hydrogen Phthalate and 1 mg/L (RTICN02) C TIC as Sodium Carbonate	3 x 35ml
RC120003	1mg C/L Carbon Verification Set consisting of 1 x 40ml vial each of calibration blank (ROTCW), 1mg/L (RTOCS02) C TOC as Sucrose and 1 mg/L (RTICN02) C TIC as Sodium Carbonate	3 x 35ml
RC120004	1mg C/L Carbon Standard Set and Verification Set consisting of 1 x RC120002 and 1 x RC120003	6 x 35ml
RC120005	5mg C/L Carbon Standard Set consisting of 1 x 40ml vial each of calibration blank (RTOCW), 5mg/L (RTOCK14) C TOC as Potassium Hydrogen Phthalate and 5 mg/L (RTCIN05) C TIC as Sodium Carbonate	3 x 35ml
RC120006	5mg C/L Carbon Verification Set consisting of 1 x 40ml vial each of calibration blank (RTOCW), 5mg/L (RTOCS04) TOC C as Sucrose and 5 mg/L (RTICN05) TIC C as Sodium Carbonate	3 x 35ml
RC120007	5mg C/L Carbon Standard and Verification Set consisting of 1 x RC120005 and 1 x RC120006	6 x 35ml

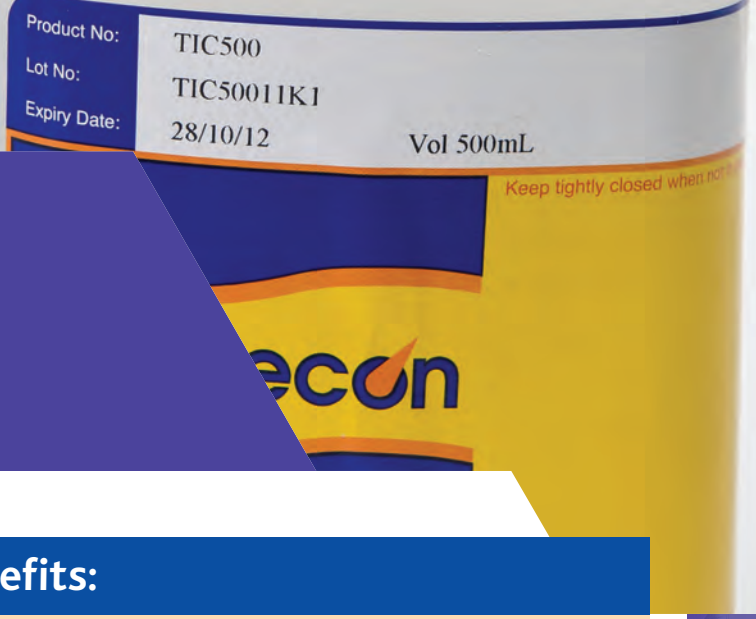
Product No.	Description	Pack Size
RC120008	0.5mg/L Carbon Verification Set consisting of 1 x 40ml vial each of calibration blank (RTOCW), 0.5mg/L (RTOCS01) TOC C as Sucrose and 0.5mg/L (RTICN01) TIC C as Sodium Carbonate	3 x 35ml
RC120009	1mg/L Carbon Standard and 0.5mg/L Carbon Verification Set Consisting of 1 x RC120002 and 1 x RC120008	6 x 35ml
RC120010	Validation Set -- Accuracy Precision (0.5mg), consisting of 1 x Reagent water (RTOCW) and 1 x 0.5mg/L C as sucrose (RTOCS01) in 40ml Vials	2 x 35ml
RC120011	Validation Set -- Linearity, consisting of 1x Reagent water blank (RTOCW) and 1 each of 0.25mg/L (RTOCS08), 0.5mg/L (RTOCS01), 0.75mg /L (RTOCS09), C as Sucrose in 40ml vials	4 x 35ml
RC120012	Validation Set -- Specificity, consisting of 1 x Reagent water (RTOCW), 1 x 0.5mg/L (RTOCM01) C as Methanol, 1 x 0.5mg/L (RTOCN02) C as Nicotinamide and 1 x 0.5mg/L (RTOCK08) C as Potassium Hydrogen Phthalate in 40ml vials	4 x 35ml
RC120013	Validation Set -- Robustness Standards, consisting of 1 x Reagent water (RTOCWa), 1 x Standard Solution (RTOCRsa), 1 x System suitability solution (RTOCRssa) in 40ml vials. All standards in the set acidified	3 x 35ml
RC120014	Validation Set -- Complete , consisting of 1xRC120010, 1xRC120011, RC120012 and RC120013	13 x 35ml
RC120015	10mg C/L Carbon Standard Set consisting of 1 x 40ml vial each of calibration blank (RTOCW), 10mg/L (RTOCK11) TOC C as Potassium Hydrogen Phthalate and 10mg/L (RTICN06) TIC C as Sodium Carbonate	3 x 35ml
RC120016	Multipoint calibration set for Sievers 5310C, consisting of 1 x calibration blank (RTOCW), 1 each of 0.25mg/L (RTOCK15), 1mg/L (RTOCK09), 5mg/L (RTOCK14), 25mg/L (RTOCK12), 50mg/L (RTOCK13) C as Potassium Hydrogen Phthalate TOC standards and 1 each of 1mg/L (RTICN02), 5mg/L (RTICN05), 10mg/L (RTICN06), 25mg/L (RTICN07), 50mg/L (RTICN08) C as Sodium Carbonate TIC standards	11 x 35ml
RC120017	2mg C/L Carbon Verification Set consisting of 1 x 40ml vial each of calibration blank (RTOCW), 2mg/L (RTOCS03) TOC C as Sucrose and 2mg/L (RTICN04) TIC C as Sodium Carbonate	3 x 35ml
RC120018	10mg C/L Carbon Verification Set consisting of 1 x 40ml vial each of calibration blank (RTOCW), 10mg/L (RTOCS05) TOC C as Sucrose and 10mg/L (RTICN06) TIC C as Sodium Carbonate	3 x 35ml
RC120019	3 point Carbon Verification Set consisting of 1 x 40ml Vial each of 1mg/L (RTOCK09), 5mg/L (RTOCK14), 10mg/L (RTOCK11) C as Potassium Hydrogen Phthalate	3 x 35ml


Reagecon

CERTIFICATE OF GRAVIMETRIC PREPARATION



TOC/TIC Standards - Quality Range



Summary of Features & Benefits:

Commercial Benefits

- Can be used with any brand of TOC analyser
- Extensive range (5ppm-5000ppm)
- Extended shelf life
- Ready to Use
- The Quality Range represents excellent value for money
- Other TOC/TIC values can be quoted for upon request
- Mixed TOC and TIC standards available as a normal part of the range

Technical Benefits

- Consistency of product - Independent, Traceable, Certified
- Certificates of Analysis and Safety Data Sheets available online
- Presented in special 500ml twin neck bottles (all values above 50ppm) - prevents product contamination, evaporation or interference
- Twin neck bottles come with a special dosing device
- All values below 50ppm are packed in specially cleaned and leached 500ml amber glass bottles

TOC Standards

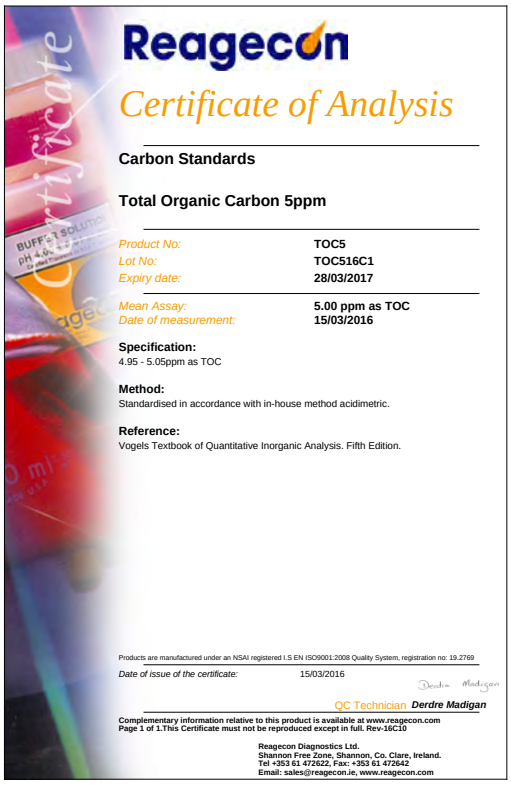
Product No.	Description	Pack Size
TOC5	Total Organic Carbon Standard 5ppm	500ml
TOC5W	Total Organic Carbon Standard 5pm	2.5L
TOC75	Total Organic Carbon Standard 7.5ppm	500ml
TOC10	Total Organic Carbon Standard 10ppm	500ml
TOC15	Total Organic Carbon Standard 15ppm	500ml
TOC20	Total Organic Carbon Standard 20ppm	500ml
TOC25	Total Organic Carbon Standard 25ppm	500ml
TOC30	Total Organic Carbon Standard 30ppm	500ml
TOC50	Total Organic Carbon Standard 50ppm	500ml
TOC50W	Total Organic Carbon Standard 50ppm	2.5L
TOC60	Total Organic Carbon Standard 60ppm	500ml
TOC100	Total Organic Carbon Standard 100ppm	500ml
TOC160	Total Organic Carbon Standard 160ppm	500ml
TOC200	Total Organic Carbon Standard 200ppm	500ml
TOC250	Total Organic Carbon Standard 250ppm	500ml
TOC500	Total Organic Carbon Standard 500ppm	500ml
TOC750	Total Organic Carbon Standard 750ppm	500ml
TOC1M	Total Organic Carbon Standard 1000ppm	500ml
TOC15M	Total Organic Carbon Standard 1500ppm	500ml
TOC2M	Total Organic Carbon Standard 2000ppm	500ml
TOC5M	Total Organic Carbon Standard 5000ppm	500ml

TIC Standards

Product No.	Description	Pack Size
TIC5	Total Inorganic Carbon Standard 5ppm	500ml
TIC50	Total Inorganic Carbon Standard 50ppm	500ml
TIC100	Total Inorganic Carbon Standard 100ppm	500ml
TIC200	Total Inorganic Carbon Standard 200ppm	500ml
TIC500	Total Inorganic Carbon Standard 500ppm	500ml
TIC1M	Total Inorganic Carbon Standard 1000ppm	500ml
TIC2M	Total Inorganic Carbon Standard 2000ppm	500ml

Mixed TOC/TIC Standards

Product No.	Description	Pack Size
TOIC10	Mixed Standard (equal conc of organic & inorganic carbon) 10ppm	500ml
TOIC100	Mixed Standard (equal conc of organic & inorganic carbon) 100ppm	500ml
TOIC1M	Mixed Standard (equal conc of organic & inorganic carbon) 1000ppm	500ml
TOIC2M	Mixed Standard (equal conc of organic & inorganic carbon) 2000ppm	500ml
TOIC308	Mixed Standard 30ppm Organic Carbon, 8ppm Inorganic Carbon	500ml
TOIC4M	Mixed Standard (equal conc of organic & inorganic carbon) 4000ppm	500ml



Reagecon

Certificate of Analysis

Carbon Standards

Total Organic Carbon 5ppm

Product No:	**TOC5**
Lot No:	**TOC516C1**
Expiry date:	**28/03/2017**
Mean Assay:	**5.00 ppm as TOC**
Date of measurement:	**15/03/2016**

Specification:
4.95 - 5.05ppm as TOC

Method:
Standardised in accordance with in-house method acidimetric.

Reference:
Vogels Textbook of Quantitative Inorganic Analysis. Fifth Edition.

Products are manufactured under an NSAI registered I.S EN ISO9001:2008 Quality System, registration no: 19.2769

Date of issue of the certificate: 15/03/2016

QC Technician *Derdre Madigan*

Complementary information relative to this product is available at www.reagecon.com
Page 1 of 1.This Certificate must not be reproduced except in full. Rev-16C10

Reagecon Diagnostics Ltd.
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Tel +353 61 472622, Fax: +353 61 472642
Email: sales@reagecon.ie, www.reagecon.com

TOC/TIC Standards - Instrument Specific

Reagecon's Premium Range of TOC/TIC Standards as detailed in the second last chapter are an independent range of standards suitable for use on the Sievers® Range of Laboratory TOC/TIC analysers (35ml vials). The Quality Range as detailed in the previous chapter is suitable for other TOC/TIC analysers available in the market place.

Reagecon offer an extensive range of new independent standards, suitable for use on other leading brands of TOC/TIC analysers for laboratory and online applications.

Although the range is not totally exhaustive it does include independent standards for Brands listed alphabetically below such as;

- Analytik Jena®
- Anatel®
- OI Analytical®
- Shimadzu®
- Sievers®
- Teledyne Tekmar®
- Thornton®

These standards are developed, validated, manufactured and tested to an extremely high specification. We believe that they offer real choice in the market place and represent exceptionally good value.

In addition to the products listed bulk sizes may be available upon request, please contact us with your request by emailing sales@reagecon.ie

Instrument Specific TOC/TIC Standards

Instrument	Product	Description	Pack Size
Analytik Jena	ISTOC1103	System Suitability Set to USP; Reagent Water, 0.5mg/L C Sucrose and 0.5mg/L C 1,4- Benzoquinone	Kit (3x40ml)
Analytik Jena	ISTOC1104	System Suitability Set to JP; Reagent Water, 0.5mg/L C Sodium Dodecylbenzene Sulfonate	Kit (2x40ml)
Analytik Jena	ISTOC1105	USP Reagent Water	40ml
Analytik Jena	ISTOC1106	JP Reagent Water	40ml
Analytik Jena	ISTOC1107	0.5mg/L C from USP Sucrose	40ml
Analytik Jena	ISTOC1108	0.5mg/L C from USP 1,4 - Benzoquinone	40ml
Analytik Jena	ISTOC1124	0.5mg/L C from Sodium Dodecylbenzene Sulfonate	40ml
Anatel A1000	ISTOC1030	Calibration Blank	1L
Anatel A1000	ISTOC1034	Calibration Standard 0.25 mg/L C NIST Sucrose	1L
Anatel A1000	ISTOC1038	Calibration Standard 0.5 mg/L C NIST Sucrose	1L
Anatel A1000	ISTOC1046	Calibration Standard 0.75 mg/L C NIST Sucrose	1L

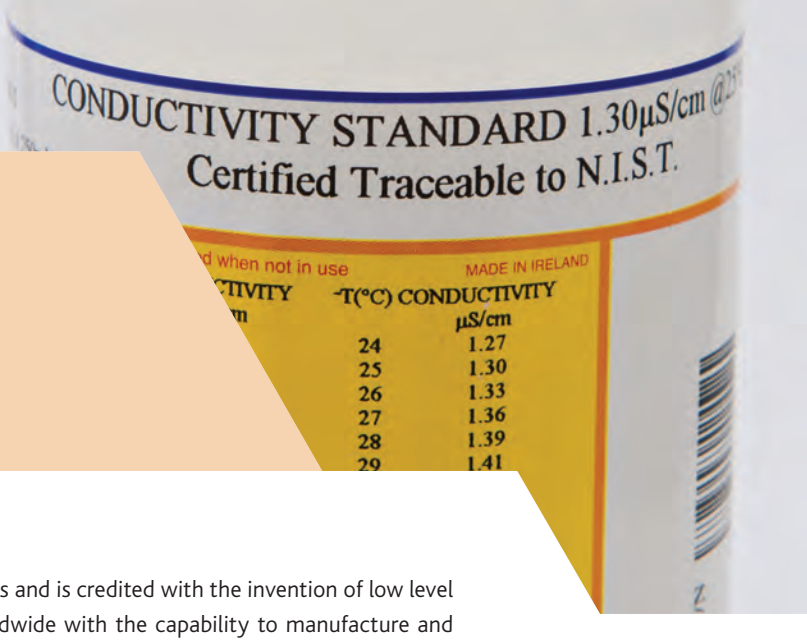
Instrument	Product	Description	Pack Size
Anatel A1000	ISTOC1165	System Suitability Set to USP; Reagent Water, 0.5mg/L C Sucrose and 0.5mg/L C 1,4- Benzoquinone	Kit (3x1L)
Anatel A643	ISTOC1016	100uS/cm Conductivity Standard for Calibration	60ml
Anatel A643	ISTOC1079	Calibration Blank	60ml
Anatel A643	ISTOC1080	System Suitability Set; 2 x Reagent Water, 0.5mg/L C USP Sucrose, 0.5mg/L C 1,4- Benzoquinone and 0.25mg/L C NIST Sucrose as Check	Kit (5x60ml)
Anatel A643	ISTOC1081	Calibration Standard 0.25 mg/L C NIST Sucrose	60ml
Anatel A643	ISTOC1082	Calibration Standard 0.5 mg/L C NIST Sucrose	60ml
Anatel A643	ISTOC1083	Calibration Standard 0.75 mg/L C NIST Sucrose	60ml
Anatel A643	ISTOC1166	Validation Set; 2 x Blanks, 0.25 mg/L C NIST Sucrose, 0.5 mg/L C NIST Sucrose and 0.75 mg/L C NIST Sucrose	Kit (5x60ml)
Anatel A643	ISTOC1169	Validation Kit; 2 x Blanks and 0.5 mg/L C NIST Sucrose	Kit (3x60ml)
Anatel PAT700	ISTOC1001	Calibration Blank	60ml
Anatel PAT700	ISTOC1002	Calibration Standard 0.25 mg/L C NIST Sucrose	60ml
Anatel PAT700	ISTOC1003	Calibration Standard 0.5 mg/L C NIST Sucrose	60ml
Anatel PAT700	ISTOC1004	Calibration Standard 0.75 mg/L C NIST Sucrose	60ml
Anatel PAT700	ISTOC1005	USP Reagent Water System Suitability Standard	60ml
Anatel PAT700	ISTOC1006	0.5mg/L C from USP Sucrose System Suitability Standard	60ml
Anatel PAT700	ISTOC1007	0.5mg/L C from USP 1,4 Benzoquinone System Suitability Standard	60ml
Anatel PAT700	ISTOC1009	USP System Suitability Set; Reagent Water, 0.5mg/L C Sucrose and 0.5mg/L C 1,4- Benzoquinone	Kit (3x60ml)
Anatel PAT700	ISTOC1015	100uS/cm Conductivity Standard for Calibration	40ml
Anatel PAT700	ISTOC1171	Validation Kit; 2 x Blanks and 0.5 mg/L C NIST Sucrose	Kit (3x60ml)
Anatel TOC600	ISTOC1014	100uS/cm Conductivity Standard for Calibration	125ml
Anatel TOC600	ISTOC1021	Calibration Blank	125ml
Anatel TOC600	ISTOC1031	Calibration Standard 0.25 mg/L C NIST Sucrose	125ml
Anatel TOC600	ISTOC1035	Calibration Standard 0.5 mg/L C NIST Sucrose	125ml
Anatel TOC600	ISTOC1039	Calibration Standard 0.75 mg/L C NIST Sucrose	125ml
Anatel TOC600	ISTOC1079	Calibration Blank	60ml
Anatel TOC600	ISTOC1081	Calibration Standard 0.25 mg/L C NIST Sucrose	60ml
Anatel TOC600	ISTOC1082	Calibration Standard 0.5 mg/L C NIST Sucrose	60ml
Anatel TOC600	ISTOC1083	Calibration Standard 0.75 mg/L C NIST Sucrose	60ml
Anatel TOC600	ISTOC1123	USP System Suitability Set; Reagent Water, 0.5mg/L C Sucrose and 0.5mg/L C 1,4- Benzoquinone	Kit (3x125ml)
Anatel TOC600	ISTOC1167	Calibration Kit; Blank, 0.25mg/L C NIST Sucrose, 0.5 mg/L C NIST Sucrose and 0.75mg/L C NIST Sucrose	Kit (3x60ml)
Anatel TOC600	ISTOC1170	Validation Kit; Blank and 0.5mg/L C NIST Sucrose	Kit (2x60ml)
Comet Analytics	ISTOC1133	Reagent Water, 0.5 mg/L C from USP Sucrose and 0.5 mg/L C USP 1,4- Benzoquinone	Kit (3x250ml)
Horiba	ISTOC1176	USP System Suitability Kit;Reagent Water, 0.5 mg/L C from USP Sucrose and 0.5 mg/L C USP 1,4- Benzoquinone	Kit (3x1L)
Horiba	ISTOC1200	USP Reagent Water	1L

Instrument	Product	Description	Pack Size
Horiba	ISTOC1201	0.5mg/L C from USP Sucrose	1L
Horiba	ISTOC1202	0.5mg/L C from USP 1,4 - Benzoquinone	1L
Lighthouse	ISTOC1160	USP System Suitability Kit; 2 x Reagent Water, 0.5mg/L C Sucrose and 0.5mg/L C 1,4- Benzoquinone	Kit (3x60ml)
Lighthouse	ISTOC1166	Validation Set; 2 x Blanks, 0.25 mg/L C NIST Sucrose, 0.5 mg/L C NIST Sucrose and 0.75 mg/L C NIST Sucrose	Kit (5x60ml)
Membrapure	ISTOC1177	USP System Suitability Kit;Reagent Water, 0.5 mg/L C from USP Sucrose and 0.5 mg/L C USP 1,4- Benzoquinone	Kit (3x500ml)
Membrapure	RTOCW500	TOC Standard USP Reagent Water Rw	500ml
Membrapure	RTOCRS500	TOC Standard USP Standard Sucrose Solution Rs (0.5mg/L C)	500ml
Membrapure	RTOCRSS500	TOC Standard USP System Suitability Solution 1 4-Benzoquinone (0.5mg/L C)	500ml
Membrapure	ISTOC1178	Membrapure USP Calibration Kit; Reagent water, 1.0 mg/L C USP Sucrose	Kit (2x500ml)
Membrapure	RTOCRS1	TOC Standard USP Standard Sucrose Solution (1.0 mg/L C)	500ml
OI Analytical	ISTOC1018	TOC/TIC Calibration Blank	40ml
OI Analytical	ISTOC1059	Calibration Standard 0.5mg/L C NIST KHP	40ml
OI Analytical	ISTOC1065	Calibration Standard 1mg/L C NIST KHP	40ml
OI Analytical	ISTOC1070	Calibration Standard 5mg/L C NIST KHP	40ml
OI Analytical	ISTOC1072	Calibration Standard 10mg/L C NIST KHP	40ml
OI Analytical	ISTOC1074	Calibration Standard 25mg/L C NIST KHP	40ml
OI Analytical	ISTOC1076	Calibration Standard 50mg/L C NIST KHP	40ml
OI Analytical	ISTOC1104	System Suitability Set to JP; Reagent Water and 0.5mg/L C from Sodium Dodecylbenzene Sulfonate	Kit (2x40ml)
OI Analytical	ISTOC1106	JP Water	40ml
OI Analytical	ISTOC1110	USP Reagent Water	40ml
OI Analytical	ISTOC1111	0.5mg/L C from USP Sucrose	40ml
OI Analytical	ISTOC1112	0.5mg/L C from USP 1,4 - Benzoquinone	40ml
Shimazdu	ISTOC1018	Individual TOC/TIC Calibration Blank	40ml
Shimazdu	ISTOC1041	Validation Kit for TOC contains a blank and 2 x 100mg/L C NIST KHP	Kit (3x125ml)
Shimazdu	ISTOC1042	Validation Kit for TOC contains a blank and 2 x 10mg/L C NIST KHP	Kit (3x125ml)
Shimazdu	ISTOC1043	Validation Kit for Wet Chemistry TOC contains 3 x blanks, 2 x 0.5 mg/L C NIST KHP and 1mg/L C NIST KHP	Kit (6x40ml)
Shimazdu	ISTOC1044	Calibration Kit; 2 x blanks, 2 x 0.1 mg/L C NIST KHP, 2 X 0.25 mg/L C NIST KHP, 2 X 0.5 mg/L C NIST KHP, 0.75mg/L C NIST KHP and 1mg/L C NIST KHP	Kit (10x40ml)
Shimazdu	ISTOC1054	Calibration Standard 0.1mg/L C NIST KHP	40ml
Shimazdu	ISTOC1055	Calibration Standard 0.25mg/L C NIST KHP	40ml
Shimazdu	ISTOC1059	Calibration Standard 0.5mg/L C NIST KHP	40ml
Shimazdu	ISTOC1064	Calibration Standard 0.75mg/L C NIST KHP	40ml
Shimazdu	ISTOC1065	Calibration Standard 1mg/L C NIST KHP	40ml

Instrument	Product	Description	Pack Size
Shimazdu	ISTOC1070	Calibration Standard 5mg/L C NIST KHP	40ml
Shimazdu	ISTOC1072	Calibration Standard 10mg/L C NIST KHP	40ml
Shimazdu	ISTOC1074	Calibration Standard 25mg/L C NIST KHP	40ml
Shimazdu	ISTOC1076	Calibration Standard 50mg/L C NIST KHP	40ml
Shimazdu	ISTOC1104	System Suitability Set to JP; Reagent Water and 0.5mg/L C from Sodium Dodecylbenzene Sulfonate	Kit (2x40ml)
Shimazdu	ISTOC1106	JP Reagent Water	40ml
Shimazdu	ISTOC1110	USP Reagent Water	40ml
Shimazdu	ISTOC1111	0.5mg/L C from USP Sucrose	40ml
Shimazdu	ISTOC1112	0.5mg/L C from USP 1,4 - Benzoquinone	40ml
Shimazdu	ISTOC1118	USP Reagent Water	125ml
Shimazdu	ISTOC1120	0.5mg/L C from USP Sucrose	125ml
Shimazdu	ISTOC1121	0.5mg/L C from USP 1,4 - Benzoquinone	125ml
Shimazdu	ISTOC1125	USP Reagent Water	250ml
Shimazdu	ISTOC1126	0.5mg/L C from USP Sucrose	250ml
Shimazdu	ISTOC1127	0.5mg/L C from USP 1,4 - Benzoquinone	250ml
Shimazdu	ISTOC1128	USP System Suitability Set; Reagent Water, 0.5mg/L C Sucrose and 0.5mg/L C 1,4- Benzoquinone	Kit (3x250ml)
Shimazdu	ISTOC1139	USP System Suitability Set; Reagent Water, 0.5mg/L C Sucrose and 0.5mg/L C 1,4- Benzoquinone	Kit (3x500ml)
Shimazdu	ISTOC1140	USP Reagent Water	500ml
Shimazdu	ISTOC1141	0.5mg/L C from USP Sucrose	500ml
Shimazdu	ISTOC1142	0.5mg/L C from USP 1,4 - Benzoquinone	500ml
Shimazdu	ISTOC1153	USP System Suitability Set; Reagent Water, 0.5mg/L C Sucrose and 0.5mg/L C 1,4- Benzoquinone	Kit (3x1L)
Shimazdu	ISTOC1154	USP Reagent Water	1L
Shimazdu	ISTOC1155	0.5mg/L C from USP Sucrose	1L
Shimazdu	ISTOC1156	0.5mg/L C from USP 1,4 - Benzoquinone	1L
Swan Analytical	ISTOC1133	Reagent Water, 0.5 mg/L C from USP Sucrose and 0.5 mg/L C USP 1,4- Benzoquinone	Kit (3x250ml)
Swan Analytical	ISTOC1186	Swan AMI LineTOC 0.5 mg/L C USP 1,4- Benzoquinone	125ml
Swan Analytical	ISTOC1185	Swan AMI LineTOC 0.5 mg/L C USP Sucrose	125ml
Swan Analytical	ISTOC1188	Swan AMI LineTOC 20 mg/L C USP 1,4- Benzoquinone	125ml
Swan Analytical	ISTOC1187	Swan AMI LineTOC 20 mg/L C USP Sucrose	125ml
Swan Analytical	ISTOC1182	Swan AMI LineTOC Calibration Standard 1 mg/L C Sucrose	250ml
Swan Analytical	ISTOC1181	Swan AMI LineTOC FT Kit; TOC Standard 20 mg/L C as Sucrose, 20 mg/L C as 1,4- Benzoquinone	Kit (2x125ml)
Swan Analytical	ISTOC1179	Swan AMI LineTOC USP Calibration Kit; Reagent Water, 1.0 mg/L C USP Sucrose	Kit (2x250ml)
Swan Analytical	ISTOC1183	Swan AMI LineTOC USP Reagent Water	250ml
Swan Analytical	ISTOC1184	Swan AMI LineTOC USP Reagent Water	125ml
Swan Analytical	ISTOC1180	Swan AMI LineTOC USP SST Kit; Reagent Water, 0.5 mg/L C USP Sucrose, 0.5 mg/L C USP 1,4 -Benzoquinone	Kit (3x125ml)

Instrument	Product	Description	Pack Size
Swan Analytical	ISTOC1195	Swan AMI LineTOC 0.5 mg/L C USP 1,4- Benzoquinone	250ml
Swan Analytical	ISTOC1196	Swan AMI LineTOC 0.5 mg/L C USP Sucrose	250ml
Teledyne Tekmar	ISTOC1018	Individual TOC/TIC Calibration Blank	40ml
Teledyne Tekmar	ISTOC1020	Individual TOC/TIC Calibration Blank	125ml
Teledyne Tekmar	ISTOC1059	Calibration Standard 0.5mg/L C NIST KHP	40ml
Teledyne Tekmar	ISTOC1061	Calibration Standard 0.5mg/L C NIST KHP	125ml
Teledyne Tekmar	ISTOC1065	Calibration Standard 1mg/L C NIST KHP	40ml
Teledyne Tekmar	ISTOC1067	Calibration Standard 1mg/L C NIST KHP	125ml
Teledyne Tekmar	ISTOC1070	Calibration Standard 5mg/L C NIST KHP	40ml
Teledyne Tekmar	ISTOC1071	Calibration Standard 5mg/L C NIST KHP	125ml
Teledyne Tekmar	ISTOC1072	Calibration Standard 10mg/L C NIST KHP	40ml
Teledyne Tekmar	ISTOC1073	Calibration Standard 10mg/L C NIST KHP	125ml
Teledyne Tekmar	ISTOC1074	Calibration Standard 25mg/L C NIST KHP	40ml
Teledyne Tekmar	ISTOC1075	Calibration Standard 25mg/L C NIST KHP	125ml
Teledyne Tekmar	ISTOC1076	Calibration Standard 50mg/L C NIST KHP	40ml
Teledyne Tekmar	ISTOC1077	Calibration Standard 50mg/L C NIST KHP	125ml
Teledyne Tekmar	ISTOC1088	Ultra Low-Level TOC Kit; 3 x TOC Water Blanks, 9 TOC Standards (0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.25, 0.5 and 1mg/L C) from NIST KHP	Kit (12x40ml)
Teledyne Tekmar	ISTOC1104	System Suitability Set to JP; Reagent Water and 0.5mg/L C from Sodium Dodecylbenzene Sulfonate	Kit (2x40ml)
Teledyne Tekmar	ISTOC1106	JP Reagent Water	40ml
Teledyne Tekmar	ISTOC1110	USP Reagent Water	40ml
Teledyne Tekmar	ISTOC1111	0.5mg/L C from USP Sucrose	40ml
Teledyne Tekmar	ISTOC1112	0.5mg/L C from USP 1,4 - Benzoquinone	40ml
Teledyne Tekmar	ISTOC1113	USP System Suitability Kit;Reagent Water, 0.5 mg/L C from USP Sucrose and 0.5 mg/L C USP 1,4- Benzoquinone	Kit (3x125ml)
Teledyne Tekmar	ISTOC1118	USP Reagent Water	125ml
Teledyne Tekmar	ISTOC1120	0.5mg/L C from USP Sucrose	125ml
Teledyne Tekmar	ISTOC1121	0.5mg/L C from USP 1,4 - Benzoquinone	125ml
Thronton 5000	ISTOC1047	Calibration Blank	500ml
Thronton 5000	ISTOC1048	Calibration Standard 0.25 mg/L C NIST Sucrose	500ml
Thronton 5000	ISTOC1049	Calibration Standard 0.5 mg/L C NIST Sucrose	500ml
Thronton 5000	ISTOC1050	Calibration Kit; 2 x Calibration Blanks, 0.25 mg/L C Sucrose and 0.5 mg/L C Sucrose	Kit (4x500ml)
Thronton 5000	ISOTC1053	Calibration Standard 1.25 mg/L C NIST Sucrose	500ml
Thronton 5000	ISTOC1144	USP Reagent Water	500ml
Thronton 5000	ISTOC1145	0.5mg/L C from USP Sucrose	500ml
Thronton 5000	ISTOC1146	0.5mg/L C from USP 1,4 - Benzoquinone	500ml
Thronton 5000	ISTOC1148	USP System Suitability Kit;Reagent Water, 0.5 mg/L C from USP Sucrose and 0.5 mg/L C USP 1,4- Benzoquinone	Kit (3x500ml)

Conductivity Standards



Introduction

Reagecon is the world's largest producer of conductivity standards and is credited with the invention of low level aqueous standards. The company is still the only producer worldwide with the capability to manufacture and stabilise these products at such low levels of conductivity. This low range of standards includes 1.3µS ±0.5µS - the lowest aqueous conductivity standard available worldwide. The following summary details the principle features and benefits of this exciting range of products.

Extensive range of values

Reagecon offer over 45 different values of Conductivity and Total Dissolved Solids (TDS) standards, ranging from as low as 1.3µS/cm to as high as 500,000µS/cm. Customised or bespoke values can be manufactured on demand.

Matrix Matched

The matrix of a solution is defined as "the components of the sample other than the analyte". In all analytical measurements, it is of utmost importance that the matrix of the standard and the sample are the same. As conductivity measurement is, in the main, a water quality measurement, the standard used should also have an aqueous matrix. Reagecon's conductivity standards are all aqueous based, thereby eliminating any errors attributable to matrix mismatch.

Non-Hazardous

As Reagecon's conductivity standards are aqueous, they are non-hazardous. They offer the following benefits over solvent-based conductivity standards

- Ease and cost of shipping, without the need to provide hazardous goods' paperwork
- Reduced Health & Safety requirements for storage and use
- Ease and cost of disposal - solvent-based conductivity standards require expensive, specialised disposal to comply with environmental regulations.

Guaranteed Stability

As a result of the extensive R&D that led to our innovative manufacturing process, Reagecon can guarantee the stability of their complete range of conductivity standards over their entire shelf life. The stability offered by Reagecon's conductivity standards varies from that of their competitors in one vital area. We can guarantee that our conductivity standards will remain within specification, (up to their expiry date), right through their working life, regardless of when the bottle was first opened provided Good Laboratory Practise is adhered to. This eliminates the need to open a fresh bottle of standard every time the product is used. (The 1.30µS/cm conductivity standard is packaged in single-dose bottles and each bottle when opened can only be used once.) The shelf life of the products from their date of manufacture are given below.

Conductivity Value (µS/cm)	Shelf Life
1.3 & 3	3 months
5 & 10	6 months
20 - 147	12 months
200 - 500,000	18 months

Accuracy

All standards have a specification of ± 1%, except 1.30µS/cm, which has a specification of 1.25 - 1.35µS/cm. This high level of accuracy enables the standards to be used as calibrators and/or controls in fulfilment of the most exacting industrial statutory requirements, for example the United States Pharmacopoeia monograph for Water for Injection.

Accreditation

Reagecon's conductivity measurement has been covered in the scope of our accreditation to ISO 17025 "General Requirements for the competence of Calibration and Testing Laboratories" and its predecessor, EN 45001, since 1990. ISO/IEC 17025 (INAB Ref. 264T). Achieving accreditation involves fulfilling many highly technical criteria, including fully validating our test methods and instrumentation systems and characterising our measurement uncertainty. Reagecon's accreditation proves the technical competence of our personnel, the technical validity of our test procedures and the traceability of our measurements. Therefore, in purchasing a conductivity standard from us, not only do you have transparent traceability to primary standards, but you also have confidence that our standards are of a well-defined and tightly controlled specification.

All values are Certified & Traceable

Comprehensive Certificates of Analysis are available for all of Reagecon's conductivity standards, including detailed information on:

- Product Number
- Lot Number
- Expiry Date
- Mean specific conductance
- Date of Measurement
- Assay Limits
- Test Method Used
- Uncertainty of Measurement and Traceability Data

The complete range is traceable to primary standards from the United States National Institute for Standards and Technology (NIST). The traceability of these standards is proven by the inclusion of conductivity testing in our ISO 17025 accreditation. It is a fundamental requirement of ISO 17025 that traceability is proven.

Characterised Temperature Coefficient of Variation

Reagecon's standards are aqueous based and consequently have a very low temperature coefficient of variation. A table of conductivity variation with temperature is printed on the label of each bottle. This feature provides the user with all the information necessary to use the products across the full range of measurement temperatures encountered for their application. Non-aqueous standards have a very high coefficient of variation which leads to measurement error and renders the products totally unsuitable for non-temperature controlled conditions, or field work.

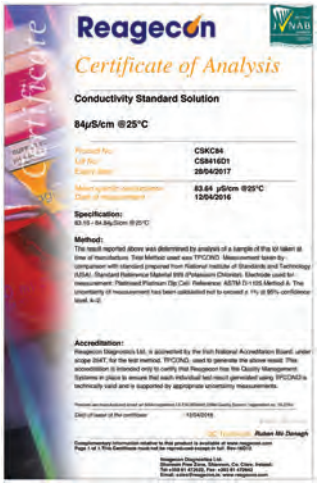
Unparalleled Technical Support

We have been manufacturing conductivity standards for over 20 years. In that time, we have built up a vast resource of technical expertise on all aspects of conductivity measurement. The members of Reagecon's Technical Services Department have written a comprehensive series of papers covering all of the practical requirements for accurate conductivity measurement.

These papers and the Reagecon book, "A Practical Guide to Accurate Conductivity Measurement" are available via our website - www.reagecon.com Our Technical Services team is always on hand to answer any questions regarding the selection and use of conductivity instruments, sensors and standards.

Conductivity Standards

Product No.	Description	Pack Size
CSKC13	1.30 µS/cm @25°C	250ml
CSKC136	1.30 µS/cm @25°C	6 x 250ml
CSKC5	5 µS/cm @25°C	500ml
CSKC1025	10 µS/cm @25°C	250ml
CSKC10256	10 µS/cm @25°C	6 x 250ml
CSKC10	10 µS/cm @25°C	500ml
CSKC10-10L	10 µS/cm @25°C	10L
CSKC1325	13.25 µS/cm @25°C	500ml
CSKC13.4	13.4 µS/cm @25°C	500ml
CSKC15-250ml	15 µS/cm @25°C	250ml
CSKC15	15 µS/cm @25°C	500ml
CSKC20	20 µS/cm @25°C	500ml
CSKC238	23.8 µS/cm @25°C	500ml
CSKC238-1L	23.8 µS/cm @25°C	1L
CSKC238-5L	23.8 µS/cm @25°C	5L
CSKC25-250ml	25 µS/cm @25°C	250ml
CSKC25	25 µS/cm @25°C	500ml
CSKC50	50 µS/cm @25°C	500ml
CSKC8425	84 µS/cm @25°C	250ml
CSKC84	84 µS/cm @25°C	500ml
CSKC84-5L	84 µS/cm @25°C	5L
CSKC84-25L	84 µS/cm @25°C	25L
CSKC100	100 µS/cm @25°C	500ml
CSKC100-5L	100 µS/cm @25°C	5L
CSKCS-250ml	147 µS/cm @25°C	250ml
CSKCS	147 µS/cm @25°C	500ml
CSKCS-10L	147 µS/cm @25°C	10L
CSKC150	150 µS/cm @25°C	500ml
CSKC185	185 µS/cm @25°C	500ml
CSKC200	200 µS/cm @25°C	500ml
CSKC200-5L	200 µS/cm @25°C	5L
CSKC250	250 µS/cm @25°C	500ml
CSKC300	300 µS/cm @25°C	500ml
CSKC300-5L	300 µS/cm @25°C	5L
CSKC400	400 µS/cm @25°C	500ml
CSKC400-5L	400 µS/cm @25°C	5L
CSKC50025	500 µS/cm @25°C	250ml
CSKC500256	500 µS/cm @25°C	6 x 250ml
CSKC500	500 µS/cm @25°C	500ml
CSKC500-5L	500 µS/cm @25°C	5L


Reagecon

Certificate of Analysis

Conductivity Standard Solution

84µS/cm @25°C

Product No.	Description	Pack Size
CSKC600-5L	600 µS/cm @25°C	5L
CSKC718	718 µS/cm @25°C	500ml
CSKC1000	1,000 µS/cm @25°C	500ml
CSKC1000-10L	1,000 µS/cm @25°C	10L
CSKCL-50ml	1,413 µS/cm @25°C	50ml
CSKCL01	1,413 µS/cm @25°C	100ml
CSKCL-250ml	1,413 µS/cm @25°C	250ml
CSKCL	1,413 µS/cm @25°C	500ml
CSKCL1	1,413 µS/cm @25°C	1L
CSKCL-5L	1,413 µS/cm @25°C	5L
CSKCL-10L	1,413 µS/cm @25°C	10L
CSKC2M	2,000 µS/cm @25°C	500ml
CSKC2M-10L	2,000 µS/cm @25°C	10L
CSKC2500	2,500 µS/cm @25°C	500ml
CSKC2500-10L	2,500 µS/cm @25°C	10L
CSKC3M	3,000 µS/cm @25°C	500ml
CSKC3M-10L	3,000 µS/cm @25°C	10L
CSKC5M	5,000 µS/cm @25°C	500ml
CSKC5M-10L	5,000 µS/cm @25°C	10L
CSKC7M	7,000 µS/cm @25°C	500ml
CSKC7M - 5L	7,000 µS/cm @25°C	5L
CSKC10M	10,000 µS/cm @25°C	500ml
CSKC10M-10L	10,000 µS/cm @25°C	10L
CSKC12880-50ML	12,880 µS/cm @25°C	50ml
CSKC12880	12,880 µS/cm @25°C	500ml
CSKC12880-1L	12,880 µS/cm @25°C	1L
CSKC12880-10L	12,880 µS/cm @25°C	10L
CSKC1325M	13,250 µS/cm @25°C	500ml
CSKC13400	13,400 µS/cm @25°C	500ml
CSKC15M	15,000 µS/cm @25°C	500ml
CSKC20M	20,000 µS/cm @25°C	500ml
CSKC20M-10L	20,000 µS/cm @25°C	10L
CSKC30M	30,000 µS/cm @25°C	500ml
CSKC30M-10L	30,000 µS/cm @25°C	10L
CSKC35M	35,000 µS/cm @25°C	500ml
CSKC40M	40,000 µS/cm @25°C	500ml
CSKC50M	50,000 µS/cm @25°C	500ml
CSKC50M-10L	50,000 µS/cm @25°C	10L
CSKC58700	58,700 µS/cm @25°C	500ml
CSKC60M	60,000 µS/cm @25°C	500ml
CSKC80M	80,000 µS/cm @25°C	500ml
CSKC80M-10L	80,000 µS/cm @25°C	10L

Product No.	Description	Pack Size
CSKC84M	84,000 µS/cm @25°C	500ml
CSKC100M	100,000 µS/cm @25°C	500ml
CSKC100M-10L	100,000 µS/cm @25°C	10L
CSKC111800	111,800 µS/cm @25°C	500ml
CSKC150M	150,000 µS/cm @25°C	500ml
CSKC150M-10L	150,000 µS/cm @25°C	10L
CSKC200M	200,000 µS/cm @25°C	500ml
CSKC200M-5L	200,000 µS/cm @25°C	5L
CSKC200M-10L	200,000 µS/cm @25°C	10L
CSKC300M	300,000 µS/cm @25°C	500ml
CSKC300M-10L	300,000 µS/cm @25°C	10L
CSKC350M	350,000 µS/cm @25°C	500ml
CSKC350M-10L	350,000 µS/cm @25°C	10L
CSKC400M	400,000 µS/cm @25°C	500ml
CSKC450M	450,000 µS/cm @25°C	500ml
CSKC450M-10L	450,000 µS/cm @25°C	10L
CSKC500M	500,000 µS/cm @25°C	500ml
CSKC500M-10L	500,000 µS/cm @25°C	10L

Non Accredited Values Available

Product No.	Description	Pack Size
CSKC2	2 µS/cm @25°C	250ml
CSKC3	3 µS/cm @25°C	250ml

* Other Values Available upon Request

TDS Standard

Product No.	Description	Pack Size
CS1382-50ml	1382 ppm NaCl @25°C	50ml
CS1382	1382 ppm NaCl @25°C	500ml

pH Buffer Solutions

Guaranteed Traceability

Reagecon's pH buffer standards are directly traceable to the IUPAC pH scale by an unbroken chain of traceability. Reagecon achieve this traceability through a series of comparisons, with the key reference materials being Standard Reference Materials (SRMs) manufactured by NIST.

For proof of traceability, all of these comparisons must be made in a technically - valid manner and the accuracy of each step must be quantified by calculating the associated Uncertainty of Measurement. Reagecon's pH buffer standards meet the ISO definition of traceability: "The ability to relate measurements back to a stated reference (usually an international standard) through an unbroken chain of comparisons, each having stated uncertainties of measurement." Reagecon's traceability claims are guaranteed by our accreditation to ISO/IEC 17025.

Why use traceable pH buffers?

Your pH measurements can only be as good as the pH buffers that you use. If your pH calibration is made using traceable pH buffers then you have a direct link to the International pH scale for your measurements. Without this link, you are not entitled to report your measurements in pH units so the number displayed on your pH meter is just that - a number and is not a pH value. The common link that is achieved by traceability allows comparability of results regardless of:

- When the measurements were made
- Where the measurements were made
- What instrumentation was used to make the measurements

Traceable analysis is necessary for consistency and universal acceptance of your pH results - including acceptance by regulatory bodies.

Fully Accredited

Reagecon's pH analysis is accredited to ISO/IEC 17025 (INAB Ref:264T) "General requirements for the competence of testing and calibration laboratories". Reagecon's accreditation to ISO/IEC 17025 gives independent proof of three key areas:

- Our pH analysis is technically valid and is carried out in a thoroughly controlled manner by highly - qualified staff.
- Our claims over the accuracy of our pH analysis are valid and we have properly quantified our accuracy in our Uncertainty of Measurement calculations.
- Our pH analysis is traceable to NIST SRMs. It is important to note that NIST do not police claims of traceability to their SRMs. Any manufacturer of pH buffers can claim that their buffers are traceable to NIST, but only manufacturers that are accredited to ISO/IEC 17025 have independent proof of their traceability.

Reagecon's accreditation is indicated by the Irish National Accreditation Board (INAB) logo on our Certificates of Analysis for pH Buffers. Accreditation by INAB and all other accreditation boards validated to accredit ISO/IEC 17025 are mutually recognised as being directly equivalent.

Why take chances with your pH buffer supplier's traceability? By using buffers from a manufacturer that holds ISO/IEC 17025 accreditation you have a guarantee of traceability.

Stability

Reagecon's pH buffers have been specially formulated to ensure their stability. The packaging bottles that we use have also been selected and tested to provide maximum stability. We have conducted stability trials on both freshly-opened and part-full bottles of our pH buffers to validate their shelf-life - an example is given in Figure 2. This demonstrates that Reagecon's pH buffers will stay within their specification limits up to the stated expiry date regardless of when the bottle was first opened (provided that the pH buffer is stored in accordance with good laboratory practice). Most of Reagecon's pH buffers have an expiry date of either 2 years or 3 years from the date of manufacture.

This means that our pH buffers' expiry dates are an absolute value and they have a long "Active Life". We do not quote a short usage period after opening the bottle and there is no need to record by hand an "Opened on date" and a "Use by date". With Reagecon's pH buffers you just open the bottle and use the contents - with other manufacturers' pH buffers you need to record these extra dates and may need to dispose of most of the contents of the bottle at the end of its short "Active Life".

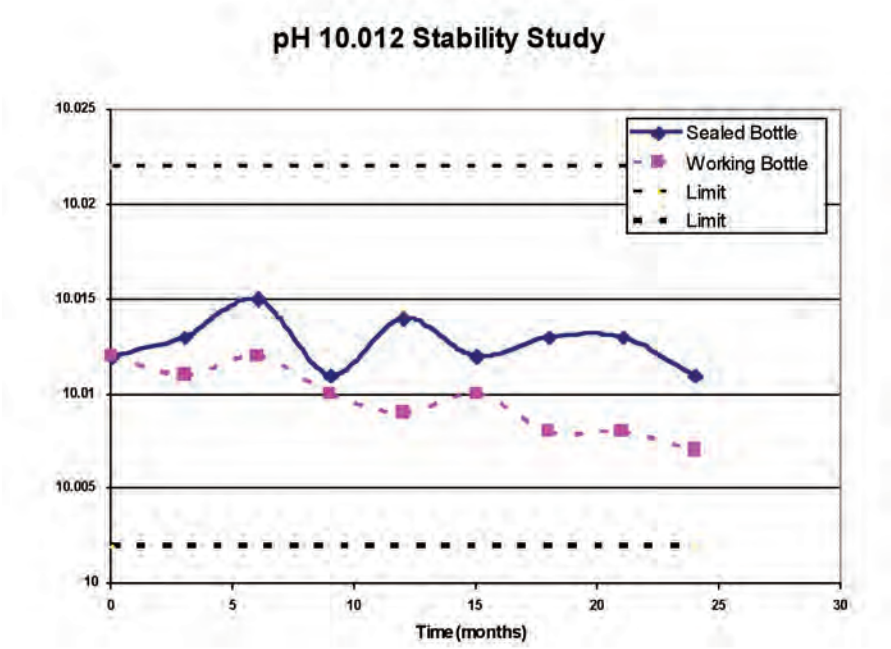


Figure 2: Stability Data for Reagecon pH 10.012 @ 25°C

Packaging Options

Besides regular bottles, Reagecon offer pH buffers in a wide variety of convenient packaging options:

- **Twin-neck bottles.** These bottles are ideal for use with portable pH meters. Their integral calibration chamber prevents contamination and removes the need to carry a separate measuring container or to decant buffers for use in the field
- **Bag-in-Box containers.** This packaging consists of a cardboard box with a collapsible plastic liner. This offers a space-saving alternative to bottles and reduces the amount of packaging waste for disposal. Every Bag-in-Box container is supplied with a tap to allow the contents to be easily dispensed.
- **Capsules.** The presentation of pH buffers in capsule format is an innovative concept developed by Reagecon, and offers several advantages
- **RECAL Buffers.** RECAL is a range of pH Buffers in a wide mouth disposable container which can be used for direct calibration of the electrode and then discarded on completion.

Extensive Range of pH values

Reagecon manufacture the most comprehensive range of pH reagents in the world; these are designed to suit all end user requirements. These include laboratory grade buffers, the Professional Range (buffer standards as per N.I.S.T/DIN and high resolution buffers), low ionic strength buffers and pH buffer capsules. We are delighted to add several new offerings that include buffers to calibrate Antimony electrodes, Sterile Buffers and colour coded pH buffers with a three decimal place specification. All are manufactured to exacting specifications with an extended shelf life and cover the pH range of pH 1.00 to pH 13.00 inclusive. All are supplied with a detailed Certificate of Analysis which outlines traceability to N.I.S.T (the N.I.S.T SRM(s) Lot No. is stated on the certificate). Temperature dependence data is printed on the label as are lot numbers and expiry dates.

Calibration Buffers

Reagecon pH Buffers are pre-programmed into the instruments of most major manufacturers.

Control Buffers

For increased confidence in their test measurements, analysts should regularly measure the pH of a Control Standard. If an acceptable value is obtained from the Control Standard measurement then the analysts, can have improved confidence that their test measurements will be correct. Reagecon's extensive range of pH buffers means that there will be a Reagecon pH buffer which can be used as a control buffer for all pH applications.

pH Buffers @ 20˚C

Clear, Colourless pH Buffer Solutions. Tested at 20°C and certified by Reagecon's ISO 17025 Accredited Test Method. NIST traceable and presented in various pack sizes.

Description	Product No. 500ml	Product No. 1L	Product No. 5L
pH 1.00 ± 0.02 @20°C	10105	1010	5010
pH 1.20 ± 0.02 @20°C	10125	1012	5012
pH 2.00 ± 0.02 @20°C	10205	1020	5020
pH 3.00 ± 0.02 @20°C	10305	1030	5030
pH 4.00 ± 0.01 @20°C	10405	1040	5040
pH 4.00 ± 0.01 @20°C (Phthalate Free)	CC10405	CC1040	CC5040
pH 5.00 ± 0.01 @20°C	10505	1050	5050
pH 6.00 ± 0.01 @20°C	10605	1060	5060
pH 6.80 ± 0.01 @20°C	10685	1068	5068
pH 7.00 ± 0.01 @20°C	10705	1070	5070
pH 8.00 ± 0.01 @20°C	10805	1080	5080
pH 9.00 ± 0.01 @20°C	10905	1090	5090
pH 9.20 ± 0.01 @20°C	10925	10920	50920
pH 9.22 ± 0.01 @20°C	109220	10922	50922
pH 10.00 ± 0.01 @20°C	11005	1100	5100
pH 11.00 ± 0.05 @20°C	11105	1110	5110
pH 12.00 ± 0.05 @20°C	11205	1120	5120
pH 13.00 ± 0.05 @20°C	11305	1130	5130

pH Buffers @ 25˚C

Clear, Colourless pH Buffer Solutions. Tested at 25°C and certified by Reagecon's ISO 17025 Accredited Test Method. NIST traceable and presented in various pack sizes.

Description	Product No. 500ml	Product No. 1L	Product No. 5L
pH 1.00 ± 0.02 @25°C	1010525	101025	501025
pH 1.68 ± 0.02@25°C	10168	1016825	5016825
pH 2.00 ± 0.02 @25°C	1020525	102025	502025
pH 2.00 ± 0.02@25°C (Mercury Free)	1020255MF	102025MF	502025MF
pH 3.00 ± 0.02 @25°C	1030525	103025	503025
pH 4.00 ± 0.01 @25°C	1040525	104025	504025
pH 4.00 ± 0.01 @25°C (Phthalate Free)	CC1040525	CC104025	CC504025
pH 5.00 ± 0.01 @25°C	1050525	105025	505025
pH 5.00 ± 0.01 @25°C (Mercury Free)	1050525MF	105025MF	505025MF
pH 6.00 ± 0.01 @25°C	1060525	106025	506025
pH 6.00 ± 0.01 @25°C (Mercury Free)	1060525MF	106025MF	506025MF
pH 6.80 ± 0.01 @25°C	1068525	106825	506825
pH 7.00 ± 0.01 @25°C (Mercury Free)	1070525MF	107025MF	507025MF
pH 7.00 ± 0.01 @25°C	1070525	107025	507025
pH 8.00 ± 0.01 @25°C	1080525	108025	508025
pH 8.00 ± 0.01 @25°C (Mercury Free)	1080525MF	108025MF	5080525MF
pH 9.00 ± 0.01 @25°C	1090525	109025	509025
pH 9.40 ± 0.01 @25°C	1094025	10940251	5094025
pH 10.00 ± 0.01 @25°C	1100525	110025	510025
pH 11.00 ± 0.05 @25°C	1110525	111025	511025
pH 12.00 ± 0.05 @25°C	1120525	112025	512025
pH 13.00 ± 0.05 @25°C	1130525	113025	513025

Colour Coded Buffers @ 20˚C

Coloured pH Buffer Solutions. Tested at 20°C and certified by Reagecon's ISO 17025 Accredited Test Method. NIST traceable and presented in various pack sizes.

Description	Product No. 30ml	Product No. 100ml	Product No. 250ml	Product No. 500ml	Product No. 1L	Product No. 5L
pH 4.00 ± 0.01 @20°C (Red)	1040C030	1040C100	10402C	10405C	1040C	5040C
pH 7.00 ± 0.01 @20°C (Yellow)	1070C030	1070C100	10702C	10705C	1070C	5070C
pH 9.00 ± 0.01 @ 20°C (Blue)	1090C030	1090C100	10902C	10905C	1090C	5090C
pH 10.00 ± 0.01 @20°C (Blue)	1100C030	1100C100	11002C	11005C	1100C	5100C

Colour Coded Buffers @ 25°C

Coloured pH Buffer Solutions. Tested at 25°C and certified by Reagecon's ISO 17025 Accredited Test Method. NIST traceable and presented in various pack sizes.

Description	Product No. 500ml	Product No. 1L	Product No. 5L
pH 4.00 ± 0.01 @25°C (Red)	1040525C	104025C	504025C
pH 4.00 ± 0.01@ 25°C (Red) (Mercury Free)	1040525CMF	104025CMF	504025CMF
pH 7.00 ± 0.01 @25°C (Yellow)	1070525C	107025C	507025C
pH 7.00 ± 0.01@25°C (Yellow)(Mercury Free)	1070525CMF	107025CMF	507025CMF
pH 10.00 ± 0.01 @25°C (Blue)	1100525C	110025C	510025C
pH 10.00 ± 0.01@ 25°C (Blue) (Mercury Free)	1100255CMF	110025CMF	510025CMF

Twin Neck Bottle Format

pH Buffers are available in an attractive and innovative twin neck bottle.

The main advantages of this packaging are:

- No possibility of contamination
- No need for separate measuring container for use in the calibration of the Electrode
- Correct quantity of buffer required for calibration is dispensed
- into the calibrating chamber giving rise to no waste
- Ideally suited for field work
- Easy to carry
- 250ml, 500ml and 1L sizes available

Twin Neck Bottle Format @ 20°C

Coloured pH Buffer solutions in Twin-neck containers with integrated calibrating chamber. Tested at 20°C and certified by Reagecon's ISO/IEC 17025 Accredited Test Method. NIST traceable and presented in various pack sizes.

Description	Product No. 250ml	Product No. 500ml	Product No. 1L
pH 4.00 ± 0.01 @20°C (Red)	10402CTT	10405CTT	1040CTT
pH 7.00 ± 0.01 @20°C (Yellow)	10702CTT	10705CTT	1070CTT
pH 9.00 ± 0.01 @ 20°C (Blue)	10902CTT	10905CTT	1090CTT
pH 9.22 ± 0.01 @20°C	1092202TT	1092205TT	10922CTT
pH 10.00 ± 0.01 @20°C (Blue)	11002CTT	11005CTT	1100CTT

Twin Neck Bottle Format @ 25°C

Coloured pH Buffer solutions in Twin-neck containers with integrated calibrating chamber. Tested at 25°C and certified by Reagecon's ISO/IEC 17025 Accredited Test Method. NIST traceable and presented in various pack sizes.

Description	Product No. 500ml
pH 1.00 ± 0.02 @25°C	1010525TT
pH 2.00 ± 0.02 @ 25°C	1020525TT
pH 4.00 ± 0.01 @25°C (Red)	1040525CTT
pH 6.86 ± 0.01 @25°C (Yellow)	1068805CTT
pH 6.865 ± 0.01 @25°C	106865TT
pH 7.00 ± 0.01 @25°C (Yellow)	1070525CTT
pH 9.00 ± 0.01 @25°C	1090525TT
pH 9.18 ± 0.01@25°C (Blue)	109180CTT
pH 9.18 ± 0.01 @25°C	109180TT
pH 9.21 ± 0.01 @ 25°C (Blue)	1092125CTT
pH 9.21 ± 0.01 @ 25°C	1092125TT
pH 10.00 ± 0.01 @25°C (Blue)	1100525CTT
pH 12.00 ± 0.05 @25°C	1120525TT

pH Buffer Standards NIST Values @ 20˚C

Clear, Colourless NIST Value pH Buffer Solutions. Tested at 20°C and certified by Reagecon's ISO/IEC 17025 Accredited Test Method. NIST traceable and presented in 500ml bottles. Other pack sizes available upon request.

Description	Product No.500ml
pH 1.675 ± 0.010 @20°C	101675
pH 1.677 ± 0.010 @20°C	101677
pH 3.788 ± 0.010 @20°C	103788
pH 4.001 ± 0.010 @20°C	104001
pH 6.881 ± 0.010 @20°C	106881
pH 7.429 ± 0.010 @20°C	107429
pH 9.225 ± 0.010 @20°C	109225
pH 10.062 ± 0.010 @20°C	110062
pH 12.627 ± 0.050 @20°C	112627

pH Buffer Standards DIN 19266 values @ 25˚C

Clear, Colourless DIN Value pH Buffer Solutions. Tested at 25°C and certified by Reagecon's ISO/IEC 17025 Accredited Test Method. NIST traceable and presented in 500ml bottles. Other pack sizes available upon request.

Description	Product No. 500ml
pH 1.679 ± 0.010 @25°C	101679
pH 3.776 ± 0.010 @25°C	103776
pH 4.005 ± 0.010 @25°C	104005
pH 6.865 ± 0.010 @25°C	10687
pH 7.413 ± 0.010 @25°C	107413
pH 9.180 ± 0.010 @25°C	109180
pH 10.012 ± 0.010 @25°C	110012
pH 12.454 ± 0.050 @25°C	112454

pH Buffer Standards DIN 19267 @25°C

Description	Product No. 500ml
pH 1.09 @25°C	101095
pH 3.06 @25°C	103065
pH 4.65 @25°C	104655
pH 6.79 @25°C	106795
pH 9.23 @25°C	109235
pH 12.75 @25°C	112755

High Resolution Buffers

Coloured High Resolution pH Buffer solutions. Tested at 20°C or 25°C and certified by Reagecon's ISO/IEC 17025 Accredited Test Method. NIST traceable and presented in 500ml bottles. Other pack sizes available upon request.

Description	Product No. 500ml
pH 4.000 ± 0.010 @20°C (Red)	104000C
pH 4.000 ± 0.010 @25°C (Red)	H40525C
pH 4.000 ± 0.010 @25°C	H40525
pH 7.000 ± 0.010 @20°C (Yellow)	107000C
pH 7.000 ± 0.010 @25°C (Yellow)	H70525C
pH 7.000 ± 0.010 @25°C	H70525
pH 10.000 ± 0.010 @20°C (Blue)	110000C
pH 10.000 ± 0.010 @25°C (Blue)	H100525C

Antimony Buffers

Description	Product No. 250ml	Product No. 500ml
pH 1.07 @25°C - Colourless	10725025	10725050
pH 4.00 ± 0.05 @25°C - Light Red	401025P	40102550
pH 7.01 at 25°C - Yellow	70125025	70125050

Technical pH Buffer Solutions @ 25˚C

Coloured Technical pH Buffer solutions. Tested at 25°C and certified by Reagecon's ISO/IEC 17025 Accredited Test Method. NIST traceable and presented in various pack sizes.

Description	Product No. 250ml	Product No. 500ml	Product No. 1L
pH 2.00 ± 0.02 @25°C (Coloured)	TB2002	TB200	TB2001
pH 4.01 ± 0.02 @25°C (Coloured)	TB4012	TB401	TB4011
pH 4.60 ± 0.02 @25°C (Coloured)	TB4602	TB460	TB46001
pH 7.00 ± 0.02 @25°C (Coloured)	TB7002	TB700	TB7001
pH 9.21 ± 0.02 @25°C (Coloured)	TB9212	TB921	TB9211
pH 10.00 ± 0.02 @25°C (Coloured)	TB1002	TB100	TB1001

Low Ionic Strength Buffers

Low Ionic Strength pH Buffer Solutions. Special buffers suitable for accurate measurement of low ionic strength samples. Tested at 20°C and certified by Reagecon's ISO/IEC 17025 Accredited Test Method. NIST traceable and presented in various pack sizes.

Description	Product No. 500ml	Product No. 5L
pH 4.10 ± 0.04 @20°C	LS41	LS415
pH 6.96 ± 0.04 @20°C	LS69	LS695

"Bag In Box" - Colour Coded @ 20°C

Coloured, Bag in Box pH Buffer solutions supplied in cubitainers with tap. Tested at 20°C and certified by Reagecon's ISO/IEC 17025 Accredited Test Method. NIST traceable and presented in various pack sizes.

Description	Product No. 5L	Product No.10L
pH 4.00 ± 0.01 @20°C (Red)	BPH01	BPH02
pH 6.00 ± 0.01 @20°C (Clear)	BPH34	BPH35
pH 7.00 ± 0.01 @20°C (Yellow)	BPH03	BPH04
pH 10.00 ± 0.01 @20°C (Blue)	BPH05	BPH06

Bag in Box - Colour Coded @ 25°C

Coloured, Bag in Box pH Buffer solutions supplied in cubitainers with tap. Tested at 25°C and certified by Reagecon's ISO/IEC 17025 Accredited Test Method. NIST traceable and presented in various pack sizes

Description	Product No. 5L	Product No. 10L
pH 4.00 ± 0.01 @25°C (Red)	BPH07	BPH08
pH 7.00 ± 0.01 @25°C (Yellow)	BPH09	BPH10
pH 10.00 ± 0.01 @25°C (Blue)	BPH11	BPH12

pH Buffer @ 20°C - Bag in Box

Description	Product No. 5L
pH 1.675 ± 0.01 @20°C	BPH97
pH 4.00 ± 0.01 @20°C	BPH43
pH 4.66 ± 0.01 @20°C	BPH113
pH 5.00 ± 0.01 @20°C	BPH105
pH 6.881± 0.01 @20°C	BPH99
pH 7.00 ± 0.01 @20°C	BPH22
pH 8.00 ± 0.01 @20°C	BPH48
pH 9.00 ± 0.01 @20°C	BPH32
pH 9.225 ± 0.01 @20°C	BPH100
pH 10.00 ± 0.01 @20°C	BPH44
pH 11.00 ± 0.05 @20°C	BPH63

pH Buffer @ 25°C - Bag in Box

Description	Product No. 5L
pH 1.00 ± 0.02 @25°C	BPH27
pH 1.679 ± 0.01 @25°C	BPH90
pH 2.00 ± 0.02 @25°C	BPH13
pH 3.776 @25°C	BPH91
pH 4.00 ± 0.01 @25°C	BPH21

Sterile Buffers

pH Buffer Solutions sterilised by gamma irradiation.

Description	Product No. 500ml
pH 4.00 ± 0.01 @20°C (Sterile)	104005S
pH 6.00 ± 0.01 @20°C (Sterile)	106005S
pH 7.00 ± 0.01 @20°C (Sterile)	107005S
pH 8.00 ± 0.01 @20°C (Sterile)	108005S

pH Buffers @ 38°

Description	Product No. 1L
pH 4.00 ± 0.01 @ 38°C	104038
pH 6.00 ± 0.01@38°C	106038
pH 7.00 ± 0.01@ 38°C	107038
pH 8.00 ± 0.01 @ 38°C	108038

pH Buffer Capsules

The presentation of pH buffers in capsule format is an innovative concept developed by Reagecon. Tested at 25°C, NIST Traceable. These capsules offer the following advantages:

- Colour coded for ease of identification
- Dissolve quickly
- Preservative free
- Easy to store and transport
- Easy to use
- Accuracy ±0.02 pH units
- Economical
- Extended shelf life

To use: Empty contents of one capsule into 100ml of distilled water.

Description	Product No. Pack of 50 Capsules
pH Buffer Capsules pH 4.01 ± 0.02 @25°C (Red)	CP1040
pH Buffer Capsules pH 7.00 ± 0.02 @25°C (Green)	CP1070
pH Buffer Capsules pH 9.00 ± 0.02 @25°C (Purple)	CP1090
pH Buffer Capsules pH 10.00 ± 0.02 @25°C (Blue)	CP1100
pH Buffer Capsule Kit (10 x pH 4.01, 20 x pH 7.00, 10 x pH 9.00, 10 x pH 10.00 @25°C)	CPMX47910
pH Buffer Capsule Kit (10 x pH 4.01, 20 x pH 7.00, 10 x pH 9.00 & 10 x pH 10.00)	CPMX
pH Buffer Capsule Kit (10 x pH 4, 10x pH 7, 10x pH 10 & 2 x Universal Indicator)	CPMX4710-UNI
pH Buffer Capsule Kit (3 x pH 4, 3x pH 7, 3x pH 10 & 1 Universal Indicator)	CPMX4710-UNI/1
pH Buffer Capsule Kit (20 x pH 4.01, 20 x pH 7.00, 10 x pH 9.00)	CPMX479

RECAL - Single use Calibration Buffers (Colour Coded)

RECAL is a range of pH Buffers in a wide mouth disposable container which can be used for direct calibration of the electrode and then discarded after use. RECAL offers the following advantages:

- Tested and Certified by Reagecon's ISO 17025 Accredited Test Method.
- Convenience - saves time, more efficient calibration, avoids waste and spillage.
- Mobility - These are easy to store and transport, allowing calibration in the field or directly in the plant.
- Economical - No waste buffer, beaker not required.
- Accuracy - the possibility of contamination is eliminated giving increased confidence in the results.
- Traceability - Each container is labelled with lot number and expiry date and buffers are directly traceable to N.I.S.T. Standards.

Description	Product No. 6 x 90ml @ 20'C	Product No. 6 x 90ml @ 25'C
pH 4.00 (Red) ± 0.01	04C60	04C65
pH 7.00 (Yellow) ± 0.01	07C60	07C65
pH 9.00 (Clear) ± 0.01	09C60	09C65
pH 10.00 (Blue) ± 0.01	10C60	10C65
Recal mixed pack of 2xpH 4, 7 & 10 ± 0.01	MXC60	MXC65
Recal mixed pack of 2xpH 4, 7 & 9 ± 0.01	MX09C60	MX09C65

Additional pack sizes available on request