


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p>Accredited to ISO/IEC 17025:2005</p>	<h3>Edwards' Analytical</h3>	
	<p><b>Issue No:</b> 011      <b>Issue date:</b> 30 November 2007</p>	<p><b>Contact:</b> Mr D J H Edwards  <b>Tel:</b> +44 (0)1325 730766  <b>Fax:</b> +44 (0)1325 730911  <b>E-Mail:</b> david@edwardsanalytical.co.uk  <b>Website:</b> www.edwardsanalytical.co.uk</p>
<p>Rose Cottage Walker Hall Winston Darlington Co Durham DL2 3PN</p>		
<p><b>Testing performed at the above address only</b></p>		

### DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
CERAMICS, METALS, POLYMERS	Tensile properties to 2.0kN and compression properties to 2.0 kNn	In-house documented procedure Various using BS, ISO and ASTM methods using AM/EA/03 and SOP/EA/005
	Coefficient of thermal linear expansion	SOP/EA/11 based on ASTM E381 using Thermal Mechanical Analysis
MISCELLANEOUS CHEMICALS, WATERS, LACQUERS AND COATINGS, SOLVENT MIXTURES	Identification and assay	AP/EA/07 in combination with SOP/EA/10 and 13 by Ultra-violet/Visible (UV-Vis) Spectroscopy
	Identification and assay	AP/EA/01 and 13 by Infra-Red Spectroscopy (FT-IR)
	Solids content and analysis of dissolved solids	AM/EA/073
	pH	AM/EA/073
	Acid/base content	AM/EA/071
	Reducing substances	AM/EA/072
	Analysis of organic solvents	AM/EA/056b and 59b
Water content of organic liquids	AM/EA/105 using GC/TCD	



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CHEMICAL SOLUTIONS ACID EXTRACTION OF POLYMERS & PACKAGING	Metals covering : Aluminium, Antimony, Barium, Cadmium, Calcium , Chromium Copper, Lead, Mercury, Sodium, Tin, Titanium, Vanadium, Zinc, Zirconium	SOP/EA/021, AM/EA/081 and AM/EA/100 using Atomic Absorption Spectroscopy (AAS)
MISCELLANEOUS MATERIALS	Linear & Angular Dimensional testing [0.1um to 2.5m and 0.1deg to 360 deg]	AM/EA/10 and SOP/EA/06 Using microscopy, Projection microscope, vernier gauges and travelling microscope
	Unit mass 0.1mg to 2.5kg	AP/EA/08 and SOP/EA/09b
	Weight loss with temperature increase	SOP/EA/24 using Thermal Gravimetric Analysis (TGA)
	Acquisition of Near Infra-Red Spectrum	SOP/EA/025 using Buchi FT_Near Infra red spectrometer
SUPPOSITORIES & PESARIS	Softening time and Resistance to rupture	BP/EP using AM/EA/112 and AM/EA/113
ATMOSPHERIC POLLUTANTS	Volatile Organic solvents	AM/EA/060 by GC
	Particle size distribution	Microscopy using AP/EA/11 and AM/EA/069
PLASTICS AND RUBBERS	Identification and assay	AP/EA/01 and AM/EA/005 and AM/EA/037 by FT-IR & FT-IR Microscopy
	Qualitative and quantitative analysis	SOP/EA/025 using FT-NIR
	Identification and assay	AP/EA/01 by Differential Scanning Calorimetry (DSC)
	Ash content and analysis of mineral fillers and pigments	AM/EA/075 using TGA & FT-IR
	Degree of oxidation	AM/EA/026 by FT- IR
	Onset of oxidation	AP/EA/01 by DSC
	Curing reactions	AP/EA/01 by DSC



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PLASTICS AND RUBBERS (cont'd)	Antioxidant additives	AM/EA/021 by High Performance Liquid Chromatography (HPLC) and Thin Layer Chromatograph (TLC)	
	Amide slip additives	AM/EA/022 by HPLC and TLC	
	Plasticisers	AM/EA/076 by IR and HPLC	
	Coefficient of thermal linear expansion and softening points and VICAT	SOP/EA/11 by Thermal Mechanical Analysis (TMA)	
	Shore A hardness	AM/EA/033 by TMA Shore A hardness	
	Tensile and compression properties 0.1 N to 2.5 kN	Various using BS, ISO and ASTM methods using AM/EA/03 and SOP/EA/005	
	Melt flow rate and melt volume rate	AM/EA/77	
	Density	AM/EA/066 and 67 by pycnometer and displacement	
	PACKAGING & PACKAGING MATERIALS, MISCELLANEOUS	Identification and assay	FT-IR and DSC AP/EA/001
		Measurement of gauges of multi-layered laminates, etc	AM/EA/001/002 002 & 037 and FT-IR/Microscopy
Tensile and compression properties		AP/EA/002 and 006 and AM/EA/004	
Internal bond strength		Using tensile tester AM/EA/019	
Tear strength		Trouser type test method using tensile tester AM/EA/018	
Evaluation of self adhesive labels		FINAT test methods AM/EA/09	
Seal strength		Using tensile tester AM/EA/109	
Sealability		Using laboratory heat sealer and tensile tester AM/EA/008	
Coefficient of friction	Kinematic and Dynamic AM/EA/027		



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PACKAGING & PACKAGING MATERIALS, MISCELLANEOUS (cont'd)	Analysis of headspace gasses Including O <sub>2</sub> , CO, CO <sub>2</sub> , O <sub>2</sub> , N <sub>2</sub> , CH <sub>4</sub> and Ar	AM/EA/061 and AM/EA/136 using Gas Chromatography (GC)
	Residual solvent analysis Including alcohols, ethers, ketones, esters, ether alcohols, and aliphatic and aromatic solvents	AM/EA/031 by headspace GC analysis
	Leak testing of packs and containers, integrity tests	ASTM D4991- AM/EA/135 and AM/EA/095 By dye injection AM/EA/032 By vacuum dye tests
	Silicone oil on rubber components	AM/EA/045c
	Silicone oil on glass syringes and dental cartridges for injection	AM/EA/044b
	Actuation forces of syringes and dental cartridges	AM/EA/046
	Water Vapour Permeation (water vapour transmission rates or moisture vapour transmission rates) of Films and Packs	Using MOCON Permatran W SOP/EA/18 and see pharmacopoeial tests
	Oxygen permeation rates (oxygen transmission rates) of Films and Packs	Using MOCON Oxtran 100 Twin SOP/EA/17
	Monitoring of weight changes of whole packs at various temperature/humidity environments	Using environmental chambers AM/EA/052
	PHARMACEUTICAL COMPLIANCE OF PACKAGING and PACKAGING COMPONENTS	United States Pharmacopoeia - latest edition
Containers Monograph <661>		
Glass - hydrolytic resistance		Crushed glass AM/EA/49 Surface resistance AM/EA/51
	Glass - Light transmission	UV/Vis spectroscopy AM/EA/13



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PHARMACEUTICAL COMPLIANCE OF PACKAGING & PACKAGING COMPONENTS (cont'd)  United States Pharmacopoeia - latest edition (cont'd)           European Pharmacopoeia - latest edition	Containers - general - Polyethylene - Polypropylene - PET & PETG  - Water vapour permeation  Containers - light transmission  Permeation Monograph <671>  Glass - hydrolytic resistance  Polyethylene - low density without additives  Polyethylene - low density with additives  Polyolefins (includes LDPE, LLDPE, HDPE and PE/PP copolymers etc)  Silicones (includes tubing and seals)  Rubbers for closures (includes extraction tests and physical properties)  Polyvinyl chloride (various monographs for tubing, giving sets and blood containers)  Polyethylene terephthalate	As below AM/EA/080 AM/EA/063 AM/EA/125 (Note the above also include tests for FT-IR, DSC, Density) AM/EA/011  UV/vis Spectroscopy using an integrating sphere AM/EA/53  Multidose containers AM/EA/54 Single dose containers AM/EA/055  Crushed glass AM/EA/048 Surface test AM/EA/050  AM/EA/062  AM/EA/085  AM/EA/100  AM/EA/070  AM/EA/102  AM/EA/085  AM/EA/125
	END	