

E. Annex A: Quality Control Guidance for Analytical Test Data - Supporting ZDHC MRSL V2.0 Conformance

Smart Testing Grid - Textile

x = Substances associated with this formulation type

(x) = Substances might occur, additional information necessary to determine whether testing needed

Guidance only - laboratories must make a professional judgement as to the exact tests required for each chemical formulation to demonstrate MRSL conformance

CHEMICAL FORMULATION TYPE	SUBSTANCE GROUPS AND SUBSTANCES MENTIONED IN MRSL																											
	UV Absorbers	AEEA [2-(2-aminoethylamino)ethanol]	Quinoline	Thiourea	Bisphenol A	Borate, Zinc salt	Chlorinated Parafins	Anti-Microbials & Biocides	VOC	Heavy Metals	Phthalates	PFC	PAH	Organotins	Solvents, Halo.	Glycols	Flame Retardants	Dye-Carc.Or Equiv.	Dye-Disp	Carc. Aromatic Amines	Chlorophenols	Chlorobenzenes + Toluenes	AP & APEO					
Use Code																												
1.1 Auxiliaries and finishing agents for fibres and yarns																												
1.1.1 Spinning solution additives	X			x	x		(x)	x			x																	
1.1.2 Spinning additives	X			x	x		(x)	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
1.1.3 Spinning bath additives							(x)	x																				
1.1.4 Preparation agents	X		x				(x)	x		x																		
1.1.5 Lubricants	X						x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
1.1.6 Coning oils, warping and twisting oils	X						x	x	x											x	x	x	x	x	x	x		
1.1.7 Conditioning and stabilizing agents	X							x	x										x									
1.1.8 Other																												
1.2 Pretreatment agents																												
1.2.1 Fibre protecting agents in pretreatment		x	x					(x)	x								x	x	x									
1.2.2 Kierboiling/Scouring auxiliaries	x								x	x							x	x	x									
1.2.3 Bleaching auxiliaries	x								x	x							x	x	x									
1.2.4 Mercerising and causticizing auxiliaries	x								x	x							x	x	x									
1.2.5 Carbonizing assistants									x	x		x					x	x	x									
1.2.6 Sizing agents and sizing additives	X		(x)					(x)	x								x	x	x									
1.2.7 Desizing agents	X							(x)	x								x	x	x									
1.2.8 Hydrophilizing agents	X							(x)	x										x									
1.2.9 Enzymes	x								x	x									x									
1.2.10 Sequestering Agents	(X)							(X)									x									(X)		
1.2.11 Stabilizers									x	x							x	x	x	x								
1.2.12 Other pre-treatment auxiliaries																			x									
1.3 Textile auxiliaries for dyeing and printing																												
1.3.1 Dyestuff solubilizing and hydrotropic agents	X								x	x						x		x	x					x				
1.3.2 Dispersing agents and protective colloids	X								x	x		x				x		x	x				x					
1.3.3 Dyeing wetting agents, dearation agents	X								x	x			x			x		x	x				x			x		
1.3.4 Leveling agents	X	(X)							x	x		x		x		x		x	x				(X)			x		

CHEMICAL FORMULATION TYPE	SUBSTANCE GROUPS AND SUBSTANCES MENTIONED IN MRSI									
Use Code										
	AEEA [2-(2-aminoethylamino)ethanol]	UV Absorbers								
	quinoline									
	Thiourea									
	Bisphenol A									
	Borate, Zinc salt									
	Chlorinated Parafins	x	x							
	Anti- Microbials & Biocides	x	x	x						
	VOC	x								
	Heavy Metals									
	Phthalates	x								
	PFC									
	PAH	x								
	Organotins									
	Solvents, Halo.									
	Glycols	x	x	x						
	Flame Retardants									
	Dye-Disp									
	Dye-Carc.Or Equiv.									
	Navy BlueDyes									
	Carc. Aromatic Amines									
	Chlorophenols									
	Chlorobenzenes + Toluenes	x	x	x	x	x				
	AP & APEO	x	x	x	x	x				
1.3.5 Carriers										
1.3.6 Crease-preventing agents	x									
1.3.7 Dyestuffs protecting agents, boildown protecting agents	x									
1.3.8 Padding Auxiliaries	x									
1.3.8.1 Anti-migration agents	x									
1.3.8.2 Anti-frosting auxiliaries	x									
1.3.8.3 Products increasing wet-pick-up	x									
1.3.9 Fix accelerators for continuous dyeing and printing	x					(x)				
1.3.10 Aftertreatment agents for fastness improvement	x									
1.3.11 Bonding agent (binders) for pigment dyeing and printing	x					x	x	x		
1.3.12 Printing thickeners	x					x	x	x	x	x
1.3.12.1 Native printing thickeners						x	x	x	x	
1.3.12.2 Synthetic printing thickeners	x					x	x	x	x	
1.3.13 Emulsifiers for gasoline printing (white spirit for oil-water emulsion printing)	x					(x)	x			
1.3.14 Agents to remove printing thickeners	x					x	x			
1.3.15 Printing and edge adhesives	x					x	x	x	x	
1.3.16 Oxidizing agents						x				
1.3.17 Reducing agents							x			x
1.3.18 Discharging agents and discharging assistants	x					(x)	x			
1.3.19 Resistant agents	x					(x)	x			
1.3.20 Mordants	x					x	x			
1.3.21 Brightening and stripping agents	x		x	x	x	x	x		x	x
1.3.22 Fibre-protective agents in dyeing	x					x	x			
1.3.23 pH-regulators, acid and alkali dispensers	x	x				x	x		x	x
1.3.24 Adhesives	x					x	x	x	x	x
1.3.25 Printing Pastes	x		x			x	x	x	x	x
1.3.25.1 PVC based (Platisols) ready to use printing paste	x			x		x	x		x	x
1.3.25.2 Water based ready to use printing paste	x			x		x	x		x	x
1.3.25.3 Other pigment ready to use printing paste	x		x	x		x	x		x	x

CHEMICAL FORMULATION TYPE	SUBSTANCE GROUPS AND SUBSTANCES MENTIONED IN MRSI																							
Use Code	UV Absorbers	AEEA [2-(2-aminoethylamino)ethanol]	quinoline	Thiourea	Bisphenol A	Borate, Zinc salt	Chlorinated Parafins	Anti- Microbials & Biocides	VOC	Heavy Metals	Phthalates	PFC	PAH	Organotins	Solvents, Halo.	Glycols	Flame Retardants	Dye-Disp	Dye-Carc.Or Equiv.	Navy BlueDyes	Carc. Aromatic Amines	Chlorophenols	Chlorobenzenes + Toluene	AP & AP EO
1.3.25.4 Silicone based printing paste	x																							
1.3.25.5 Foam printing paste	x																							
1.3.25.6 Multi component printing paste	x																							
1.3.25.7 Other printing pastes	x																							
1.3.26 Softening agents/ Plasticisers for printing	X																							
1.3.27 Agents to reduce or deepen shade	X																							
1.3.28 Anti-foaming agents for printing and coating	x																							
1.3.29 Printing Oils																								
1.3.30 Other dye auxiliaries																								
1.3.31 Other printing auxiliaries																								
1.3.32 Printing oils	x																							
1.3.33 Anti Back Staining Agent	x																							
1.4 Finishing assistants																								
1.4.1 optical brighteners (fluorescent brighteners)	X			(X)	(X)	(X)	(X)			X	x							x	(x)					
1.4.2 Agents for the improvement of crease and shrink resistance	X									(x)	(x)													
1.4.3 Additives for non-creasing and non-shrinking finishes	X									(x)	(x)													
1.4.4 Catalysts for non-creasing and non-shrinking finishes	X									(x)	(x)													
1.4.5 Handle-imparting agents	X									X							(X)					X		
1.4.6 Weighting agents	X									x	x							X	X					
1.4.7 Filling and stiffening agents	X									x	(x)	x						X	X	X				
1.4.8 Softening agents	X									X	(X)	X						X	X			X		
1.4.9 Anti-electrostatic agent	X									X	(x)	(x)										X		
1.4.10 Water, stain and oil repellents	X									X								X				X		
1.4.11 Fluorine free Water, stain and oil repellents	x									x	x							x				X		
1.4.12 C6 based Water, stain and oil repellents	x									x	x							x						
1.4.13 C4 based Water, stain and oil repellents	x									x	x							x						
1.4.14 Crosslinking agent for water repellents and coatings	x									x	x							x						
1.4.15 C8 based Water, stain and oil repellents (Not to be used)	x									x	x							x						
1.4.16 Soil release agents	X									(x)	x	X						X						

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	AEEA [2-(2-aminoethylamino)ethanol]	quinoline	Thiourea	Bisphenol A	Borate, Zinc salt	Chlorinated Parafins	Anti- Microbials & Biocides	VOC	Heavy Metals	Phthalates	PFC	PAH	Organotins	Solvents, Halo.	Glycols	Flame Retardants	Dye-Disp	Dye-Carc.Or Equiv.	Navy BlueDyes	Carc. Aromatic Amines	Chlorophenols	Chlorobenzenes + Toluenes
1.5 Technical auxiliaries for multipurpose use in the textile industry																						
1.5.1 Wetting agents	X							X	x													
1.5.2 Anti-foaming agents (foam inhibitors)	X							X														
1.5.3 Detergents, dispersing and emulsifying agents	X							X	x													X
1.5.4 Spotting agents	X							X	x									(X)	X			
1.5.5 Chelating agents	X							x	x									x	(X)	X		
1.5.6 Stabilizers	X							(x)										(X)	X			
1.6. Other Auxiliaries																						
1.6.1 Dry Cleaning Detergents	x	x						x	x									x				
1.6.1.1 Drycleaning auxiliaries									x									x				
1.6.2 Prespotting Agents																						
1.6.6 Defoaming Agents for solvent application	x							x	x	x	x	x	x									
1.6.7 Resin Permanent								x		x	x							x				
1.6.8 Resin Thermoplastic	x							x		x	x						x	x				
1.6.9 Resin Thermosensible	x							x	x	x							x	x				
1.6.10 Soaping	x							x	x													
1.6.11 Other Auxiliaries	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
1.6.12 Down and Feather agents																						
1.6.13 Garment treatment agents																		x				
1.7 Dyes and pigments																						
1.7.1 Pigments	X	(X)	X	X						(X)			X							(X)		X
1.7.2 Pigment dyes and pigment preparations	x	x		x						(x)	x		(x)	x	(x)	x						
1.7.3 Pigment printing pastes	x	x		x							x		(X)	x	(x)							
1.7.4 Pigment inks	x	x		x							x					x						
1.7.5 Reactive dye	X		x	x	(X)						X			X						X		X
1.7.6 Reactive dye for cellulolics	X		x	x	(X)						X			X						X		X
1.7.7 Reactive dye for polyamide	x			x		(x)					(x)		(x)	x						x		
1.7.8 Reactive dye for wool	x			x		(x)					(x)		(x)	x						x		
1.7.9 Reactive Inks	x		x	x		(x)					(x)		(x)	x						x		
1.7.10 Mordant dye	x	x	x	x		x										x				x		x
1.7.11 Direct dye	X	(X)	X	X	X						X			X						X		X
1.7.12 Disperse dye	x	x	x	x		(x)	x	(x)			x		x			x	x	x		x		
1.7.13 Disperse inks	x	x	x	x		x	x						(x)	x								
1.7.14 Basic dye (cationic dye)	x	x	(x)	x		x				x	x	x	x			x				x		
1.7.15 Acid dye	X	(X)	X	X	X						X			X			x			x		X
1.7.16 Acid Inks	x		x	x												x						

Smart Testing Grid - Leather

	Guidance only - laboratories must make a professional judgement as to the exact tests required for each chemical formulation to demonstrate MRSI conformance										
	ZDHC Gateway Categories 4.0 - Latest version for review										
2	PRODUCTION - LEATHER										
2.1	ACIDS										
2.1.a	Acids_Hydroxy-carboxylic acids (Deliming agents)										X
2.1.b	Acids_Mineral acids	X	(X)	(X)				(X)	X	(X)	
2.1.c	Acids_Organic acids	X	(X)	(X)				(X)	X	(X)	X
2.1.d	Acids_Blend of organic and inorganic acids	X	(X)	(X)				(X)	X	(X)	X
2.2	AUXILIARIES										
2.2.a	Antifoam / slip agents	X					(X)				
2.2.b	Leveling agent	X	(X)				X	X	X		(X)
2.2.c	Defoamer	X					X	X		X	
2.2.d	Foam stabilizer	X						(X)			
2.2.e	Penetrator	X									
2.2.f	Rheology Modifier	X						(X)			
2.2.g	Water and effluent treatment chemicals										
2.3	BASES										
2.3.a	Bases_Ammonia or Amino-										
2.3.b	Bases_Calcium formate										
2.3.c	Bases_Lime (calcium hydroxide)										
2.3.d	Bases_Magnesium oxide										
2.3.e	Bases_Sodium acetate trihydrate										
2.3.f	Bases_Sodium bicarbonate		(X)	(X)						X	(X)
2.3.g	Bases_Sodium carbonate		(X)	(X)						X	(X)
2.3.h	Bases_Sodium formate		(X)	(X)						X	(X)
2.3.i	Bases_Sodium hydroxide		(X)	(X)						X	(X)
2.3.j	Bases_Blends										
2.4	BEAMHOUSE AGENTS										
2.4.a	Bating and other enzymes (Proteins)	X									
2.4.b	Bleaching or dehairing agent										
2.4.c	Sequestering agents	(X)					(X)				(X)
2.4.d	Soaking Agents	X					(X)				
2.5	DEGREASING AGENTS										
2.5.a	Degreasing agents_anionic e. g. Alkyl-Benzene-Sulfonates	X						(X)			
2.5.b	Degreasing agents_non-ionic , other Alkyl-polyglycol Ethers (APEO free)	X						(X)			
2.5.c	Degreasing agents_non-ionic Ethoxylated fatty alcohol (APEO free)	X						(X)			
2.5.d	Degreasing agents_cat-ionic or amphoteric e.g. Ethoxylated fatty amines	X						(X)			
2.5.e	Degreasing agents_non-ionic and anionic, APEO containing	X						(X)			
2.6	DYEING AUXILIARIES										
2.6.a	Penetration, Levelling, Build up and Fixing Dyeing Auxiliaries							(X)			X
2.7	DYESTUFFS & PIGMENTS										
2.7.a	Dyestuff (aqueous based)_Acid azodyes	X	(X)	X	X	X			X		X
2.7.b	Dyestuff (aqueous based)_Basic azodyes	X		X	X		X			(X)	X
2.7.c	Dyestuff (aqueous based)_Direct dyes	X	(X)	X	X	X			X		X

ZDHC Gateway Categories 4.0 - Latest version for review	UV Absorbers AEEA [2-(2-aminoethylamino)ethanol] quinoline
2.7.d Dyestuff (aqueous based)_Metal complex dyes	X
2.7.e Dyestuff (aqueous based)_Reactive dyes	X
2.7.f Dyestuff (aqueous based)_Sulfur dyes	X
2.7.g Dyestuff (Solvent Based for finishing)_Azodyes or Azo, metal complex dyes or Anthraquinones	X
2.7.h Pigments_Inorganic pigments (iron oxide)	(X)
2.7.i Pigments_Inorganic pigments (titanium dioxide)	(X)
2.7.l Pigments_Organic and metal- complex pigments	(X)
2.8 FATLIQUORS AND OILS	
2.8.a Fatliquors and oils_Natural fatliquors	X
2.8.b Fatliquors and oils_Synthetic fatliquors	X
2.8.c Polymeric Softeners	X
2.8.d Siloxanes / Silicones (Waterproofing)	(X)
2.9 FINISHING AGENTS	
2.9.b Protein Binders	X
2.9.c Crosslinkers (finishing)	(X)
2.9.d Flame retardant agents	X
2.9.e Halide Compounds	(X)
2.9.f Handle modifiers	X
2.9.g Acrylic polymers (base coat, top coat, etc.)	(X)
2.9.h Cellulose Derivatives (base coat, top coat etc.)	(X)
2.9.i Polyurethane dispersions (base coat, top coat etc.)	(X)
2.9.l Matting agents_Inorganic	(X)
2.9.m Matting agents_Organic	(X)
2.9.n Resins	X
2.9.o Waxes	X
2.9.p Stucco	X
2.9.p Patent leather	(X)
2.9.q Transfer coating	(X)
2.9.r Finishing Fillers_Inorganic fillers	X
2.9.s Finishing Fillers_Organic fillers	(X)
2.9.t Compounds	(X)
2.9.u Anti Soil & repellent Finish	X
2.10 PRESERVING AGENTS	
2.10.a Bactericides for preservation during leather manufacture	(X)
2.10.b Fungicides for preservation during leather manufacture	X
2.10.c Biocides for transport/article protection	X
2.10.d Sanitizers	X
2.11 SALTS	(X)
2.12 SOLVENTS	x x
2.12.a Solvents_Degreasing solvent	X (X) (X)
2.12.b Solvents_Finishing solvent	(X)
2.13 TANNING AND RETANNING AGENTS	
2.13.a Tanning Auxiliaries	x
2.13.b Mineral tanning agents	(X)

	ZDHC Gateway Categories 4.0 - Latest version for review	VOC	UV Absorbers
2.13.c	Mineral / synthetic tanning agent blends	(X)	AEEA [2-(2-aminoethylamino)ethanol]
2.13.d	Synthetic organic tanning agents	X	Thiourea
2.13.e	Vegetable tannins	x	Bisphenol A
2.13.f	Reactive organic tanning agents	x	Borate, Zinc salt
2.13.g	Resin tanning agents	(X)	Anti- Microbials & Biocides
2.13.h	Polymeric retanning agent	(X)	Chlorinated Paraffins
2.13.i	Retanning Fillers_Inorganic fillers	(X)	quinoline
2.13.l	Retanning Fillers_Organic fillers	(X)	
	Chlorobenzenes + Toluenes		
	AP & AP EO		

Smart Testing Grid - Synthetics

Guidance only - laboratories must make a professional judgement as to the exact tests required for each chemical formulation to demonstrate MRSL conformance

Smart Testing Grid - Polymers (Rubber, Foam and Adhesives)

Guidance only - laboratories must make a professional judgement as to the exact tests required for each chemical formulation to demonstrate MRSL conformance