

Aqua-Guard KG-500 is a “high performance” and “stable” grade of fluorochemical Oil and Water Repellent.

Characteristics

- KG-500 imparts well WOR durability to synthetic and cotton textiles
- Tolerant to dyes and prior processing residuals
- Low foamability....
- Good wettability/ penetration for hard to wet fabrics on fast processing (lower dynamic surface tension)
- Not flammable product – (Not Red Label)
- Not contains kinds of alkyl phenol compounds

<i>Material Description</i>	<i>Properties</i>
Appearance.....	White, Emulsion
Ingredients.....	20% Non-Volatile Compound 72% Water 8% Dipropylene Glycol
Density.....	approx. 1.1 Kg./L
Charge.....	nonionic
pH.....	approx. 4.5
Storage.....	Store at temperature between 5 and 40°C

Typical pad formulation for application

For Polyester and Polyamide (WPU 30%-70%)

Regular Treatment

KG-500 20g/L - 60g/L

Durable Treatment

KG-500 30g/L - 70g/L

Melamine resin & Catalyst 1.0g/L - 3.0g/L & 0.1g/L – 3g/L

Or/and

Blocked isocyanate resin 10g/L – 20g/L

For Cotton and Cotton Blend (WPU 60% - 80%)

Regular Treatment

KG-500

30g/L - 75g/L

Durable Treatment

KG-500

Blocked isocyanate resin

30g/L - 75g/L

10g/L – 20g/L

NOTE: optimum pH = 4.0 – 6.0 (may be adjusted with acetic acid)

For hard to wet fabrics, the use of isopropyl alcohol or surfactants is recommended. Other auxiliaries such as antistatic agent, softener and resins can be used together with KG-500. Please evaluate both compatibility and performance before use.

Performance

1. Standard treatment (effect of KG-500 only)

a. For synthetic fabrics

Treating condition

1 dip – 1 nip

Wet Pick-up

Polyester (100%) tropical (undyed) =85%

Nylon (100%) taslan (dyed) =60%

Drying and Cure Condition

Dry 110° C * 90 sec

Cure 170° C * 60 sec

Water and Oil Repellency

KG-500		5g/L	10g/L	20g/L
Polyester (100%) tropical (undyed)	Initial	4 / 100	6 / 100	6 / 100
	HL5*	1 / 80	2 / 80	5 / 90-100
Nylon (100%) (dyed)	Initial	3/ 80-90	5 / 100	6 / 100
	HL5*	0/ 50-70	0 / 70	2 / 80

Oil repellency / Water repellency

Oil repellency was evaluated with AATCC 118-1989

Water repellency was evaluated with Spray-Tes

*HL5 = After 5 times Home Laundering.

Ratings were evaluated after drying at room temperature.

b. For Cotton and synthetic/cotton blend fabrics

Treating condition

1 dip – 1 nip

Wet Pick-up

Cotton (100%) broad (undyed) = 70%

Polyester/Cotton (65%/35%) twill (undyed) = 65%

Drying and Cure Condition

Dry 110° C * 90 sec

Cure 170° C * 60 sec

Water and Oil Repellency

KG-500		5g/L	10g/L	20g/L
Cotton (100%) broad (undyed)	Initial	3 / 80	5 / 100	6 / 100
	HL5*	1 / 50	2 / 70	4 / 70-80
Polyester/Cotton (65/35%) broad (undyed)	Initial	5 / 100	5 / 100	6 / 100
	HL5*	2 / 70	4 / 70 -80	5 / 80

Oil repellency / Water repellency

Oil repellency was evaluated with AATCC 118-1989

Water repellency was evaluated with Spray-Tes

*HL5 = After 5 times Home Laundering.

Ratings were evaluated after line drying at 90° C * 180 sec

2. Durable treatment (effects of AG-7000 with Melamine Resin)

Treating Condition

KG-500 30g / L, 60g/L

Melamine Resin 3g / L (Sumitex resin M-3 Sumitomo Chemical Co.)

Catalyst 3g / L (Sumitex Accelerator ACX Sumitomo Chemical Co.)

Non-metallic catalyst is preferable

1 dip – 1 nip

Wet Pick-up

Polyester (100%) tropical (undyed) = 85%

Nylon (100%) taslan (dyed) = 60%

Nylon (100%) span (dyed) = 70%

Drying and Cure condition

Dry 110° C * 90 sec

Cure 170° C * 60 sec

KG-500		30 g / L	60g/L
Melamine Resin		3 g / L	3 g / L
Catalyst		3 g / L	3 g / L
Polyester (100%) tropical (undyed)	Initial	7 / 100	7 / 100
	HL5*	5 / 90	5 / 90-100
Nylon (100%) taslan (dyed)	Initial	6 / 100	6 / 100
	HL5*	3 / 80	4 / 90
Nylon (100%) span (dyed)	Initial	6 / 100	6 / 100
	HL5*	1 / 70	2 / 70

Oil repellency / Water repellency

Oil repellency was evaluated with AATCC 118-1989

Water repellency was evaluated with Spray-Tes

*HL5 = After 5 times Home Laundering.

Ratings were evaluated after line drying at room temperature

3. Chemical stability

4.0% KG-500 bath is stable to contamination of 0.02% - dye fixing agent (tannic acid compounds), 0.02% acid dye, and 0.02% disperse dye.

additives	dye fixing agent (for Polyamide 0.2g/L	acid dye 0.2 g/L	disperse dye 0.2 g/L
KG-500 (40 g/L)	no-aggregation	no-aggregation	no-aggregation

Safety

Gloves, a safety goggle, and a mask should be worn to avoid skin contact, eye contact and prolonged breathing of mists.

For your production

Suggestions made concerning uses and data in this bulletin are based on our laboratory tests and users should make their own tests to determine the suitability of these products for their own particular purposes.

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