Technical - Information

AVCO-TRYL HPH

ACIDIC COMPLEXING AGENT

AVCO-TRYL HPH is an acidic complexing - dispersing agent used for de-mineralization of textile fabrics contaminated with calcium, magnesium and irom residues and metal containing lubricants. Use of AVCO-TRYL HPH enables to perform an acidic treatment, followed by alkaline peroxide bleaching process, using the same bath. This procedure saves water and machine time.

AVCO-TRYL HPH is an excellent complexing agent for dyeing synthetic fibres such as polyester, polyamide, spandex elastomers and blends in the acid pH.

SPECIFICATION:

Appearance	Yellow brownish, clear liquid.
Chemical nature	Aqueous solution of partially neutralized phosphonic acids.
Ionicity	Anionic.
Solubility	Miscible with water at any ratio.
pH (1%sol.)	2 - 3
Compatibility	Is not compatible with concentrated alkalis and with cationic products.
Storage	Stable for at least 12 months.

PROPERTIES & USES:

1. AVCO-TRYL HPH is extracting precipitates of iron, calcium and magnesium non-soluble contaminations from textile fibres. After the de-mineralization process and adding alkali to the acidic bath, the product is complexing strongly the dissolved metal ions, and enables un-disturbed bleaching process with hydrogen peroxide. The results are improved whiteness, brilliancy and hydrophility of the treated fabrics.
2. In alkaline pH AVCO-TRYL HPH is acting also as a de-crystallizing agent of water hardness even when the quantity of total hardness is above the stoichiometric ratio.The product is dispersing calcium and iron precipitates, and keep them in a very fine dispersion, to avoid crystallization on the textile fabrics (threshold effect).
3. AVCO-TRYL HPH is not lowering the strength of cellulosic fabrics and yarns.
4. The complexing capacity toward iron ions is increasing when raising the pH to strong alkaline solutions. The product is an excellent complexing agent for causticizing and bleaching processes of cellulosic fabrics.

5. AVCO-TRYL HPH is non-foaming at all.
6. The product is stable in acidic and in alkaline baths.
7. AVCO-TRYL HPH is an excellent booster to improve detergency in preparation and bleaching-processes. Acting as a protective colloid and dispersant to avoid re-deposition of suspended dirt on the treated textiles.
8. AVCO-TRYL HPH is suitable for dyeing polyester fibres with disperse dyes in acidic pH.
9. AVCO-TRYL HPH is suitable for dyeing polyamide and spandex fibres with acid dyes.
10. AVCO-TRYL HPH is complexing metal soaps included in spandex lubricating oils.

APPLICATION:

I. De-mineralization process followed by bleaching of cotton knits.

1. DE-MINERALIZING:

AVCO-PAL VIC	1.0 - 2.0 g/l
AVCO-TRYL HPH	0.5 - 2.0 g/l

   Treat at 80^{O}C for 30 minutes.

2. NEUTRALIZING:

   To the original bath add 1 - 2 cc/l caustic soda (50%) and treat for 5 minutes.

3. BLEACHING PROCESS:

   To the neutralized bath add:

AVCO-BLANKINOL AWS	- 3.0 g/l
Hydrogen peroxide (50%)	- 3.0 g/l

   Treat at 90 - 95^{O}C for 30 - 45 min.

4. To the same bath add 1g/l AVCO-SAN HPK and treat for 10 minutes to destroy residues of peroxide.
5. Drop bath and rinse hot and cold.

II. Desizing of cotton woven fabrics

1. To the enzymatic desizing bath add 1 - 3 g/l AVCO-TRYL HPH
2. Continue the normal washing and peroxide bleaching process in the continuous bleaching range.

III. Dyeing synthetic fibres (Polyester and Polyamide)

1. When dyeing synthetic fibres in the one shot scour / dye process, add 0.5 - 1.5 g/l AVCO-TRYL HPH along with 1 - 2 g/l AVCO-BIOLUZE CHB or AVCO-PAL VIC, circulate for 5 - 10 minutes, and start the dyeing process.
2. When dyeing pre-scoured fabrics use 0.5 - 1.0 g/l AVCO-TRYL HPH to ensure trouble free dyeing process.
3. When dyeing polyamide with pre–metalized dyestuffs, lab trials are advisable.