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Lignostab® 1198

Product description

Lignin stabilizer

Lignostab® 1198 is a photo stabilizer developed specifically for wood pre-treatments and effectively stops the photo-oxidation of lignin. It is highly effective for the color stabilization of natural and tinted or stained wood for interior application. Used in wood primers for exterior applications it can extend the retention of properties such as coating adhesion and resistance to failures such as flaking and cracking, therefore resulting in higher durability. Especially for high-performance outdoor applications where long-lasting coatings are required, e.g., wooden window frames, Lignostab® 1198 also allows the use of non- or low-pigmented coatings.

Key benefits

- Lignin stabilizer for direct wood impregnation
- Improved color retention of natural pale and tinted wood (e.g., pine,spruce, maple, ash, birch, …) for interior application
- Improves properties such as coating adhesion and resistance tofailures such as flaking and cracking for exterior applications (e.g.,joinery)

Chemical nature

Tetramethyl piperidine derivative

Properties

Physical form

Orange to red flakes

Technical data
(not supply specification)

Melting point	92/69/EEC A.1 DSC	66 – 70 °C

Miscibility

Up to 20 % soluble in water and polar solvents

Application

Applications which can benefit from the Lignostab® 1198 concept are in general all areas where light to pale wood species (or wood-composite materials) with clear or semi-transparent coatings are used. This includes indoor parquetry and furniture as well as outdoor wood and timber work (doors, windows, cladding, paneling, fencing, decking, shingles or beams).

- interior clear wood primers and sealers
- industrial and DIY wood stains and tinting solutions
- exterior wood stains and wood preservative treatments
- sap stain protectants, wood preservers and waterproofers
- penetrating clear and pigmented finishes (i.e., deck coatings) wood care products, waxes and polishes
- wood veneers for automotive interior applications

According to the lignin stabilizer concept an optimized photo-stability can be achieved when Lignostab® 1198 is applied directly onto the wood substrate by simple aqueous, hydro-alcoholic or hydrocarbon pre-treatment or used in an already utilized impregnation, i.e., in a blue-stain inhibiting primer. Lignostab® 1198 always has to be combined with selected UV absorbers (for interior applications) or UV absorber/HALS (for exterior) in the same treatment (internal UV filter effect) or, better, in a subsequently applied coating (external filter effect). For aqueous systems (primers and/or top coats), Tinuvin® 99-DW or Tinuvin® 477-DW are the UV absorbers of choice. Tinuvin® 477, Tinuvin® 99-2 or Tinuvin® 5060 may be used in solvent-based alkyd and PUR-based coatings. For more details related to the use of UV absorbers for wood coatings please refer to the technical data sheets.

For tinted wood, Lignostab® 1198 can be used directly within the colorant-containing tinting solutions or stain providing improved lignin as well as colorant photo-stabilizing properties.

Lignostab® 1198 does not interact with and does not influence the performance of wood biocides (e.g., iodopropynyl butylcarbamate [IPBC], tebuconazole, propiconazole, dichlofluanide, toluylfluanide), binder materials, rheology modifiers or any other paint ingredients. However, the stability of Lignostab® 1198 in stains and impregnations should always be checked by careful preliminary testing when long-term storage stability is required.

Cure retardation may occur when UV-curable systems and oxidatively drying alkyd coatings are applied directly to wood treated with Lignostab® 1198. The use of a sealer to avoid its migration and/or an adjustment of the photo initiator or siccative composition might over-come this problem.

Recommended concentrations

The concentration of Lignostab® 1198 depends on the pigmentation of the coating above, the desired degree of protection and the wooden substrate. The amount of light stabilizers required for optimum performance should be determined in trials covering a concentration range. Recommended concentrations of Lignostab® 1198 in pre-treatments in relation to the solvent used:

Pre-treatment solvent	**Lignostab® 1198 concentration (by weight on total formulation)**
aqueous/alcoholic interior	0.8 – 1.5 %
aqueous/alcoholic exterior	1.0 – 2.0 %
non-polar interior/exterior	2.0 – 3.0 %

The Lignostab® 1198 pre-treatment can be applied by brush (1 x 80 – 120 g/m^2), curtain coating or dip coating (contact time 10 – 20 s).

Formulation guideline

Pale wood color protector for interior applications

	% by weight
Acrylic binder	30.0 – 40.0
Lignostab® 1198	0.8 – 1.5
Efka® 3570 (substrate wetting)	0.2 – 0.5
Efka® 2527 (defoamer)	0.2 – 0.4
Tinuvin® 477-DW	4.0 – 6.0
AMP-90™[1] (adjust to pH 8 – 9)	to be adjusted
Water, deionized	to be adjusted
	100.0

Aqueous clear impregnation primer for exterior applications

Acrylic binder	20.0 – 30.0
Lignostab® 1198	1.0 – 2.0
Efka® 3570 (substrate wetting)	0.2 – 0.5
Efka® 2527 (defoamer)	0.2 – 0.4
IPBC (fungicide)	0.2 – 0.4
Tebuconazole (fungicide)	0.4 – 0.6
Propiconazole (fungicide)	0.4 – 0.6
Permethrin (insecticide)	0.1 – 0.2
AMP-90™[1] (adjust to pH 8 – 9)	to be adjusted
Water, deionized	to be adjusted
	100.0

Storage

When kept in original unopened containers and at temperatures of 5 – 35 °C, Lignostab® 1198 can be stored for up to 3 years from the date of manufacture.

Safety

When handling this product, please comply with the advice and information given in the safety data sheet and observe protective and workplace hygiene measures adequate for handling chemicals.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. The agreed contractual quality of the product results exclusively from the statements made in the product specification. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.

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