

PROTECTA WOODTECH	Products Data
	Injecta H-96

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Oxidative inhibitor

General Description

- **Helps to preserve the original light colour of freshly sawn rubberwood.**
- **Inhibits enzymatic oxidation and chemical staining.**
- **Completely water soluble for easy use**
- **Used in combination with boric acid for optimum efficacy.**

USES

Freshly sawn rubberwood is prone to brownish discolouration caused by chemical and enzymatic staining. Injecta H-96 helps to protect the freshly sawn rubberwood against these types of staining.

The clean, bright natural appearance of rubberwood treated with Injecta H-96 is normally a major selling point when the timber is used for value added products such as furniture and flooring where the natural colour of rubberwood is important.

CHEMICAL AND PHYSICAL DATA

Active ingredients:	Oxidative inhibitor	100%
Appearance:	Whitish powder	
Flash point;	None	
Concentrations used:	0.2 – 0.5%	
Compatibility:	Stable in acid/neutral solutions such as boric acid in water. Not stable in very alkaline solutions.	

BROWNISH DISCOLOURATION IN RUBBERWOOD

Freshly sawn rubberwood is light and uniform in colour, but has a tendency to turn brownish in colour during impregnation and kiln-drying. The brown colour is not as attractive as the original light colour and should be avoided when the rubberwood is used for furniture and flooring where the natural light colour is preferred.

The brown colour in rubberwood is caused by the following reactions:

- a) **Chemical staining** when the freshly cut rubberwood is impregnated with borax and boric acid.
- b) **Enzymatic oxidation** of the sugar and phenolic compounds in the freshly cut rubberwood. Enzymatic oxidation occurs when the freshly sawn rubberwood is exposed to a combination of high air humidity, oxygen and temperatures above 15-20 degrees C.

The risk of brown stain is very high in rubberwood, as the freshly cut rubberwood has a much higher content of sugar and starch than most other timber species and because of the high humidity and temperature found in tropical countries where the rubber trees are grown.

PREVENTION OF BROWNISH DISCOLOURATION.

The development of brown stain stops when the moisture content of the timber is reduced to below 30%. To minimize brown stain, it is therefore important that the timber is kiln-dried as quickly as possible after sawing, as this will reduce the period during which enzymatic oxidation can take place

To further minimize the development of brown stain, it is important that the freshly cut rubberwood is impregnated immediately after it is cut, and it should be impregnated with a solution of boric acid and Injecta H-96. The latter is an oxidative inhibitor that reduces chemical staining caused by boric acid and borax and it inhibits enzymatic oxidation. Rubberwood treated with a combination of boric acid and Injecta H-96 will therefore normally be much lighter in colour than rubberwood treated with the traditional combination of borax and boric acid.

TREATMENT METHODS.

Injecta H-96 is applied to rubberwood by vacuum/pressure impregnation of the timber immediately after the rubberwood is cut in the sawmill

For rubberwood used for furniture and flooring, the following combination of boric acid and Injecta H-96 is recommended;

Boric acid	1.5 – 2.0%
Injecta H-96	0.3 – 0.5%
Water	97 – 98%

The boric acid will protect the kiln-dried rubberwood against attack by powderpost beetles, while the Injecta H-96 will minimize the amount of brown stain taking place during impregnation and kiln-drying.

SEASONING.

To minimize the development of brown stain, it is important that the rubberwood treated with Injecta H-96 is kiln-dried immediately after impregnation and that the kiln-drying is carried out at medium high temperature.

USAGE LIMITATION.

Since Injecta H-96 is not a bleaching agent, it will not turn rubberwood light in colour if the wood has already been exposed to enzymatic oxidation. Injecta H-96 should therefore only be used for on rubberwood that is freshly cut and on rubber-wood that can be kiln-dried immediately after impregnation. Otherwise the final colour of the timber will not be attractive.

For rubberwood that is not freshly cut or kiln-dried immediately after impregnation, it is sometimes better to use a combination of borax and boric acid without Injecta H-96, as the borax and boric acid will turn the timber slightly brownish and thereby hide some of the brown stain caused by enzymatic oxidation.

MIXING

Injecta H-96 is mixed with water and boric acid before use. Being completely soluble in water, Injecta H-96 will retain a uniform concentration and no stirring is required between treatment.

HANDLING OF DRY TIMBER

Injecta H-96 does not contain any harmful chemicals and there are no restrictions on the subsequent handling of timber treated with Injecta H-96. Once dry the timber can be glued, painted and machined without problems. In such processing, workers should wear a dust mask.

Since timber treated with Injecta H-96 normally also contains boric acid, the normal precautions for timber treated with boric acid are to be observed when using timber treated with Injecta H-96

Exposed to high air humidity, timber treated with Boric acid and Injecta H-96 is prone to attack by mould fungus. It is therefore important not to expose the timber to high air humidity for long period of times. Otherwise a surface protection with a suitable mouldicide will be required.

PACKAGING

Injecta H-96 is a powder and supplied in 25 kg plastic bags.