

# Timeless Value. Everlasting Preservation.

Finest life shield for your wood



### Registered & Corporate Office Address

#### DEEPAK NITRITE LIMITED

2<sup>nd</sup> Floor, Fermenter House, Alembic City, Alembic Avenue Road, Vadodara – 390 003, Gujarat, India.  
Tel: 0265-3960-200 / 9904709853 | E-Mail: rmahajan@godeepak.com | www.godeepak.com

### Manufacturing site

Deepak Nitrite Limited, Nadesari Division, 4-12, GIDC Chemical Complex, P.O. Nandesari-391340,  
Dist. Vadodara, Gujarat India | Tel. 0265-2840641 to 44 / 260 1200

Follow us on :     

2024/06/20



# PROTECTO<sup>(TM)</sup>

CRESOL BASED ECO-FRIENDLY WOOD PRESERVATIVE

# ECO-FRIENDLY WOOD PRESERVATIVE

## PROTECTO™ WOOD PRESERVATIVE

PROTECTO™ is a specially developed true wood preservative with anti-wood borer (Lyctus sp.), anti-termite & anti-fungal action. Protecto is based on biodegradable organic chemical (substituted cresols) and has been specially developed and patented through inhouse R&D efforts at Deepak Nitrite Limited.

### FEATURES

#### PERFORMANCE

- Broad spectrum activity against wood borers (Lyctus sp.), termites and fungus
- Highly stable organic molecule with prolonged total activity in wood
- Chemical remains unchanged in activity and concentration in wood

#### CHEMICAL PROPERTIES

- Active ingredient is a mixture of substituted cresols
- Good solubility in water and has mobility through wood
- Low volatility
- Completely biodegradable, environment-friendly
- Fixation in wood polymers
- Stable over wide pH range and temperature (upto 230 deg. C)
- Moderate leachability, no isomerization & no auto-degradation
- Compatible with PF, UF and MUF resins

#### TOXICOLOGY PROFILE

- Safe to use, no bad odours or gases in hot press
- Non-irritating to skin and mucous membrane and high LD50
- Non-carcinogenic, non-mutagenic and safe for environment
- Highly effective at moderate dosages

#### CERTIFICATION

- Efficacy against insects and fungus tested at IPIRTI, Bangalore
- Toxicology testing at Shriram Institute, New Delhi
- Widely used in Plywood and Timber industry for last 10 years

### HOW PROTECTO WORKS

Substituted cresols are potent enzyme poisons that inhibit fungal spore germination thus protecting wood rot under humid conditions. They act as repellent and systemic poisons preventing attack of wood borers (Lyctus sp.) & termites on susceptible wood. The water soluble, sodium salts of substituted cresols penetrate the wood providing a chemical barrier against biological attack.

# PROTECTO B PLUS (BROWN COLOR)<sup>TM</sup> FORMULATION

PROTECTO-B PLUS TM is a specially developed anti-wood borer (Lyctus sp.) , anti-termite and anti-fungus water soluble fixed-type wood preservative formulation for protecting wood and timber against the attack of pests. Protecto B PLUS<sup>TM</sup> formulation is based on biodegradable organic chemical and has been specially developed for treatment of timber and wood through in-house R&D efforts.

## APPLICATION

PROTECTO B PLUS TM is available in 4 Kg pack consisting of Two components viz. Protecto B PLUS<sup>TM</sup> A (3.3 kg), Protecto FX PLUS TM B (0.7 kg).

To prepare 200 Ltr. Solution, Please take empty/clean drum/M.S. tank In which, Please Add 200 Ltr. Water & Then add the contents of B ( 0.7 kg), Stir Well then add contents of A ( 3.3 kg ) & again stir well till dissolve the paste, This is 200 Ltr. Solution (Chocolate Brown colored) is now ready for use & Please heat the solution upto 90 degree celcius & After getting constant temperature of 90 degree, Then Dip the Rubber core veneers for Min. 1.5 Hrs/90 Minutes, for treatment. Stacks all treated veneers in closed shed. The stage of finished plywood, you will find chocolate brown color in Glue lines in Plywood.

METHODS OF TREATMENT	APPLICATIONS
<ul style="list-style-type: none"> <li>VACUUM-PRESSURE IMPREGNATION</li> </ul>	WOODEN PALLETS WOODEN CRATES BATONS & FRAMES
<ul style="list-style-type: none"> <li>DIPPING</li> </ul>	FOR PLYWOODS, FLUSH DOORS/ BLOCKBOARDS FURNITURE

## SPECIFICATIONS

<ul style="list-style-type: none"> <li>PH of paste</li> </ul>	2.0-3.0
<ul style="list-style-type: none"> <li>Moisture content of paste</li> </ul>	20-24 % w/w
<ul style="list-style-type: none"> <li>Solids content of paste</li> </ul>	75-80 % w/w
<ul style="list-style-type: none"> <li>Strength of Solution</li> </ul>	2% with water
<ul style="list-style-type: none"> <li>Shelf Life</li> </ul>	Best before 5 years from date of manufacture

## STORAGE

Store in covered place away from heat and moisture

## HANDLING

- Use PVC/Rubber hand gloves and safety equipment to avoid skin or eye contact
- Wash hands with soap and water a
- In case of spillage and fire, irrigate with water
- May cause skin or eye irritation
- Harmful or fatal if swallowed
- May lead to dizziness, vomitting or unconsciousness

## EMERGENCY FIRST AID

We do not foresee any ill effect on health provided the formulation is used for the purpose it is intended and due attention is paid to the precautions and protective measures necessary when chemicals are handled. In case of exposure, remove the victim to fresh air area. Administer artificial respiration or oxygen, if necessary.

**Skin:** Wash the affected area with plenty of water and soap

**Eyes:** Flush with plenty of water for at least 15 minutes

Seek medical aid without delay for severe exposure

## PACKING

16 ( 4 kg \* 4 ) Kg packing consisting of

1. A- 3.3 KG \* 4 Nos. = **13.200 kg in wide mouth PVC jar with polyethylene liner**
2. B – 0.7kg. \* 4 Nos. = **2.80 kg in PVC bottle**

## FOR COMMERCIAL / TECHNICAL QUERIES

### DEEPAK NITRITE LIMITED

2<sup>nd</sup> Floor, Fermenter House, Alembic City, Alembic Avenue Road, Vadodara – 390 003, Gujarat, India.  
 Tel: 0265-3960-200 / 9904709853 | E-Mail: rmahajan@godeepak.com | www.godeepak.com

# Vacuum-Pressure Impregnation of Rubber / Poplar Core veneer

Vacuum-Pressure Impregnation. This is the best method of chemical treatment of wood and if done properly can protect the wood against the attack of pests for a long period of time. Protecto B Plus™ solution (2%w/v) is recommended for the pressure impregnation of solid wood (as per IS:401,1967) which is to be used in the manufacture of plywood, blockboard, flush door, etc. The process of vacuum-pressure impregnation of preservative into wood is carried out as follows:

a. Vacuum treatment. The pressure chamber is loaded with the core veneer to be treated to about 70 % of its total capacity leaving the open spaces for the preservative solution to move freely between the timbers. The chamber is closed tightly and an initial vacuum is applied to remove the air from the chamber and from the timber. A vacuum of 25 inches (625 mm) of mercury for a period of 15 to 20 minutes is sufficient.

b. Pressure treatment. The preservative solution is introduced into the pressure chamber under vacuum so as to fill the chamber completely and a positive pressure of about 6 to 8 kg/square centimeter is applied until the required absorption is obtained. Pressure is usually applied for a period of 2 Hrs to 2.5 hrs. Since the chamber is under vacuum all the air from the chamber and from the timber gets removed and when preservative solution is introduced into the chamber under these conditions, the solution rushes into the wood and penetrates it completely so that the wood gets saturated with the chemical during the holding period.

c. Vacuum. After the holding period is complete the pressure in the chamber is released and chamber drained of the preservative solution. A low vacuum of about 12 inches (300 mm) of mercury is applied to the chamber for about 10 minutes to drain out the excess preservative that is sticking to the surface of the wood.

d. Seasoning. After releasing the vacuum from the chamber the door is opened and the chemically treated core veneer is removed and stacked loosely. The treated core veneer is then sent to the dryer to reduce its moisture content to the desired level.

## Recommendations

Penetration of preservative into the wood depends on a number of factors such as type of wood, moisture content of wood, type of chemical, vacuum-pressure cycle, loading of chamber, etc. For optimum results with pressure impregnation the following points should be noted:

- Moisture content. The presence of high moisture hinders penetration of chemical solution and results in inadequate loading of chemicals. In case the wood is wet (moisture content more than 60 % , it is recommended to use 2 % w/w solution of Protecto B Plus™ to achieve sufficient retention of chemical under repeated pressure cycles)

- Wood species. Material of the same species and same thickness should be treated in one charge. For example, if rubber wood is being treated it is advisable to stack the chamber with mango wood of uniform moisture content and thickness and no other wood species should be included in the treatment regime.
- Chamber loading. Material loaded into pressure chamber should not occupy more than 2/3rd of the total volume of the chamber.
- Colour of wood. The colour of wood after vacuum- pressure impregnation with Protecto B plus™ solution is a dark brown on the outside and light brown on the inside immediately after removal from the chamber. During seasoning the color changes to dark brown from the outside and on cutting or planing the wood the inside colour is a light brown. The reason for this change in color is due to the fixation reactions that take place between the wood preservative and the chemical constituents of the wood and it does not indicate that the color of preservative has faded out. Moreover, the color of Protecto™ treated wood is not uniformly Brown as wood is a very heterogeneous material with different types of constituents such as cellulose, hemicellulose, lignin, starch, etc. which react differently with Protecto™. Penetration of chemical into different regions of wood such as sapwood and heartwood will be to different degrees or extent which is also responsible for light and dark yellow colored regions.
- Fixation. Protecto B Plus™ is a fixed type of preservative and fixation reactions are completed in the wood in 3 to 4 weeks at ambient temperatures. It is therefore recommended that Protecto™ treated timber should not be left in the open exposed to rain.
- Retention of preservative in wood. The retention of active ingredient in the vacuum-pressure treated wood depends on a number of factors as seen above.

A retention of about 2.0-3.0 kg/cubic metre of active ingredient of Protecto B Plus™ is adequate for giving protection to wood against the attack of fungus, wood borer and termites .

- The VPT of core veneer will require standardization of process parameter through trial and error. The following points are to be noted:
  1. The process can be carried out at ambient temperature and heating of solution is not required.
  2. If solution is heated then the time cycle can be reduced as penetration is faster.
  3. The pressure and holding time need to be optimized as excess pressure can damage the core.
  4. Since we will be treating green core it is recommended to use a higher concentration of Protecto solution ( 2.0 % w/w) to achieve sufficient retention. In VPT the moisture from core gets released and dilutes the preservative solution.

# PROTECTO GLP (YELLOW COLOUR)™ FORMULATION

PROTECTO-GLP™ is a specially developed anti-wood borer (Lyctus sp.), anti-termite and anti-fungus wood preservative formulation for addition as a glue line poison into Phenol-Formaldehyde (PF) / Urea Formaldehyde (UF) / Melamine-Urea-Formaldehyde (MUF) resin used in the manufacture of BWP&BWR Plywood, Blockboard, Flush doors, Particle board, MDF, etc. Protecto-GLP™ formulation is based on biodegradable organic chemical and has been specially developed through in-house R&D efforts for use in the wood panel and other wood based products.

## APPLICATIONS

PROTECTO-GLP™ should be added to the ready-to-use Phenol-Formaldehyde / Urea Formaldehyde resin at 1% w/w on liquid basis (1Kg Protecto-GLP™ for 100 Kg liquid resin) in the glue mixer at room temperature and mixed thoroughly for 20 minutes to dissolve completely. To the modified PF/UF resin extenders/fillers may be added as required and the glue is then used for direct application to veneers and plywood is manufactured under normal hot press conditions.

**PROTECTO-GLP™ may be used in the manufacture of the following items:**

- BWR/BWP PLYWOOD
- BLOCKBOARD
- FLUSH DOOR
- MEDIUM DENSITY FIBRE BOARD
- PARTICLE BOARD

## SPECIFICATIONS

Reddish yellow coloured paste which dissolves in PF/UF resin and changes the colour of resin from brown to reddish-orange. In case of UF, the color of the glue becomes orange-yellow.

pH	<b>2.0-3.0</b>
Moisture content	<b>20-25 % w/w</b>
Solids content	<b>75-80 % w/w</b>
Shelf Life: Best before	<b>5 years</b> from date of manufacture

## ADVANTAGES

The major advantages offered by the Protecto™ formulations as against conventional wood preservatives are its broad spectrum of action against fungus, wood borer and termites, they are PCP (Pentachlorophenol)-free and do not contain any carcinogenic or toxic elements like agrochemicals, copper and arsenic that are normally present in conventional wood preservatives. Protecto™ is user-friendly, environment-friendly since it is completely biodegradable, has low toxicity, does not have offensive odor & easy and safe to handle.

Protecto-GLP™ does not affect the rubber rollers on the glue spreader. The formulation is completely stable and does not undergo thermal decomposition at hot press temperatures (> 140 oC) unlike other glue line poisons based on agrochemicals.

The active ingredient of Protecto™ is an organic compound that is stable at ambient and elevated temperatures (upto 230 deg.C) over a wide range of pH values, hence it offers total protection for a very long period of time unlike agrochemicals/pesticides (chlorpyrifos, lindane, bifenthrin, etc.) which are unstable chemicals that lose activity in 6 months time.

## STORAGE

Store in covered place away from heat and moisture

## HANDLING

- Use PVC/Rubber hand gloves and safety equipment to avoid skin or eye contact
- Wash hands with soap and water after use
- In case of spillage and fire irrigate with water
- May cause skin or eye irritation
- Harmful or fatal if swallowed
- May lead to dizziness, vomiting or unconsciousness

## EMERGENCY FIRST AID

We do not foresee any ill effect on health provided the formulation is used for the purpose it is intended and due attention is paid to the precautions and protective measures necessary when chemicals are handled. In case of exposure, remove the victim to fresh air area. Administer artificial respiration or oxygen, if necessary.

**Skin:** Wash the affected area with plenty of water and soap

**Eyes:** Flush with plenty of water for at least 15 minutes

Seek medical aid without delay for severe exposure

## PACKING

Standard packing is of 20 Kg in wide mouth PP pail with double polyethylene liner

## FOR COMMERCIAL / TECHNICAL QUERIES

### DEEPAK NITRITE LIMITED

2<sup>nd</sup> Floor, Fermenter House, Alembic City, Alembic Avenue Road, Vadodara – 390 003, Gujarat, India.  
Tel: 0265-3960-200 / 9904709853 | E-Mail: rmahajan@godeepak.com | www.godeepak.com

NOTE : Protecto-GLP™ does not change the desirable properties of the PF/UF glue such as flow time, gel time, viscosity, pH, bond strength, etc. Protecto-GLP™ does not affect the Pot Life of the glue, it does not affect the rubber rollers on the glue spreader and it does not affect the bond strength so that the shear strength (both wet and dry) of finished plywood is unaffected. In UF resin, the drop in pH due to dissolution of Protecto™ has to be compensated by addition of liquor ammonia to maintain the pH around 7.0 and it is recommended to use the poisoned glue within 2 to 3 hours of mixing of Protecto-GLP™ with the resin. Protecto-GLP™ offers broad-spectrum protection to the finished plywood.

## USE OF PROTECTO - GLP™ WITH UF / MUF RESIN

**Protecto-GLP™ can be used as a glue line poison with UF/MUF resin in the manufacture of plywood, blockboard, flush door , etc. in the following manner**

- First the UF / MUF resin is taken in the glue mixer, to which the requisite quantity of liquor ammonia is added followed by addition of Protecto - GLP™ at 1 % w/w level. The formulation is dissolved in the resin by thorough mixing for 15 to 20 minutes , so that no undissolved particles remain and the color of resin changes to orange-yellow.

Since Protecto - GLP™ is acidic in nature, it will lower the pH of UF resin ,so it is necessary to compensate for this lowering of pH by keeping the initial pH of UF resin on the higher side around 8.0 and also adding sufficient quantity of liquor ammonia so that after dissolving Protecto™ in the resin the pH remains around 6.5-7.0. After the dissolution of Protecto™ in the resin is complete, the other additives such as Maida, CSP, GNSP , etc. can be added to the resin and mixed thoroughly to prepare the glue. Ammonium Chloride hardener may be added as required. The resultant glue poisoned with Protecto™ is used for gluing of core as per the normal manufacturing procedure.

- Except for lowering the pH and change in color of resin , Protecto™ does not change any of the desirable properties of UF resin such as viscosity, flow time, gel time and bond strength.
- Protecto-GLP™ is fully compatible with the hot press conditions that are normally adopted for UF/MUF resin.
- Pot Life. After addition of Protecto-GLP™ in the UF/MUF resin the glue should be used within 3 to 4 hours otherwise it starts thickening. In any case it should not be kept overnight. To ensure this does not happen it is always advisable to make small batches of 40 to 60 kg , depending on the requirement.
- Since Protecto-GLP™ changes the color of the glue , its addition in the resin is clearly evident in the glue line and sometimes the color may be transferred along with the resin into the face, hence we do not recommend its use in decorative plywood. For this purpose Protecto-GLP™ can be used in making the back ply and final pasting of decorative face should be without Protecto™.

## USE OF PROTECTO - GLP™ WITH PF RESIN

**Protecto - GLP™ can be used as a glue line poison with PF resin in the manufacture of plywood, block board, flush door , etc. in the following manner**

- First the PF resin is taken in the glue mixer, to which Protecto - GLP™ is added at 1 % w/w level. The formulation is dissolved in the resin by thorough mixing for 15 to 20 minutes , so that no undissolved particles remain and the color of resin changes to orange-yellow.  
Since Protecto-GLP™ is acidic (pH 3.0 to 3.5) in nature, it reacts with the free alkali present in the PF resin and the substituted cresols in the formulation get converted to their respective sodium salts which are water soluble. As a result the pH of the resin may be lowered by about 0.3 to 0.5 units ,i.e. if the resin pH is 9.5 ,it may come down to 9.0 after Protecto - GLP™ addition.  
The marginal lowering of pH does not interfere in the normal functioning of the PF glue
- Except for lowering the pH and change in color of resin , Protecto™ does not change any of the desirable properties of PF resin such as viscosity, flow time, gel time and bond strength.
- Protecto - GLP™ is fully compatible with the hot press conditions that are normally adopted for PF resin.



# PROTECTO PASTE FX (YELLOW COLOUR)™ FORMULATION

PROTECTO-PASTE FX™ is a specially developed anti-wood borer (Lyctus sp.), anti-termite and anti-fungus water soluble fixed-type wood preservative formulation for protecting wood and timber against the attack of pests. Protecto-Paste FX™ formulation is based on biodegradable organic chemical (substituted cresols) and has been specially developed for treatment of timber and wood through in-house R&D efforts.

## APPLICATIONS

PROTECTO - PASTE FX™ is available in 1 Kg / 6 Kg pack consisting of three components viz. Protecto-Paste FX™ A (500g/3 Kg), Protecto - Paste FX™ B (250g/1.5 Kg) and Protecto -Paste FX™ C (250g /1.5Kg)

To prepare a ready-to-use solution, add the contents of B (1.5 kg) to 600 Kg water in a PVC/metal drum, mix by stirring for 1 minute, then add contents of A (3 kg) to this solution and stir vigorously for about 20 minutes to dissolve the paste completely in water to give an orange-yellow colored solution of around neutral pH. To this solution add the contents of C (1.5 kg) and stir to dissolve completely. Protecto™ solution (orange-yellow colored) is now ready for use and requires no further dilution.

METHODS OF TREATMENT	APPLICATIONS
<ul style="list-style-type: none"> <li>VACUUM - PRESSURE IMPREGNATION</li> </ul>	WOODEN PALLETS WOODEN CRATES
<ul style="list-style-type: none"> <li>DIPPING</li> </ul>	BATONS & FRAMES FOR FLUSH DOORS / BLOCKBOARDS FURNITURE

## ADVANTAGES

- Yellow colored paste (Protecto - Paste FX™ A)
- Soluble in water only in the presence of alkali such as caustic soda

## SPECIFICATIONS

- Yellow colored paste which dissolves in water in the presence of alkali such as caustic soda to give orange-red colored solution.
- pH of paste **2.0-3.0**
- Moisture content of paste **20-24 % w/w**
- Solids content of paste **75-80 % w/w**
- Shelf Life: Best before **5 years** from date of manufacture

## ADVANTAGES

The major advantages offered by the Protecto™ formulations as against conventional wood preservatives are its broad spectrum of action against fungus, wood borer and termites, they are PCP (penta chlorophenol)–free and do not contain any carcinogenic or toxic elements like copper and arsenic that are normally present in conventional wood preservatives. Protecto™ is user-friendly, environment-friendly since it is completely biodegradable, has low toxicity, does not have offensive odor and easy and safe to handle.

## STORAGE

Store in covered place away from heat and moisture

## HANDLING

- Use PVC/Rubber hand gloves and safety equipment to avoid skin or eye contact
- Wash hands with soap and water after use
- In case of spillage and fire, irrigate with water
- May cause skin or eye irritation
- Harmful or fatal if swallowed
- May lead to dizziness, vomiting or unconsciousness

## EMERGENCY FIRST AID

We do not foresee any ill effect on health provided the formulation is used for the purpose it is intended and due attention is paid to the precautions and protective measures necessary when chemicals are handled. In case of exposure, remove the victim to fresh air area. Administer artificial respiration or oxygen, if necessary.

**Skin:** Wash the affected area with plenty of water and soap

**Eyes:** Flush with plenty of water for at least 15 minutes

Seek medical aid without delay for severe exposure

## PACKING

6 Kg packing consisting of

**A-** 3 Kg in wide mouth PVC jar with polyethylene liner

**B-** 1.5 Kg in PVC bottle

**C-** 1.5 Kg in Pauch

As per customer's requirement a smaller packing (1 kg) is also available.

## FOR COMMERCIAL / TECHNICAL QUERIES

### DEEPAK NITRITE LIMITED

2<sup>nd</sup> Floor, Fermenter House, Alembic City, Alembic Avenue Road, Vadodara – 390 003, Gujarat, India.  
Tel: 0265-3960-200 / 9904709853 | E-Mail: rmahajan@godeepak.com | www.godeepak.com

# PROTECTO ECO-F (YELLOW COLOUR)<sup>™</sup> FORMULATION

PROTECTO-PASTE (ECO-F)<sup>™</sup> is a specially developed anti-wood borer (Lyctus sp.) , anti-termite and anti-fungus water soluble ,partially fixed- type wood preservative formulation for protecting wood and timber against the attack of pests. Protecto-Paste (ECO-F)<sup>™</sup> formulation is based on biodegradable organic chemical and has been specially developed for treatment of timber and wood through in-house R&D efforts.

## APPLICATIONS

PROTECTO-PASTE (ECO-F)<sup>™</sup> is available in 5 Kg pack consisting of two components viz. Protecto-Paste (ECO-F)<sup>™</sup> A (4.0 Kg), Protecto-Paste (ECO-F)<sup>™</sup> B (1.0 Kg).

A bigger pack consisting of two components viz. Protecto-Paste (ECO-F)<sup>™</sup> A (80.0 Kg), Protecto-Paste (ECO-F)<sup>™</sup> B (20.0 Kg) is available on request.

To prepare a ready-to-use 1 %w/w solution, add the contents of B (1000g) to 500 Kg water in a PVC/metal drum, mix by stirring for 1 minute, then add contents of A (4000g) to this solution and stir vigorously for about 20 minutes to dissolve the paste completely in water to give an orange-yellow colored solution of around neutral pH. Protecto<sup>™</sup> solution (orange-yellow colored) is now ready for use and requires no further dilution.

In case of bigger pack, prepare 1 % w/w solution of formulation in water by using 1 part of B and 4 parts of A by weight. For preparing 100 L of 1 % w/w solution, add 200 g B and 800 g A to 100 L water and stir to dissolve. Weigh out exact quantities to get correct strength of solution.

## METHODS OF TREATMENT

- Vacuum-pressure impregnation of solid wood battens and frames of flush doors & blockboard core veneer
- Dipping of solid wood

## SPECIFICATIONS

- Yellow colored paste which dissolves in water in the presence of alkali such as caustic soda to give orange-red colored solution.
- pH of paste **2.0-3.0**
- Moisture content of paste **20-24 % w/w**
- Solids content of paste **75-80 % w/w**
- Shelf Life: Best before **5 years** from date of manufacture

## ADVANTAGES

The major advantages offered by the Protecto-Paste (ECO-F)<sup>™</sup> formulations as against conventional wood preservatives are its broad spectrum of action against fungus, wood borer and termites, they are PCP (pentachlorophenol) – free and do not contain any carcinogenic or toxic elements like copper, chromium and arsenic that are normally present in conventional wood preservatives. Protecto<sup>™</sup> is user-friendly, environment-friendly since it is completely biodegradable, has low toxicity, does not have offensive odor and easy and safe to handle.

## STORAGE

Store in covered place away from heat and moisture

## HANDLING

- Use PVC/Rubber hand gloves and safety equipment to avoid skin or eye contact
- Wash hands with soap and water after use
- In case of spillage and fire, irrigate with water
- May cause skin or eye irritation
- Harmful or fatal if swallowed
- May lead to dizziness, vomiting or unconsciousness

## EMERGENCY FIRST AID

We do not foresee any ill effect on health provided the formulation is used for the purpose it is intended and due attention is paid to the precautions and protective measures necessary when chemicals are handled. In case of exposure, remove the victim to fresh air area. Administer artificial respiration oxygen, if necessary.

**Skin:** Wash the affected area with plenty of water and soap

**Eyes:** Flush with plenty of water for at least 15 minutes

Seek medical aid without delay for severe exposure

## PACKING

5 Kg packing consisting of

**A-** 4000 g in wide mouth PVC jar with polyethylene liner

**B-** 1000 g in PVC bottle

Protecto-Paste (ECO-F)<sup>™</sup> is a water soluble, partially fixed type wood preservative that is specially developed for use in solid wood that goes into manufacture of panel products (plywood, blockboard and flush doors ) and furniture that is used in the interior where contact with water is not anticipated. The formulation is free of chromium based fixative making it 100 % eco-friendly and safe.



## PROTECTO ECO-F DIPPING FORMULATION

PROTECTO (ECO-F)<sup>™</sup> is water soluble eco friendly wood preservative that is specially developed first time in India by DEEPAK NITRITE LTD for use in the wood panel and other wood based products and very safe in use.

### APPLICATIONS

PROTECTO (ECO-F)<sup>™</sup> is made of three components 'A', 'B', and 'C'. (Before using Protecto, please clean the tank thoroughly eliminating previous chemical completely)

To prepare a ready-to-use 0.96% w/v solution, add the component of B to water mix by stirring for 1 minute, then add component of A to this solution and stir vigorously for about 10 minutes to dissolve the paste completely in water. Then add component C to this to make it complete ready solution. Protecto solution is now ready for use and requires no further dilution

### PROTECTO COMPONENT

Water solution (in Liters)	Component B (in Kg)	Component A (in Kg)	Component C (in Kg)
2500	4	16	4
2500	2	8	2
500	0.800	3.200	0.800
200	0.320	1.280	0.320
100	0.160	0.640	0.160

For more details please contact:  
0265-2345289 / 9106391907

## PROTECTO WOOD PRESERVATIVE SALIENT FEATURES & ADVANTAGES

### PERFORMANCE

- R&D developed true wood preservative ,patented technology
- Broad spectrum activity against wood borers (Lyctus sp.), termites and fungus
- Highly stable organic molecule with prolonged total activity in wood
- Chemical remains unchanged in activity and concentration in wood

### CHEMICAL PROPERTIES

- Active ingredient is a mixture of substituted cresols
- Good solubility in water and has mobility through wood
- Low volatility
- Completely biodegradable, environment - friendly
- Fixation in wood polymers
- Stable over wide pH range and temperature
- Moderate leach ability, isomerization and no autodegradation
- Compatible with PF, UF and MUF resins

### TOXICOLOGY PROFILE

- Safe to use ,no bad odours or gases in hot press
- Non-irritating to skin and mucous membrane and high LD50
- Non-carcinogenic, non-mutagenic and safe for environment
- Highly effective at moderate dosages

### CERTIFICATION

- Efficacy against insects and fungus proved at IPIRTI, Bangalore
- Toxicology testing at Shriram Institute, New Delhi
- Widely used in Plywood and Timber industry for last 10 years

### METHODS OF APPLICATION

- Dipping
- Vacuum-Pressure Treatment
- Dip Diffusion
- Glue Line Poisoning



**ECO-FRIENDLY**  
WOOD PRESERVATIVE

