

GENICS™ PostGuard

GENICS Inc., a member company of the ATCO Group has introduced a patented wood preservative product to commercial markets. The product is widely used by utility companies throughout Canada and United States to treat wood utility poles. Sold under the industrial name “CobraRod™” the product is proven to extend the life of wood pole installations indefinitely. The result has been tremendous savings to utilities that have reduced costs of remediation and replacement while avoiding collateral environmental damage so often associated with wood preservation.

The product is now available to retail and contractor markets under the brand name **Genics™ PostGuard**.

PostGuard is designed for use in fencing, posts, poles, pilings, millwork, log homes, decks and window joinery. It is a solid rod-shaped composite of boron and copper. It is safe to handle, environmentally friendly, easy to install, more effective and longer lasting than pre-treated lumber or topical applications.

PostGuard STOPS ROT from the Inside Out



Stops Rot
From The Inside Out



Boron/Copper Rods



Sealing Plugs

Introduction

Genics™PostGuard is a highly effective wood preservative that is environmentally safe, safe to handle and easy to apply. Genics Inc. is pleased to announce that it is now offering this innovative product through commercial channels. The product is already proven successful in industrial markets in the treatment of wooden hydro poles to preserve the structural integrity of wood and to prevent and arrest the onset of rot, fungus and insect infestation.

Genics currently sells the product to hydro and utility companies throughout North America under the brand name Cobra™Rod. PostGuard and Cobra™Rod are one and the same. The product has been renamed and branded as **Genics™PostGuard** for commercial consumption.

This document reviews the application and efficacy of PostGuard to give the reader a full understanding of how the product works.

In addition to this document there are two research reports available on studies conducted by PowerTech Labs Inc.:

1. EVALUATION OF COBRA™ WOOD PRESERVATIVE PRODUCTS
2. MIGRATION OF COPPER IN COBRAROD™ TREATED POLES

These are available upon request.

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Product Description

Genics™ PostGuard is a wood preservative that is also a fungicide and an insecticide. The product takes the form of a solid cylindrical rod that is about a ½ inch in diameter and in lengths of 2 or 4 inches. The rod is a dark green color and has a glass-like look and feel. Each rod comes with a capping plug.

PostGuard is a safe, low cost, Environmental Protection Agency (EPA – US) and Pest Management Regulatory Agency (PMRA – Canada) approved decay protection and prevention system for wood. Comprised primarily of three internationally recognized, highly effective water-diffusible wood preservatives, Anhydrous Disodium Octoborate, Copper Oxide and Boric Acid. It effectively controls fungal decay, and wood-boring insects.

The Borate/Copper complex which is formed during manufacturing is highly effective, user friendly and more environmentally acceptable than traditional toxic alternatives, such as fumigants. Yet as safe as these two actives are, the Copper Borates are highly effective in controlling and stopping fungal decay and many insects at concentrations that are not even close to reaching poisonous levels to humans and other mammals.



How It Works

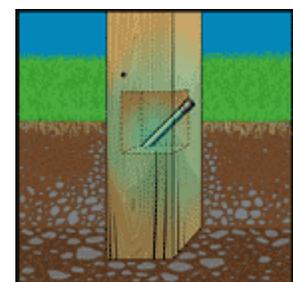
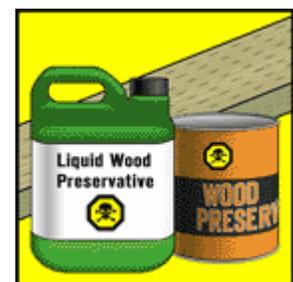
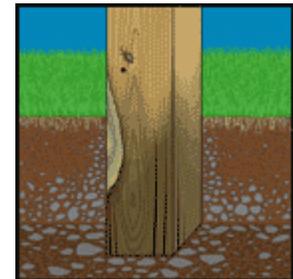
PostGuard works from the inside where rot starts.

Soon after a post is installed, the above ground wood dries and checks, exposing the untreated interior wood. The onset of rot at the ground line is inevitable. Fungal attack cannot occur in dry wood with less than 20% moisture content (MC). Wood at the ground line is usually above 25%MC and with the combination of air (oxygen), temperature and food source (wood) the conditions for fungal spore growth are perfect.

Liquid preservatives treat the surface wood. Pressure treated lumber only penetrates about 1/4 inch into the wood surface leaving the core of the lumber unprotected.

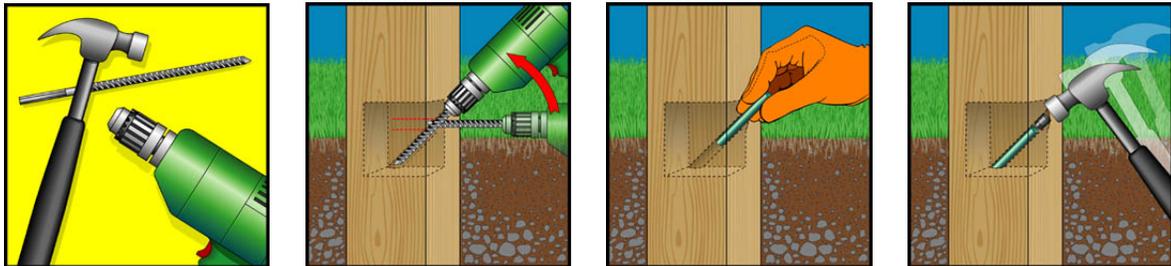
The PostGuard rod is installed inside the post at the ground level to protect the entire wood member at this most susceptible area. It's safe to handle and is made entirely of a unique Boron and Copper Hydroxide complex. These compounds are melted and fused into the form of a solid glass-like rod, which begins to dissolve with moisture in the wood and travels throughout the entire wood section at the ground line zone.

PostGuard will arrest early stages of decay and set up a defensive protection for years. PostGuard rods can also be used in landscape timbers, deck joists and posts and other places where moisture is present



How PostGuard Is Installed

1. All you need to install PostGuard is a hammer, a drill and a 1/2 inch drill bit.
2. A hole is drilled right at ground level into the centre of the post. Begin drilling at a level angle. Once the bit is established tilt the angle downward at a 45 degree angle.
3. Place the rod into the hole by hand. Never force or hammer the rod itself to avoid shattering.
4. Place the plug over the hole and tap it home with a hammer to seal the hole.



PostGuard protects wood 'From The Inside Out', is more effective and longer lasting than surface solutions and pressure treatments.

But even better, PostGuard is safe to handle, easy to install and environmentally responsible.

PostGuard is Proven

Major Electric Utility and Hydro Companies throughout North America have used PostGuard under the industrial brand Cobra™ Rod for years to extend the life of their wood utility poles. The product is proven to have saved these companies tens of millions of dollars in remediation and pole replacement costs over the past 20 years.



Sum & Substance

The efficacy and long lasting characteristics of the product have been proven over 20 years of research and field-testing. The demise of CCA treated lumber and the desire among consumers and governments to eliminate the use of strong toxins and pesticides in the environment, make products like PostGuard the natural choice for the future.

Genics is a leading developer of environmentally safe wood preservation systems and its products are used in industrial settings throughout North America. As part of the ATCO group of companies Genics Inc. has the depth and distribution capabilities to successfully take this product to commercial markets.

Appendix

Press Release - 2002-10-16

GENICS UNVEILS SAFE WOOD PROTECTION PRODUCT FOR CONSUMERS

Patented Non-Toxic Technology Used Continent-Wide To Preserve Utility Poles

EDMONTON, Alberta – Genics Inc., an ATCO Group company, has been awarded federal regulatory approval to sell a consumer version of its unique, environmentally safe wood preservation product used by utility companies across North America to significantly extend the life of power poles.

The company announced today its non-toxic, patented *Genics Post Guard* will be launched in western Canada in mid-November with special focus on vineyards, the construction trades, homeowners, farms and related businesses.

Genics, the North American leader in developing environmentally progressive wood protection products, said the Pest Management Regulatory Authority, a joint body of Health Canada, Agriculture Canada, and Environment Canada, has approved the sale of Post Guard.

"Painted and pressure-treated lumber, widely used for decks, fences and playgrounds, contains harmful chemicals such as arsenic that can cause environmental concern when they leach into the ground," said Paul Blaha, President, Genics Inc. "*Post Guard* is totally safe, ends the danger of health risk and actually creates an environmental gain."

Genics Post Guard is a smaller version of *CobraRod*, the breakthrough product that extends the life of utility poles while eliminating total need for widely applied toxic preservatives. *CobraRod* has saved utilities across North America tens of millions of dollars in maintenance and replacement costs.

Post Guard can now be used anywhere wood is open to the elements or touches the ground and can be used with existing posts to extend their life.

For consumer use, Genics decreased the size of the industrial *CobraRod* to fit the needs of fence, deck, and gazebo builders. The two-inch rods, made of copper and boron, are fully inserted into wood posts and beams just above ground level. The procedure protects all wood from the inside out, compared to pressure treated products that only soak the exterior surfaces in chemicals.

"The use of *Genics Post Guard* over time can create micro nutrients in the soil which help plants grow while extending the life of the wood up to eight years," added Mr. Blaha.

After launching in western Canada in November, Genics, an Edmonton-based company, expects to extend distribution to the U.S. Pacific Northwest with rollout to more regions in 2003.

ATCO Group is an Alberta based corporation with a worldwide organization of companies engaged in Utilities, Power Generation, Technologies, Industrials, Logistics and Energy Services.

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Research

The following report is a summary of an efficacy study conducted by PowerTech Labs on Cobra™ Rod. Cobra™ Rod is the industrial name for the product. Genics™ PostGuard and Cobra™ Rod are one and the same. Wherever Cobra™ Rod referenced used in these reports it also applies to Genics™ PostGuard. For a copy of the full report and other research documents please contact our office directly.

Cobra™Rod Efficacy January 2001

The use of borates as a wood preservative has been well documented over the last 20 years. There is no question as to its effectiveness and relative safety to the environment when used properly. The weakness of the borate is the same phenomenon that makes it work—the molecule's ability to travel by osmosis. Genics created the Cobra™Rod, which combines the boron molecule with copper to create a diffusible rod that incorporates the preservative benefits of both.

Since 1996, Genics has been actively engaged in field trials and studies to prove the efficacy of the Cobra™Rod. Powertech Labs have undertaken studies to determine the long-term efficacy of the Cobra™Rod. The attending photos are from a study conducted by Powertech Labs in Vancouver, BC.



Powertech Labs is an independent research firm that is wholly owned by BC Hydro. They are highly regarded by all utilities in Canada. The Cobra™Rod is a new formulation from proven remedial active ingredients; boric acid, disodium octaborate and copper hydroxide. These ingredients are then fused into a glass-like rod. This preservative when compared to its crystalline ingredients acts as a slow release system for the boron and copper compounds. Powertech laboratory studies clearly demonstrate a slower dissolution of the Cobra™Rod than that of the Boron Rod. Increased efficacy of boron (boric acid) against both wood fungi and several wood boring insects by addition of the copper compounds is demonstrated.



The study shows very positive results for the Cobra™Rod after 6 months exposure in an outdoor test plot in British Columbia, Canada. This is a relatively wet environment. Photo 804 shows the ground line section, 0-100mm, which has been stained to show the Cu migration only. The vertical migration is quite profound both above and below the rod locations. The results are very positive since they indicate that the treatment will be effective against B tolerant fungi in the heartwood region. There is very little horizontal Cu migration. This is likely a function of high heartwood moisture content and the fact that copper ion migration is much easier along the wood grain than across it. The boron tends to move out horizontally as well as vertically and to a much more pronounced degree than the copper. Boron migrated above the +100mm section and below the base of the -200mm section. The copper movement extends below the groundline section into the -100mm cross section but was confined to only the core of the pole.

After only 6 months, the Cobra™Rod is performing as designed. It protects the internal areas of the pole with a broader spectrum of active preservative. The boron is slowed down and migrates about 8 to 1 over the copper and copper now has enough mobility to be effective, however, it is very unlikely that the copper will migrate to the outer area of the pole. Thus there is little to no danger of leaching into water or fish producing streams. The migration, being mostly vertical, will effectively cover the intended target area to be treated. ~