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IMPREGNATING AGENTS IN THE WOOD INDUSTRY

“Safe handling of biocidal products is at the top of our priority list”

In order to make wood more resistant to fungi or insects, it is often treated preventively with a preservative. This wood preservation is usually done by immersing the wood in a biocidal product or impregnating it under pressure. Biocides can be highly effective, but they also present health risks. Freddy Vermeersch, manager of impregnation company Vernafix: “We closely monitor the safety measures and requirements pertaining to the use of biocidal products.”

Roofers, carpenters, joiners, gardeners ... They all come into regular contact with wood treated with biocidal products, namely wood preservatives. Biocidal products are used to control harmful organisms such as fungi and pests. However, some of these products may present a significant health risk and may be toxic, carcinogenic or harmful to reproduction. In such cases, they belong to the ‘closed circuit’ and are primarily restricted to professional users.

How and why is wood preserved?

Wood is divided into five usage categories, including ‘indoor use’ (category I) and ‘aboveground, in all weathers’ (category III). The higher the usage category, the greater the risk of environmental degradation (e.g. by fungi or wood rot). If the wood is not naturally durable enough for the desired application, it can be treated with a biocidal product. The two most common treatment methods are impregnation under pressure and immersion. For both methods, safety shoes, goggles and gloves are mandatory.

Impregnation under pressure: autoclaves

At Vernafix, wood is impregnated under pressure. The wood is placed in a fully automatic computer-controlled sealed pressure vessel (or autoclave). The impregnation tank is made airless and the air disappears from the wood. The autoclave then fills up with the biocidal product from the storage tank. The pressure increases until the correct amount of biocidal product is drawn into the wood. The pressure then drops and the wood is vacuumed to remove the excess liquid. Finally, the wood is placed in roofed, open warehouse to dry, and the wood preservative can set.

Impregnation without pressure: soaking stations

A commonly used method without pressure is immersing wood, which is done in a soaking station. The wood is immersed in a large bath of biocidal products. It is then left to hang above the bath to let the preservative drip off.

Immersion is often used for wood from the lower usage categories, where the risk of damage by moisture, fungi or insects is smaller.



A fully computer-controlled process regulates the concentration of biocidal products in the impregnation tanks.

Computer-controlled impregnation tanks

Freddy Vermeersch, manager of family firm Vernafix: "As a wholesaler, we supply treated wood slats and poles to timber traders, after which they largely end up in the garden sector, for example for the installation of fences. Smaller volumes go to the construction sector. For example, wall cladding."

Computer-controlled dosing

Wood preservatives are hazardous products. They are harmful when ingested and corrosive. You can chemically preserve wood by immersing it in a soaking tank or by impregnating it under vacuum pressure (see box). "We have two impregnation tanks that work under pressure. A fully computer-controlled process is used to calculate the dosage of biocidal products and other active substances and liquids in the tanks. The operator only needs to be in the vicinity of the tank for the necessary sampling and checks. By doing so, our employees' exposure is kept to a minimum. If there is a malfunction, such as pressure loss, we are alerted immediately."

Double check

Vernafix was awarded an ATG (Agrément Technique / Technical Approval) certificate for its wood treatment process. Three times a year, WOOD.BE conducts an audit at Vernafix. Sebastien Coudeville, responsible for wood preservation and quality at WOOD.BE: "We take the necessary samples for analysis in our lab: how much liquid does the wood absorb? Is the end product compliant and safe to use?"

Because both Vernafix and WOOD.BE closely monitor all processes, they build in double checks and maximum safety. Moreover, the quality assessment came at the request of the company itself. Coudeville: "An ATG quality mark is not mandatory in Belgium. Nonetheless, we highly recommend that impregnation companies and soaking stations with an ATG certificate highlight this fact in their communications with customers. For example, by indicating it on invoices. By doing so, we also hope to convince users of the quality of the end product."

Proper personal protective equipment

Joëlle Etienne, prevention advisor at Vernafix, is responsible for employee safety. "We closely monitor the safety measures and requirements pertaining to the use of biocidal products. Every year, we organise four toolbox meetings to refresh operators' knowledge of the treatment process and safety regulations. The meetings are concluded with concrete points for improvement and actions. We highlight a specific topic each time, chosen in consultation with the operators. They recently put mobility in workwear on the agenda. By involving them and listening to them, you make your employees feel supported and you increase their commitment, also in terms of safety."

Etienne ensures that the operators wear the required personal protective equipment. Examples include safety shoes, goggles and gloves. Their supplier advises them in this regard. "It is definitely not an unnecessary luxury," explains Marina Dhondt, Health & Safety Consultant at WOOD.BE. "We observe that companies do not always know what protection



Safety and quality are of the utmost importance.

Mandatory registration

If you want to use a closed-circuit biocidal product, you have to register online at www.biocide.be. Amanda Vermeersch, co-manager of Vernafix: "Every year we register as a professional user on the website. This process goes very smoothly. Both the FPS Public Health and our own external environmental coordinator keep us informed when it is time to register or if there are changes to report."

is really needed and what hazards the products entail. For example, there are standards that the gloves need to meet with wood impregnation - in this case they are chemically resistant gloves, i.e. type B." This information is to be found in the product's authorisation act and possibly in the summary of product characteristics (SPC), both of which can be found in the list of authorised biocidal products on www.biocide.be.

A good supplier is priceless

Vernafix consciously chose a supplier who provides extensive support. Freddy Vermeersch: "Our supplier sits around the table with us to work out the wood preservation process and the correct dosages and monitors this closely along with us. Too much product is not safe and not profitable, too little makes the wood not durable enough. In addition, the supplier provides us with the latest safety data sheets mentioning the hazards and risks per product and offers safety training for operators. I urge everyone who works with wood preservatives to look for a good supplier, who will help you in word and deed."

The FPS Public Health informs

Do you want to know more about the safe use of biocidal products, the risks involved or the registration obligation? You can find plenty of information on www.biocide.be.

You can also find a leaflet and an information sheet tailored to the wood sector:

- **Folder: Biocides for wood preservation. What do you need to know as a professional user? (for the employer/ prevention advisor)**
- **Information sheet: Working safely with wood preservatives. Biocides: recognise them and protect yourself! (for employees)**



Biocides?
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the necessary
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