

**TANALISED®**  
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# **TRADITIONAL TANALISED® CCA**

**A PROUD RECORD OF SERVICE**

Answers to  
frequently asked  
questions

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# TRADITIONAL TANALISED® CCA

## A PROUD RECORD OF SERVICE

TANALISED® is the longest serving and most recognised brand of timber treatment in Australia, New Zealand and many other parts of the world. CCA stands for Copper Chromium Arsenate and it remains one of the outstanding advances in wood protection science in the 20th century.

The first CCA product was developed in India by Dr Sonti Kamasan back in the 1930 's and it immediately started to take the place of many other wood preservatives used at that time. In fact CCA still remains today one of the most widely used timber preservative in the whole world.

In a rapidly changing environment it is rare to find a product or technology that has remained more or less unchanged for over sixty years. Yet due to the unique characteristics of CCA, it has survived the tests of many years in countless applications and uses throughout the world. Indeed, CCA remains to this day the benchmark by which the performance and effectiveness of new alternative wood preservatives are measured.

These days regulatory controls on chemicals and pesticides have become much more strict in the interests of public health and safety and for protection of the environment. It is important to note that due to its unique attributes,

CCA continues to be registered and approved for a host of uses in Australia, New Zealand and many other countries in the light of many scientific reviews and changing government legislation.

Effective and low cost preservation of timber with CCA has made an enormous contribution to the conservation of our forest and timber resources. With the decreasing availability of most high durability timber varieties from old growth native forests, CCA treatment of plantation and re-growth timber, particularly softwoods, has helped meet the demand for durable building products. Without preservative treatment, many of these plantation grown timbers could not be used in exterior and ground contact applications where a high degree of resistance to decay and termites is required.

Relied on for generations now, Tanalised® CCA is still preferred for high hazard situations and where treated wood products must have the highest levels of durability and engineering safety. Tanalised® CCA stands along side a range of Tanalised® wood preservatives in a global product family.

TANALISED® CCA timber has a proven history going back over fifty years, and a guaranteed future that will see it last well into the new century.

## Why treat timber with such toxic chemicals?

Firstly, preservation of timber greatly improves the efficiency of our utilisation of forest resources and it does this in two ways. One, it allows the use of low natural durability but fast growing and plentiful plantation softwoods, such as Radiata pine, in external and ground contact situations where resistance to decay and termites is required. This means that slow growing, naturally durable timbers such as many of Australia's native hardwood species can be conserved, or used for higher value applications. The other way in which preservation helps conserve resources is that it allows the original timber to last at least as long as it requires to re-grow its replacement in the forest.

It is true that like most chemicals and pesticides, CCA is toxic in its pure form. It would not function as a preservative unless it made timber unpalatable, toxic or repellent to wood destroying organisms. The critical issue is whether the CCA treated wood products are safe to handle and use in the finished form when the preservative has become fixed within the wood structure. The answer to this question is overwhelmingly yes in the great majority of cases providing that simple, common sense handling and usage precautions are followed.

## How do I know that TANALISED® CCA timber is safe?

CCA treated timber has been in use for more than 60 years. In all that time, very few if any serious, validated health problems to humans or animals have been reported when the product was manufactured, handled and used as recommended. These recommendations include using appropriate safety and personal protection measures when working with the product as detailed in the next section.

Also consider the following factors: The product has been in widespread use for decades and many hundreds of thousands of tonnes of CCA treated wood products are produced and used annually throughout the world. Conservatively, literally hundreds of millions of people will have contact with it to a lesser or greater extent. If there were appreciable risks associated with its use, the evidence for that should be abundant. It is significant to note that such evidence is

extremely limited and pertaining to unusual circumstances, or purely anecdotal. Use of CCA preservative has been reviewed extensively by government agencies in a number of countries including Australia, New Zealand, Canada, the United States and the United Kingdom as well as other major European countries. In all these cases registration has been continued although restrictions on residential use are becoming more common. Numerous other government, academic and industry sources throughout the world, such as the CSIRO, have performed their own investigations and confirm that in most circumstances the products' benefits far outweigh any minimal risks associated with its use. In addition, use of CCA preservative in Australia is regulated nationally by the Australian Pesticides & Veterinary Medicines Authority (APVMA) and state environmental protection agencies.

## What are the recommended safety precautions?

Tanalised® CCA treated wood products are safe to use provided that a few simple handling and personal protection measures are observed. Handling or working with almost any material may present certain hazards. In particular, exposure to wood dust from any source has been identified as a potential hazard and exposure standards have been set. Control of exposure to wood dust within allowable levels will automatically limit any potential exposure to the preservative constituents. These recommendations are intended to reflect common sense and good hygiene practices. Most are applicable to both treated and untreated timber.

- ◆ Only use treated timber that is clean, dry and free of surface residues and deposits.
- ◆ Keep the work area clean. Do not allow wood dust to accumulate.
- ◆ Avoid inhaling wood dust and wear a filter mask while power sawing, machining, sanding or any operation where wood dust is generated. Air extraction in enclosed work areas may be required in some cases.
- ◆ Protect the eyes while using power tools or any work where small particles may be ejected.
- ◆ Wear gloves when handling the material, and wash hands after work and before eating, drinking or smoking.

- ◆ Brush or wash sawdust off skin or clothes.
- ◆ Wash wood dust contaminated work clothing and safety equipment before reuse.
- ◆ **DO NOT BURN** off-cuts or waste pieces.

It must be stressed that individual sensitivity to a particular material, man made or natural, can vary widely. In the unlikely event that any undesirable effects occur, such as irritation of the skin, eyes, nose or throat, or dizziness, muscle pain, headache or unusual tiredness, stop work and review your personal protection measures and consult a doctor or work site safety advisor. Material safety data sheets and handling guidelines are available from your supplier or Koppers Arch for further information.

### Can exposure to CCA treated wood cause cancer?

While arsenic and some forms of chromium are regarded as capable of causing cancer in humans, exposure to arsenic and chromium present as CCA treated wood has not been shown to cause cancer. The effects of exposure and to CCA treated wood have been examined in a number of Australian and overseas studies on wood workers and treatment plant personnel. These individuals would be expected to have a high potential for exposure. The results of these studies supports the position that people exposed to the CCA in treated wood are at no increased health risk because of their exposure when appropriate personal protection and hygiene measures are taken as detailed in the preceding section.

Long term exposure to wood dust itself has been associated with certain cancers and can have undesirable health effects. Air borne wood dusts should be eliminated or minimised by ensuring good ventilation or air extraction in the work area and by wearing an appropriate filter mask so that Worksafe recommended exposure levels are not exceeded.

### Hasn't CCA been banned in many countries?

While it is true that CCA has been restricted in a number of countries, this has often been for reasons that have little relevance in Australia or New Zealand. For example, some countries such as Germany, Switzerland and Vietnam

among others have never used CCA in significant quantities. In some European countries, CCA is restricted to critical or in-ground applications and alternative preservatives are used for lower hazard, above ground applications. A European Union marketing directive limiting CCA to a range of industrial uses will be effective from July 2004.

In the USA the industry has voluntarily agreed to withdraw CCA preservative for treatment of most non-industrial wood products from January 1, 2004. This decision reflects a pragmatic response to the complex and litigious legal environment in the USA. Use of CCA in industrial, agricultural and utility applications will continue unaffected.

The New Zealand Environmental Risk Management Authority completed a review of CCA in early 2003 and concluded that it presented little if any risk to human health and subsequently there was not a justification to restrict it at this time.

In Australia the APVMA are reviewing CCA yet again in the light of international changes and their report is expected by the end of 2003.

### What exactly is the US EPA's position with CCA?

In February 2002 the United States Environmental Protection Agency (EPA) announced a voluntary agreement with industry to phase out CCA for most non-industrial uses by January 1, 2004. This means wood for applications such as playground equipment, timber decking and most residential household uses will be treated with alternative preservatives. Uses by utilities, for example in power poles, and in industry and agriculture are not affected.

In its announcement the EPA stated: 'EPA has not concluded that CCA treated wood poses unreasonable risks to the public for existing CCA treated wood being used around or near their homes or from wood that remains available in stores. EPA does not believe there is any reason to remove or replace CCA treated structures, including decks or playground equipment. EPA is not recommending that existing structures or surrounding soils be removed or replaced.'

## **Can TANALISED® CCA be used for children's play equipment, picnic tables or inside houses?**

Koppers Arch strongly believes that clean, dry CCA treated timber is safe for play equipment and similar uses. For example, in 1990 the United States Consumer Product Safety Commission (CPSC) investigated this issue carefully following concerns that children might be exposed to unacceptable levels of arsenic from CCA treated wooden play equipment. Their investigations showed that clean, dressed and dry CCA treated wood may be safely used for playground equipment and that exposure to the preservative constituents was below detectable levels when these measures were followed. However, the CPSC revised their assessment in 2003 and proposed that there may be a small but significant risk from contact with CCA treated play equipment. Other experts have been critical of this latest study, including the fact that even with the CPSC's worst case assumptions, total exposure to or ingestion of arsenic was unlikely to exceed World Health Organisation guidelines. The most recent findings of the US EPA and the New Zealand Environmental Risk Management Authority have supported this position and have concluded

that normal levels of contact with CCA treated timber are unlikely to result in excessive exposure to arsenic or other constituents. Certain environment advocacy groups have claimed that dirty or deteriorated CCA treated timber may result in excessive exposure of arsenic by skin contact. While the methods used and results obtained in these studies are not supported by the US EPA, Koppers Arch recommend that timber playground equipment is painted or maintained for best hygiene protection and avoidance of injuries from splinters.

Similarly, CCA treated timber can be used for picnic tables and the like since there is little or no potential for migration of the preservative constituents onto any food that may come into incidental contact. Clean, dry CCA treated timber can also be used for interior construction. All construction debris and residues such as sawdust and shavings should be carefully cleaned up and disposed of properly.

## **Can I use TANALISED® CCA around food, water, vegetables or other plants, pets and animals?**

The CCA preservative is highly leach resistant because it becomes "fixed" within the wood as a result of complex reactions after the treatment. Thus CCA treated timber is suitable for raised flower or vegetable beds, landscaping, mushroom trays, grape and tomato stakes, greenhouse uses and similar applications. Scientific studies have shown that the CCA constituents do not occur in foods produced in this manner at significantly higher levels than are naturally present.

Similarly, in the great majority of cases with domestic pets, farm animals and wildlife CCA treated timber is safe. Treated timber should not be used in direct contact with storage of human food or drinking water. Treated timber is not recommended for use with parrots or other gnawing birds and animals nor for use in fish ponds. Incidental contact with CCA treated timber in large water bodies, such as with docks, marinas or bridges, is acceptable.

## **I have heard that arsenic can still leach from treated wood. Is this true?**

Modern scientific analysis methods can detect extremely low concentrations of materials, particularly with elemental constituents like those in CCA. So while it is true that some leaching may occur (as it can with any treated timber and many other materials), the actual relative scale of leaching is very low and is very unlikely to pose environmental or health risks in normal situations. The great majority of the preservative will remain locked inside the timber.

For example, the Tasmanian National Parks and Wildlife Service investigated the impact of using CCA treated timber boards for walkway construction in pristine world heritage wilderness areas. Their studies concluded that the impact of any leaching or migration of the preservatives constituents was minimal and restricted to the area immediately under the boards. While copper and chromium were found at levels slightly above background levels under the boards, arsenic did not exceed natural background levels in most cases. All metal levels in the soil rapidly dropped back to background levels within even

a few centimetres of the track. Furthermore, the use of treated timber for this application was judged to have less environmental impact on the fragile alpine heath and grass lands compared to allowing tourists and hikers to walk on the unprotected ground.

Any small amount of leaching can be further reduced by sealing the timber surface with paints, stains or water repellent sealants. This has additional benefits in reducing splitting, warping and discolouration.

### **Are there any special precautions that apply to TANALISED® CCA?**

CCA treated wood should **NOT be burned**. Burning may produce toxic fumes and residues.

### **How can I be sure TANALISED® CCA timber will last?**

Very few timber and building related products have received as much scientific scrutiny for so long a period as CCA. There are well documented trials and studies of the performance of CCA going back over fifty years in a number of countries. In Australia, the CSIRO and state forestry departments have conducted long term field trials that have demonstrated the efficacy of CCA treated timber for over thirty years in very hostile environments. The conclusions in these studies as reported by the CSIRO Division of Forests and Forest Products is that the CCA treated timbers are performing at least as well and probably better than the most durable native hardwood species. These reports and an enormous volume of other scientific evidence around the globe overwhelmingly attest that timber when treated with CCA to the correct specification is a remarkably durable material. Refer to Australian Standard 1604 for details of approved treatment levels for the various applications.

### **How can TANALISED® CCA timber be environmentally friendly?**

It is true that the slogan "environmentally friendly" has been over used and even misused in some cases. The reality is that the issues involved are complex and in many cases there are no clear and definitive answers. However in

the majority of studies completed, timber derived from sustainably managed regrowth and plantation resources compares very favourably to most alternative building materials regarding net environmental impact. Particularly compared to man made materials such as steel, aluminium, plastic and concrete, timber has substantially lower environmental cost in terms of embodied energy consumption, intractable waste production, use of non-renewable resources and greenhouse gas emissions. The use of chemical preservatives in timber does have additional environmental impact but this is necessary for and offset by the durability that the treatment confers to the low natural durability plantation and regrowth timbers. This resource could not otherwise be effectively used for exterior or ground contact applications where exposure to natural biological hazards such as fungal decay, borers and termites are expected. In this way treated timber can substitute for man made materials or help to conserve our old growth indigenous forests when high levels of durability are required.

Furthermore, timber is the only manufactured building material that can have a net positive impact in reducing atmospheric greenhouse gases. This is because growing trees consume carbon dioxide and convert it into plant matter and wood fibre by photosynthesis. Preservation protects the timber from decay and termite attack which would result in release of the carbon dioxide back to the atmosphere.

In another landmark finding, the CSIRO Division of Forestry and Forest Products has identified that certain wood decay organisms can produce large amounts of volatile chlorinated hydrocarbon compounds which are harmful to the ozone layer. Again, timber preservation almost entirely mitigates this process.

### **What are the correct installation and maintenance procedures?**

Tanalised® CCA timber is an easy material to use that will provide many, many years of trouble free service. In addition to normal good building and construction practices, there are a number of issues that the consumer or trade person needs to be aware of in order to procure and use the product correctly.

**Hazard level:** There are different levels of treatment available for different service conditions defined in AS1604 which are referred to as hazard levels. Ensure that the timber selected is treated to the correct hazard level for the application required. Using timber in a higher hazard level than it is intended for may result in premature failure. The treatment level can be checked on the brand or label that should be on each piece of treated timber. Most exterior building and landscaping applications come under the following categories.

**H3** for exterior, above ground situations only such as bearers, decking, pergolas, fencing (except for the posts in ground) and lattice.

**H4** for ground contact situations such as landscaping, garden edging, fence posts and garden retaining walls below 900 mm in height (check local council requirements).

**H5** for structural or critical applications in ground contact. This includes house or building poles, house stumps, foundation piles, engineered earth retaining structures greater than 900 mm high and timber that will be in permanent fresh water contact.

**Moisture content:** Tanalised® CCA timber can be supplied "dry" (less than 15% moisture content, or dry-after-treatment) or "wet" (greater than 15% moisture content). It is important that the difference is understood. Softwood timber such as radiata or slash pine must be "dry" in order to be structurally graded (MGP or F grading). Ungraded or "wet" sawn softwood is suitable for non-critical uses such as fencing but may not be suitable for structural applications.

**Structural grading:** The treatment process itself does not significantly affect the ultimate structural strength of the timber. As discussed above, structurally graded softwood timber should be 'dry'. Sawn hardwood timber may be structurally graded while 'wet'. Treated roundwood timber products are not normally structurally graded as such but design guides are available that provide details of allowable working loads in different modes (compression, bending, shear, etc) based on timber species and pole or post diameter. Contact your Tanalised® timber supplier for further details.

**Resealing cut ends and rebates:** Treated timber should not be re-sawn or dressed by the user as this may reduce or nullify the protection

afforded by the treatment. However, when a piece of timber is cut, notched or rebated, there may be a chance that unpenetrated heartwood is exposed on the freshly cut surface. With low natural durability timber such as radiata or slash pine it is essential that these areas are resealed with a suitable 'in-can' or 'brush-on' preservative to ensure that a satisfactory envelope of preservative is maintained. Suitable products for above ground application are XJ Timber Protective, Reseal, Bar D-K, CN Timber Oil, Combat and a number of others. In H4 situations it is advisable not to place a cut end in ground contact. If this is unavoidable then a heavy duty resealing agent should be used such as CN Timber Protective Emulsion or creosote.

For H5 applications a cut end must not be placed in ground contact and doing so may void any product warranty or guarantee.

**Nails, bolts and metal fixings:** Due to the presence of copper and other electrolytes in the preservative, all metal connectors in contact with Tanalised® CCA treated wood should be corrosion resistant. For most situations hot dipped galvanised steel will provide satisfactory performance although higher grade material such as stainless steel should be considered for critical connections particularly where there are additional sources of corrosion (salt) or where very long service life is required. Consult the fixing manufacturer if in doubt.

Do not put Tanalised® CCA timber in contact with, or above uncoated zinc-alum roofing sheets. The presence of copper ions may cause severe corrosion of the sheeting. Use pre-painted metal roofing in these cases.

**Painting and staining:** While the CCA preservative treatment will protect against decay and insect attack for decades, the timber is still prone to the effects of general weathering such as splitting, warping, fading and surface discolouration.

These factors may not be important in a retaining wall for example, they can seriously degrade from the appearance of a deck or pergola within a few years. Koppers Arch strongly recommend that all dimensioned timber in weather exposed, above ground situations is painted or stained to maintain appearance and serviceability. There is a wide range of suitable surface coatings available from simple clear

water repellent sealants which require regular reapplication, clear or semi-transparent timber stains that show a natural timber appearance through to full bodied, opaque acrylic paints that will last for over ten years (according to their manufacturers). Tanalised® CCA timber can be painted or stained like normal timber providing that it is dry and clean. The paint or stain manufacturers' instructions for application and maintenance should always be followed.

### **How do I dispose of off-cuts and waste?**

Tanalised® CCA timber is not a hazardous waste. Small trade and domestic users should dispose of off-cuts and redundant pieces through normal waste collection services. Industrial or manufacturing users generating larger volumes of CCA treated timber waste (>0.5 tonnes per month) may require additional approval from their local waste services or environment authority. Treated timber wastes are not recommended for animal bedding and should not be mixed with green waste for mulching. Do not burn as a means of disposal.

### **Are there better alternatives to using CCA treated timber?**

Most man made materials such as steel, aluminium, plastics and concrete have a higher net environmental impact compared to timber in terms of energy consumption, waste production, use of non-renewable resources and greenhouse gas emissions. Consumers can also select from a number of alternative treated timber products such as Tanalised® Ecowood if preferred. However Tanalised® CCA is preferred in the higher hazard levels (H4, H5 & H6) and where maximum durability, engineering safety and service life is required.

### **What guarantees are there?**

In addition to all statutory and legislated consumer protection rights, Koppers Arch and our partner suppliers provide a comprehensive Guarantee on TANALISED® timber products against decay and termite attack. Contact your supplier for details.

Consumers are advised to retain all purchase records and note the brand details of all timber

supplied. This information will be useful in the unlikely event that any warranty claim or product complaint is made.

### **How can consumers educate themselves further about CCA treated timber?**

Contact us at Koppers Arch ([www.tanalised.com](http://www.tanalised.com)) Chances are that we have or can get the information you need. A large volume of information about CCA is also available through the internet although Koppers Arch advise that some of this material may be inaccurate and alarmist. Retail customers should be able to obtain consumer information sheets where they buy Tanalised® timber.

Consumers can also obtain further information from the Timber Preservers Association of Australia, their state Forestry or Environment agencies, the APVMA, Timber Development or Promotion Councils, the CSIRO Division of Forest Products and Worksafe Australia.

Tanalised® CCA treated wood products are manufactured by many independent producers throughout Australia and New Zealand.  
Available from:

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