

# Chromium, Copper & Arsenic, Oh, My!

## Garden Guy explains (CCA)-treated wood in dyed mulch

Todd is [Sugar Land's Aggie Horticulturist](#) with more than 30 years of experience, designing and installing creative landscapes with plants that thrive in Texas. He always listens to clients' needs and utilizes plants that withstand the heat and become more beautiful with time. Folks love him! Don't take my word for it, check out more than 200 [Nextdoor Recommendations here](#).

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### Key Takeaways with Garden Guy

- Dyed Mulches don't break down easily or naturally
- Poor wood product from dyed mulches robs nitrogen from soils and plants
- Dye in mulch runs off into watersheds and into our environment
- (CCA)-treated wood in dyed mulch is toxic, albeit low-levels
- Chromated copper arsenate (CCA)-treated wood **may cause environmental problems**
- Educate others and eliminate the usage of dyed mulches in landscaping
- CCA's in dyed mulches are awful. Stop it.

Mulch is a great way to improve the look of your landscaping while providing important benefits like suppressing weeds, retaining soil moisture, and helping to insulate the soil.

It's important to select the right type of mulch for your project. Organic mulch like wood chips, shredded hardwood mulch, and pine straw mulch decompose over time, adding nutrients to the soil. Inorganic mulches like gravel, plastic, and rubber last longer, but won't benefit the soil. Stay away from rubber mulch at all costs! [Kiddie Cushion mulch is the best, safe alternative to rubber mulch.](#)

### Did you know?

Properly applied, mulch can reduce water loss from the soil by up to 80%.

Aim for an even 2-inch layer of mulch. A thicker layer won't be more effective and can smother plant roots. Keep the mulch at [least two inches away from the roots](#), trunks, and stems of trees, plants and shrubs. [No mulch volcanoes!](#)

➡ "Many people just do not know the truth about the chemicals in these dyed mulches, the poor wood product it is made from, and how it does not break down like a natural mulch. Once I tell our clients, they almost always are shocked and want nothing to do with it any longer," explains Todd.

**Article begins...**

# Chromium, Copper & Arsenic, Oh, My!

**Garden Guy explains (CCA)-treated wood in dyed mulch**

Exactly what are CCA's? I will try to explain below.

Chromium copper and arsenic are chemical elements. These are commonly referred to as Chromated Copper Arsenate or CCA's.

"When wood recovered from construction and demolition (C&D) debris is used as mulch, it sometimes contains chromated copper arsenate (CCA)-treated wood. The presence of CCA-treated wood **may cause some potential environmental problems as a result of the chromium, copper, and arsenic present,**" warns the [National Library of Medicine](#).

## **What is Chromium?**

Chromium is a silver-gray metal that is mostly used to make stainless steel and other alloys,

## **What is Copper?**

Copper is a reddish metal that is commonly used in electronics, plumbing, and other industrial applications.

## **What is Arsenic?**

Arsenic is a metalloid chemical element that is most commonly found as a trace element in many minerals.

**Chromium is used in mulches to add color, copper to enhance color and arsenic prevents decay**

Chromium, copper, and arsenic are used in some types of mulches, but at low levels. Chromium is used in mulches to add color and for its antibacterial and deodorizing properties. Copper is used to enhance the color of the mulch, and it also acts as a fungicide. Arsenic is used in mulches to enhance color and prevent decay, as it is very toxic to fungi and insects. The use of arsenic in mulches has become increasingly unpopular, however, due to its potential toxicity to humans and animals.

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"Research was performed to examine the leachability of the three metals from a variety of processed wood mixtures in Florida. The mixtures tested included mixed wood from C&D debris recycling facilities and mulch purchased from retail outlets. The synthetic precipitation leaching procedure (SPLP) was performed to examine the leaching of chromium, copper and arsenic. Results were compared to Florida's groundwater cleanup target levels (GWCTLs). Eighteen of the 22 samples collected from C&D debris processing facilities leached arsenic at concentrations greater than Florida's GWCTL of 50 microg/l. The mean leachable arsenic concentration for the C&D debris samples was 153 microg/l with a maximum of 558 microg/l. One of the colored mulch samples purchased from a retail outlet leached arsenic above 50 microg/l, while purchased mulch samples derived from virgin materials did not leach detectable arsenic (<5 microg/l). A mass balance approach was used to compute the potential metal concentrations (mg/kg) that would result from CCA-treated wood being present in wood mulch. Less than 0.1% CCA-treated wood would cause a mulch to exceed Florida's residential clean soil guideline for arsenic (0.8 mg/kg).

Cited: Townsend TG, Solo-Gabriele H, Tolaymat T, Stook K. Impact of chromated copper arsenate (CCA) in wood mulch. Sci Total Environ. 2003 Jun 20;309(1-3):173-85. doi: 10.1016/S0048-9697(03)00047-0. PMID: 12798102.

🧐 A little more...

["The leaching of chromium, copper and arsenic from CCA-treated building timbers into water and soil and the subsequent environmental effects have been reviewed, as have the laboratory and epidemiological studies on the toxicology of CCA-treated building timbers. The benefits of the phase-out agreement are questionable because much arsenic will remain in the environment, and the alternatives to wood preservation with CCA are not without environmental consequences."](#) warns Katz SA, Salem H.

Cited: Katz SA, Salem H. Chemistry and toxicology of building timbers pressure-treated with chromated copper arsenate: a review. J Appl Toxicol. 2005 Jan-Feb;25(1):1-7. doi: 10.1002/jat.1005. PMID: 15669035.

**Did you know?**

Mulch is a great way to improve the look of your landscaping while providing important benefits like suppressing weeds, retaining soil moisture, and helping to insulate the soil. It's important to select the right type of mulch for your project. Garden Guy recommends [this mulch](#) if you need an easy choice from a big box store.

Chromium, Copper & Arsenic, Oh, My! explains why you can and should make a better choice when mulching your landscaping and gardens.

Avoid (CCA)-treated wood in dyed mulch and choose a natural or organic-type of shredded hardwood mulch to benefit the soils, microorganisms and plant health overall. The dyes may or may not be harmful but the wood product is usually poor.

We had one man say he stopped using dyed mulch when the earthworms under it were black.  
-That's a sure sign that something is not right!

🔥 HOT TIP 🔥 "[A natural mulch will add to the life of the landscaping bed](#), the plants, and the soil. It will not compete," advises [Garden Guy](#). 🙌

*So now you understand why dyed mulch is a poor choice for your plants, landscaping, and for our environment. 🙌.*

*Maybe today you can make plans to have your dyed mulch removed and replaced with natural mulch. Also, make sure others know the truth about the hazards of dyed mulches by sharing this article on Facebook or even via email with your family and friends.*

Click here for a PDF of this article to print or forward to friends and family

[Get your consult here](#)

Together we can educate others and eliminate the usage of dyed mulches in landscaping.

Thanks for reading,

Sabrina