



**MATERIAL SAFETY  
DATA SHEET**

**PRODUCT NAME: Chromated Copper Arsenate (CCA) Pressure Treated  
Wood/Poles/Piling**

**1. PRODUCT AND COMPANY IDENTIFICATION**

<b>MANUFACTURED BY:</b>	REVISION DATE:	8/03/09
	SUPERCEDES:	11/21/06
<b>COX INDUSTRIES, INC.</b>	DESCRIPTION / USE:	Treated Wood Products
<b>P. O. Box 1124</b>	SYNONYMS:	CCA Treated Materials with water Repellant or wax, CCA Treated Materials with Mold Inhibitor, CCA Treated Materials with Oil or polymer, CCA Treated Poles, Piles, and Posts.
<b>Orangeburg, SC 29116</b>		
<b>(803) 534-7467</b>		

OSHA Hazard Classification:	<b>Wood dust is classified as: carcinogenic, possible sensitizer, mild skin irritant, possible respiratory irritant.</b>
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**2. COMPOSITION / INFORMATION ON INGREDIENTS**

HAZARDOUS INGREDIENTS	PERCENT <sup>1</sup>	CAS #	EXPOSURE LIMITS (mg/m <sup>3</sup> except where noted)		
			OSHA-PEL	ACGIH-TLV	OSHA-STEL
Chrome III (as Cr)	<3	7440-47-3	0.5	0.5	None
Chrome VI <sup>2</sup>	Trace	18540-29-9	5µg/m <sup>3</sup> 2.5µg/m <sup>3</sup> (action level)	0.01 (as Cr)	0.1 (as CrO <sub>3</sub> ) Ceiling
Arsenic V (as As) <sup>3</sup>	<3	7440-38-2	0.01	0.01	None
Copper Oxide (as Cu, dusts/mists)	<3	7440-50-8	1.0	1.0	None
Wood Dust <sup>4</sup>	>91	N/A	15(total) 5.0 (respirable) 15(total) 5.0 (respirable)	0.5 (inhalable) 1.0 (inhalable)	None
Formaldehyde <sup>5</sup> <i>(by-product of the untreated plywood article)</i>	<0.1	50-00-0	0.75ppm	0.37 (Ceiling)	2ppm

Notes: Chromic Acid, Arsenic Acid, and Copper oxide are present in the preservative used to treat this wood

<sup>1</sup>Actual retention may vary due to differences in wood stock and treatment retention levels.

<sup>2</sup>Although the Chrome VI present in the Chromic Acid used to treat this wood is reduced to Chrome III during the treating and fixation processes, some Chrome VI may be present. Due to this, OSHA's Hexavalent Chromium Rule (29 CFR 1910.1026) may apply. The manufacturer of this treated wood has monitoring data indicating the levels will be below the established limits and action levels when used under usual conditions. If unusual circumstances exist, monitoring may be required.

<sup>3</sup>The arsenic pentoxide present in this product is not subject to the OSHA Arsenic standard 29CFR 1910.1801

<sup>4</sup>A state-run OSHA program may have more stringent limits for wood dust and/or PNOR.

<sup>5</sup>Formaldehyde is a by-product of the untreated plywood article and this information only applies to plywood products.



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### 3. HAZARDS IDENTIFICATION

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**Inhalation:** Airborne treated or untreated wood dust may cause nose, throat or lung irritation. Various species of untreated wood dust can elicit allergic respiratory response in sensitized persons.

**Eye Contact:** Treated or untreated wood dust may cause mechanical irritation.

**Skin Contact:** Handling wood may result in skin exposure to splinters. Prolonged and/or repeated contact with treated or untreated wood dust may result in mild irritation. Various species of untreated wood dust can elicit allergic type skin irritation in sensitized persons.

**Ingestion:** Not anticipated to occur. A single ingestion of a very large dose of treated wood dust may require immediate medical attention.

**Chronic Wood Dust (treated or untreated) Effects:** Wood dust, depending on species, may cause dermatitis on prolonged, repetitive contact; may cause respiratory sensitization and/or irritation

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### 4. FIRST AID MEASURES

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**Inhalation:** Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. If not breathing, give artificial respiration. Call for medical assistance.

**Skin Contact:** Flush skin with water for 15 minutes. Take off all contaminated clothing. Seek medical attention if irritation develops.

**Eye Contact:** Flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation develops. DO NOT RUB.

**Ingestion:** Rinse the victim's mouth out with water. Do not induce vomiting. Seek medical attention if symptoms develop. Never give anything by mouth to an unconscious person. One ounce of treated wood dust per 10 pounds of body weight ingested may cause acute arsenic intoxication.

### 5. FIRE FIGHTING MEASURES

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**Flammability Summary (OSHA):** Product is not known to be flammable, combustible, pyrophoric or explosive.

**Fire / Explosion Hazards:** If the product is involved in a fire, toxic smokes could develop. Dust may be ignitable if mixed with air in the presence of an ignition source.

**Extinguishing Media:** Water spray

**Fire Fighting Instructions:** In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus.

**Hazardous Combustion Products:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

### 6. ACCIDENTAL RELEASE MEASURES

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**Personal Protection for Emergency Situations:** No extra protection required beyond that listed in Section 8. In case of fire, use normal fire fighting equipment.

**Spill or Leak Procedures:** Not applicable

**Waste Disposal:** See Section 13.



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### 7. HANDLING AND STORAGE

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- Handling:** DO NOT BURN TREATED WOOD. Whenever possible, sawing or machining treated or untreated wood should be performed outdoors to avoid accumulations of airborne wood dust. Wear gloves, eye protection, dust mask and protective clothing. Do not use treated chips or sawdust as mulch. Wash hands thoroughly before eating, drinking, using tobacco products, and/or using restrooms.
- Storage:** Keep away from unguarded flame, sparks, and heat sources. Protect from physical damage. Maintain good housekeeping.
- Incompatible Materials:** Oxidizers strong acids and bases

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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- Ventilation:** Whenever possible, sawing or machining treated or untreated wood should be performed outdoors or in well ventilated areas to avoid accumulations of airborne wood dust. Ventilation should be sufficient to maintain exposures below the recommended exposure limits.

#### **Protective Equipment for Routine Use of Product**

- Respiratory Protection :** When sawing or cutting treated or untreated wood, wear a NIOSH approved P95 or P100 Particulate filter respirator.

*FOR PLYWOOD PRODUCTS ONLY: If formaldehyde vapor levels exceed the recommended exposure limits, wearing a NIOSH approved respirator is required. Formaldehyde is a by-product of the untreated plywood article and not the result of this treatment.*

- Respirator Type :** For plywood products only: A NIOSH approved full-face air purifying respirator with combination formaldehyde/organic vapor cartridge and a P100 filter. (Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.)

- Skin Protection :** Wear leather gloves. Wear long sleeve shirt, pants, and steel-toed shoes when handling treated or untreated wood.

- Eye Protection:** Use safety glasses with side shields or chemical goggles when sawing or cutting treated or untreated wood.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

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| <b>Physical State:</b> Solid lumber       | <b>Conditions to Avoid:</b> Sparks, open flame   |
| <b>Color:</b> Light to dark green         | <b>Chemical Incompatibility:</b> Strong acids, oxidizers                                   |
| <b>Oxidizing:</b> No Oxidizing Properties | <b>Hazardous decomposition:</b> During a fire, irritating and toxic gases may be generated |

### 10. STABILITY AND REACTIVITY

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- Stability and Reactivity Summary:** Stable under normal conditions. Product will not undergo hazardous polymerization.
- Conditions to Avoid:** Sparks, open flame, other ignition sources, and elevated temperatures., Contact with incompatible substances
- Chemical Incompatibility:** strong acids, oxidizers
- Hazardous Decomposition Products:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Combustion products may include smoke, oxides of carbon, nitrogen and copper. If the fire is intense enough, some arsenic trioxide may be released into the smoke. The metals will remain in the ash if the wood is burned.



## 11. TOXICOLOGICAL INFORMATION

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**Study Abstracts:** In Hawaii, where over 45,000 homes have been built almost entirely of CCA-treated wood, a study was conducted by the Pacific Biomedical Center of the University of Hawaii (the Budy-Rashad study) in 1977 to determine any possible effect on the health of carpenters. The study concluded that exposure to CCA-treated sawdust is not associated with increased risk of total cancer, lung cancer or lymphatic cancer and shows that excess respiratory cancer mortality was not observed in the carpenters.

A study was conducted by the University of Alabama to evaluate the teratogenicity of CCA-impregnated sawdust when exposed to rabbits and mice. Sawdust from CCA-treated wood has been shown not to cause chromosome damage or teratogenic effects in mice fed sawdust nor to cause birth defects in rabbits receiving sawdust applied to their skin.

According to a Human Health Risk Assessment conducted by Gradient Corporation in August 2004, potential health risks to workers and residents do not exceed U.S. Environmental Protection Agency acceptable risk limits. Although the arsenic complex (the predominate chemical form of arsenic in CCA-treated wood is chromium III arsenate) is present on the surface of CCA-treated utility poles and in surrounding soils, the arsenic in these poles is chemically bonded to the wood and is not readily absorbed in the body. This risk assessment evaluated exposures to arsenic complex on the surface of CCA treated utility poles and in soil adjacent to the poles. Exposure was evaluated for both hand to mouth contact and skin contact for a child resident age 2-6 and an adult utility pole worker. The assessment results also indicate that the amount of arsenic complex potentially taken into the body from exposures to CCA-treated utility poles and adjacent soils for a child resident is approximately 8 fold less than the intake of naturally occurring inorganic arsenic in food and drinking water at the new federal drinking water standard for arsenic. An adult worker is exposed to over 24 fold less arsenic complex associated with CCA-treated utility poles, compared to intake of inorganic arsenic from food and drinking water.

**Carcinogenic status:** IARC, the NTP, OSHA and California Proposition 65 do not consistently distinguish among arsenic or chrome species but list inorganic arsenic and chromium and certain chromium compounds as human carcinogens. Cancers in humans have followed from long term consumption of Fowler's Solution, a medicinal trivalent arsenical; inhalations and skin contact with inorganic trivalent arsenical sheep-dust; the combined inhalation of arsenic trioxide (trivalent arsenical), sulfur dioxide, and other particulates from ore smelting in arsenic trioxide production; and occupational exposure to nonwater-soluble hexavalent chromium.

**Carcinogenicity Data:** IARC has classified untreated hardwood and hardwood/softwood mix wood dust as a Group I human carcinogen. The wood dust classification is based primarily on IARC's evaluation of increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with occupational exposures to untreated wood dust. NTP has classified all untreated wood dust as a carcinogen.

## 12. ECOLOGICAL INFORMATION

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**Study Abstracts:** A technical paper published in the Forest Products Journal (September, 1974) by Levi, Huisingsh and Nesbitt described a study conducted to determine if CCA wood preservative in grapevine support posts might be absorbed by the vines, leaves and/or grapes. This study concluded that "... CCA preservatives are bound in wood, are not readily leached and are not concentrated in plants growing close to the treated wood."

The Springborn Laboratories Environmental Sciences Division in 1993 conducted a sediment exposure study using leachate from CCA treated and untreated marine pilings and exposing *Ampelisca abdita* for a period of 10 days. Survival of the organisms during the 10-day exposure period was the biological endpoint used to establish the effects of exposure. Results indicated that leachate from treated pilings had no adverse effect on



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organism survival. It was concluded that the primary constituents of the CCA-treated wood piling were not present in the leachate at concentrations which would adversely affect the survival of the organisms.

Testing has been conducted to evaluate the use of treated wood in raised vegetable gardens. Vegetables harvested from gardens in raised bed structures built of CCA-treated wood were compared with vegetables grown in untreated raised bed structures and with vegetables purchased at a local grocery store. Testing revealed that all vegetables contained minuscule amounts of each element in CCA. In some cases, the levels of metals were actually higher in the vegetables grown in untreated bins, and in one case the store-purchased vegetable had the highest level of arsenic. The report concluded that there was "no uptake of the metal constituents into the vegetables."

The Food and Drug Administration's (FDA) "Market Basket Survey" has consistently shown that arsenic in tomatoes is below the analytical level of detection despite the increased usage of arsenically-treated wood for tomato stakes. Moreover, even though CCA-treated wood has been increasingly used in applications such as cattle bunks and stalls and poultry brooders for the last ten years, the FDA survey has shown a decrease in the arsenic content of dairy, meat and poultry products.

A study funded in part by the National Oceanic and Atmospheric Administration (NOAA) and prepared by the Marine Resources Division of the South Carolina Department of Natural Resources in 1995 measured the impact of wood preservative leachate from docks in an estuarine environment. Copper, chromium, arsenic, and polynuclear aromatic hydrocarbons (PAHs) were measured in composite samples of sediments and naturally occurring oyster populations from creeks with high densities of docks, and from nearby reference creeks with no docks. Sediments from all but one site had metal and total PAH concentrations which were below levels reported to cause biological effects, and the oysters showed no significant difference in their physiological condition. Bioassays were also conducted on four common estuarine species and hatchery-reared oysters. The results suggest that wood preservative leachates from dock pilings have no acutely toxic effects on these common species, nor do they affect the survival or growth of juvenile oysters over a six-week period. In some cases, metal leachates may accumulate in sediments and oysters immediately adjacent to pilings, but do not appear to become concentrated in sediments or oysters elsewhere in the same creeks.

### 13. DISPOSAL CONSIDERATIONS

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**CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.**

**Disposal Guidance:** DO NOT BURN TREATED WOOD. Do not use pressure treated chips or sawdust as mulch. Dispose of in accordance with local, state and federal regulations. This product is exempted as a hazardous waste under any sections of the RCRA regulations as long as the product is being utilized for its intended end use as stated in 40 CFR 261.4 (b) (9). State run hazardous waste programs may be more stringent.



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### 14. TRANSPORT INFORMATION

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Not regulated as a hazardous material under US DOT for land transportation, IMDG for water transportation or IATA for air transportation.

### 15. REGULATORY INFORMATION

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**RCRA (40 CFR 261): DO NOT BURN TREATED WOOD.** Do not use pressure treated chips or sawdust as mulch. Dispose of in accordance with local, state and federal regulations. This product is exempted as a hazardous waste under any sections of the RCRA regulations as long as the product is being utilized for its intended end use as stated in 40 CFR 261.4 (b) (9). Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Check local and state regulations, as they may be more stringent.

**OSHA (29 CFR 1910.1200):** This product is regulated under the Hazard Communication Standard.

**SARA 313 (40 CFR 372):** Unless exempted, this product may require a Toxic Release Inventory reporting for individual material uses of 25,000 pounds or more. Reporting is under Copper Compounds, Chromium Compounds and Arsenic Compounds. It is the user's responsibility to determine applicability of reporting requirements and exemptions.

**California Proposition 65:** This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. (This statement issued in accordance with California Proposition 65).

### 16. OTHER INFORMATION

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THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. THE MANUFACTURER BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS.