

# MATERIAL SAFETY DATA SHEET

September 1, 2009

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** Chromated Copper Arsenate (CCA) Pressure Treated Wood

**General Use:** Treated Wood Products

**Synonyms:** CCA Treated Wood with Water Repellant, CCA Treated wood with Mold Inhibitor, CCA Treated Wood with Wax, CCA Treated Wood with Oil, CCA Treated Wood with Polymer, CCA treated formaldehyde bonded wood products, CCA Treated Poles, Piles and Posts.

### MANUFACTURER:

### EMERGENCY TELEPHONE NUMBERS:

Arizona Pacific Wood Preserving, Inc	*CHEMTREC Assistance: 1-800-424-9300
850 W Chambers	*CANUTEC: 1-613-996-6666
Eloy, AZ 85131	ACEAN 24 hour Emg. Resp. 1-800-654-6911
520-466-7801	*Use only during transportation emergencies

## 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>					
Western Red Cedar	>91	N/A	15(total) 5.0 (respirable)	0.5 (inhalable)	None
All other Species			15(total) 5.0 (respirable)	1.0 (inhalable)	
Formaldehyde <sup>5</sup>	<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>Only applies to Plywood Products

## 3. HAZARDS IDENTIFICATION

WARNING! MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR (DURING PROCESSING)

**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

**Inhalation:** Remove from wood dust exposure. If breathing has stopped, administer artificial respiration. Seek medical aid if symptoms persist.

**Eye Contact:** Gently flush any particles from the eyes with large amounts of water for at least 15 minutes. DO NOT RUB THE EYES. Seek medical aid if irritation persists.

**Skin Contact:** Rinse wood dust off with water. DO NOT RUB. Once the skin is free of the wood dust, wash thoroughly with soap and water. Seek medical aid if severe irritation develops.

**Ingestion:** Rinse the victim's mouth out with water. Do not induce vomiting. If symptoms develop, call a physician. One ounce of treated wood dust per 10 pounds of body weight ingested may cause acute arsenic intoxication.

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#### 5. FIRE FIGHTING MEASURES

**Flash Point** NA

**Lower Explosive Limit** NA

**Auto-ignition** NA

**Upper Explosive Limit** NA

**Extinguishing Agents:** Not applicable

**Fire-Fighting Procedures:** Fire from a separate fuel source may be intense enough to cause thermal decomposition releasing toxic fumes and/or gases. Wear complete fire service protective equipment, including full-face NIOSH/NFPA – approved self-containing breathing apparatus.

**Fire and Explosion Hazard:** Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. High airborne levels of wood dust may burn rapidly in the air when exposed to an ignition source.

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#### 6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** Not applicable.

**Waste Disposal:** See Section 13.

**Other:** Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Nonsparking tools should be used.

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#### 7. HANDLING AND STORAGE

**Storage Conditions:** Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Maintain good housekeeping. Protect from physical damage.

**Caution:** DO NOT BURN TREATED WOOD. Do not use pressure treated chips or sawdust as mulch. Whenever possible, sawing or machining treated or untreated wood should be performed outdoors to avoid accumulations of airborne wood dust. Wash hands thoroughly before eating, drinking, using tobacco products, and/or using restrooms.

**NOTE:** For plywood products, provide adequate ventilation to reduce the possible buildup of formaldehyde vapors.

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#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Respiratory Protection:** None normally required. When sawing or cutting treated or untreated wood, wear a NIOSH approved N95 or better dust mask.

**Eye Protection:** Wear safety glasses with side shields or safety goggles when sawing or cutting.

**Skin/Foot Protection:** Wear leather or comparable gloves to prevent splinters. Wear long sleeve shirt, pants and steel toed shoes when handling treated or untreated wood

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONT)

**Ventilation:** Saw, cut or machine wood outdoors or in well ventilated areas. Ventilation should be sufficient to maintain inhalation exposures below OSHA PEL for particulates. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

**Other Protective Equipment:** Wear ear plugs or muffs when using power tools. Use only appropriately classified electrical equipment and powered industrial trucks.

**NOTE:** For plywood products only, if Formaldehyde vapor level exceeds OSHA PEL or STEL, then a NIOSH approved respirator is required.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Light to dark green	<b>Specific Gravity (Water =1)</b>	NA
<b>Odor</b>	None	<b>Boiling Point</b>	NA
<b>Solubility in Water</b>	NA	<b>Vapor Density (Air=1)</b>	NA
<b>Physical State</b>	Solid	<b>Vapor Pressure</b>	NA
<b>pH</b>	NA	<b>Freezing Point</b>	NA

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## 10. STABILITY AND REACTIVITY

**Conditions Contributing to Instability:** None known.

**Incompatibilities:** Strong acids, open flame and oxidizers.

**Hazardous Reactions/Decomposition/Combustion Products:** Contact with strong acid may release metals. 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.

**Hazardous Polymerization:** Does not occur.

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## 11. TOXICOLOGICAL INFORMATION

**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

## 11. TOXICOLOGICAL INFORMATION (CONT)

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.

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## 12. ECOLOGICAL INFORMATION

**Study Abstracts:** A technical paper published in the Forest Products Journal (September, 1974) by Levi, Huisingh 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 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.

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### 13. DISPOSAL CONSIDERATIONS

**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

**DOT Hazardous Material Classification:** This material is not regulated as a hazardous material by the DOT.

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### 15. REGULATORY INFORMATION

**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).

**NFPA:** Refer to NFPA 654, *Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids*, for safe handling.

#### ABBREVIATIONS

<b>OSHA</b>	Occupational Safety and Health Administration	<b>TLV</b>	Threshold Limit Value
<b>NFPA</b>	National Fire Protection Association	<b>STEL</b>	Short-Term Exposure Limit
<b>FIFRA</b>	Federal Insecticide, Fungicide and Rodenticide Act	<b>RCRA</b>	Resource Conservation and Recovery Act
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act	<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists
<b>SARA</b>	Superfund Authorization and Reauthorization Act	<b>NIOSH</b>	National Institute of Occupational Safety and Health
<b>PEL</b>	Permissible Exposure Limit	<b>TSCA</b>	Toxic Substances Control Act
<b>DOT</b>	Department of Transportation	<b>IARC</b>	International Agency for Research on Cancer
<b>NTP</b>	National Toxicology Program	<b>IBC</b>	International Building Code
<b>CFR</b>	Code of Federal Regulations	<b>mg/m<sup>3</sup></b>	Milligrams per cubic meter
<b>CWA</b>	Clean Water Act	<b>CAA</b>	Clean Air Act
<b>CAS</b>	Chemical Abstracts Service		

**NOTICE:** While the information and recommendations set forth herein are believed to be accurate as of the date hereof this company makes no guarantee or warranty, expressed or implied, as to the accuracy, reliability, or completeness of the information.