



1. Identification

Product Identifier: Chromated Copper Arsenate (CCA) Treated Wood

CHEMTREC #: 800-424-9300
EMERGENCY #: 800-537-1765
DATE PREPARED: December 1, 2002

2. Composition/Information on Ingredients

Hazardous Ingredients	Percent	CAS #	EXPOSURE LIMITS (mg/m ³)		
			OSHA-PEL	ACGIH-TLV	ACGIH-STEL
Chromic Acid	<2*	7738-94-5	(as Cr) 0.1 (Ceiling)	0.05	None
Arsenic Acid	<2*	7778-39-4	(as As) 0.01	0.01	None
Copper Oxide	<2*	1317-38-0	(as Cu) 1.0 (dusts/mists)	1.0 (dusts/mists)	None
Wood Dust**			15.0 (softwood)	5.0 (softwood)	15.0 (STEL)
Formaldehyde***		50-00-0	1ppm		2ppm STEL

* Based upon 0.6 pounds of CCA per cubic foot of wood. Actual retention may vary slightly due to differences in wood stock and treatment retention levels.

** A state-run OSHA program may have more stringent limits for wood dust and/or PNOR.

*** Only applies to Plywood Products.

3. Hazards Identification

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.

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.
- 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.
- Other Protective Equipment:** Wear ear plugs or muffs when using power tools.

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

9. Physical and Chemical Properties

Appearance:	Natural to slightly green	Specific Gravity (Water=1):	NA
Odor:	None	Boiling Point:	NA
Solubility in Water:	NA	Vapor Density (Air=1):	NA
Physical State:	Solid	Vapor Pressure:	NA
pH:	NA	Freezing Point:	NA

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.

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.

A series of reports released in 1990 from the Consumer Product Safety Commission (CPSC) assessed the risk of cancer to children playing on CCA-treated wood playground equipment. Seven playground equipment samples were collected. The results of the study indicated the approximate risk of cancer from five samples was less than one in a million, a risk considered negligible. The remaining two samples yielded estimated risks of 3-4 in a million, also considered by CPSC to be a small risk.

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 1 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

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.

Arch Wood Protection has conducted tests to evaluate treated wood used 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 miniscule 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

Disposal Guidelines: DO NOT BURN TREATED WOOD. 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.

14. Transport Information

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

15. Regulatory Information

RCRA (40 CFR 261): DO NOT BURN TREATED WOOD. 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.

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.)

Abbreviations

OSHA	Occupational Safety and Health Administration
NFPA	National Fire Protection Association
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
SARA	Superfund Authorization and Reauthorization Act

PEL	Permissible Exposure Limit
DOT	Department of Transportation
NTP	National Toxicology Program
CFR	Code of Federal Regulations
CWA	Clean Water Act
CAS	Chemical Abstracts Service
TLV	Threshold Limit Value
STEL	Short-Term Exposure Limit
RCRA	Resource Conservation and Recovery Act
ACGIH	American Conference of Governmental Industrial Hygienists
NIOSH	National Institute of Occupational Safety and Health
TSCA	Toxic Substances Control Act
IARC	International Agency for Research on Cancer
IBC	International Building Code
mg/m³	Milligrams per cubic meter
CAA	Clean Air Act

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 this information.