



Since 1958 our company philosophy has remained unchanged:

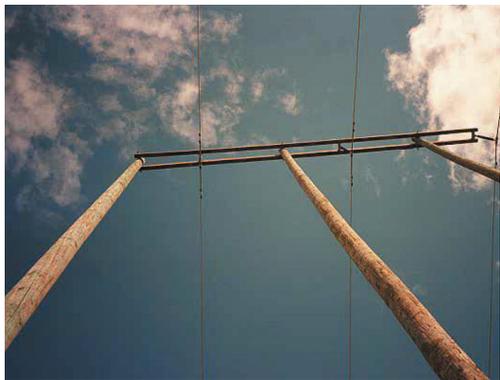
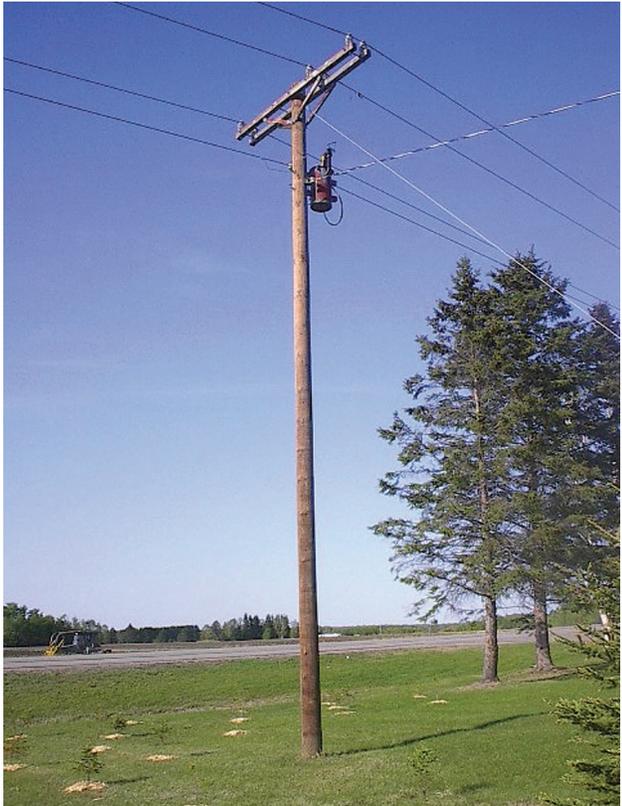
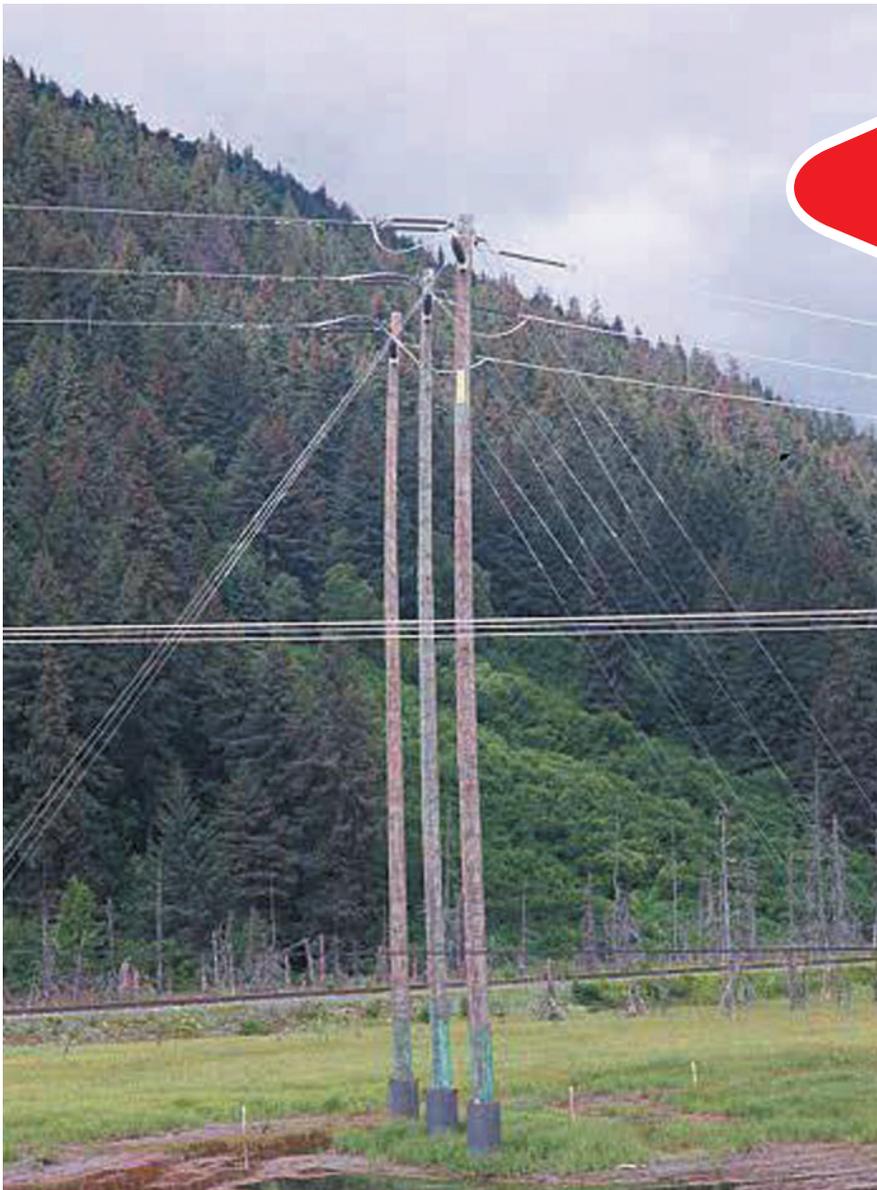
**We provide purchasers with quality products, a wide range of choices, and consistent, professional service.**

Headquartered on the south Oregon coast, Conrad Forest Products served as a pioneer in pressure treatment. Our preservation experience goes back to 1958 when we began providing durability to common species of wood. Since then, we have undergone significant changes in our capabilities, technology, products, and services. Furthermore, we strive to produce environmentally beneficial building materials in an environmentally sound manner.

800-356-7146 | [www.ConradFP.com](http://www.ConradFP.com)

# Chemonite®

ACZA PRESSURE  
TREATED WOOD





# The Chemonite® Pole

Chemonite® poles provide reliable transmission and distribution of electric energy, with practical benefits and less environmental impact than alternatives such as concrete and steel. The ACZA treatment consistently meets recognized standards of penetration and retention in difficult-to-treat species such as Douglas fir.

Poles have been known to provide uninterrupted service for more than 40 years. The USDA Forest Products Laboratory states that the expected life of Chemonite® poles is 50 years.

**Corrosion.** No Chemonite® poles are known to have been removed from service due to failure from corrosion. Arxada recommends the use of galvanized coatings on bolts, hardware and other fasteners. Tests conducted on bolts pulled from poles treated with ACZA after 38 years revealed that all but one failed to meet the original strength ratings.

**Chemical Fixation.** The combination of pesticide and fungicide ingredients in Chemonite® and the specialized treatment process create a unique scenario where the chemical ingredients bond to the wood fiber and greatly reduce leaching to the environment.

**Fire.** Chemonite® treated materials with retention levels required for poles were tested at Underwriters Laboratory Inc. and found to exhibit characteristics for a Class B fire rating. Retention levels three times greater than the 0.60 pcf requirement for poles exhibited a Class A rating.

**Electric Conductivity.** Conductivity is related to moisture content, not treatment method. Chemonite® poles have no higher conductivity factor than other treated or untreated poles.

**Climbability.** Research has indicated that the force required to penetrate Chemonite® poles by a line worker's gaff is comparable to that of untreated wood of the same species.

**Steam Sterilization.** The treatment system allows for the use of steam sterilization during the treatment process to kill existing fungal infection in the heartwood.

**Formosan Termites.** Chemonite® poles have demonstrated long-term resistance to attack in the harshest in-ground environments from both Formosan termites and carpenter ants.

**Woodpecker Resistance.** Chemonite® poles are known to reduce damage from woodpeckers as noted by several utilities which saw improvement when Chemonite® poles were installed after deploying multiple mitigation methods.

**Warranty.** Chemonite® ACZA treated utility poles are backed by a 50-year limited warranty. To view the warranty, see Page 6 or visit [wolmanizedwood.com](http://wolmanizedwood.com).

## Borate Additive Benefits

Poles treated with a mixture of ACZA and borates are an option. Borates enhance the protection offered by ACZA alone, through borate movement into the heartwood of even difficult to treat pole species.

## ET® Brown Additive Benefits

ET® Brown is a factory-applied proprietary colored emulsion which is lightly pressurized into the Chemonite pole after the pressure treatment process. Chemonite Poles with the ET Brown additive have a softer and cleaner outer surface which aids in lineman climbing and workability.



# AWPA Retention Requirements

## Structural Poles

| Species                | Use Category (PCF) |      |      |
|------------------------|--------------------|------|------|
|                        | 4A                 | 4B   | 4C   |
| Southern Pine          | 0.60               | 0.60 | 0.60 |
| Coastal Douglas Fir    |                    |      |      |
| Outer Zone             | 0.60               | 0.60 | 0.60 |
| Inner Zone             | 0.30               | 0.30 | 0.30 |
| Jack Pine              | 0.60               | 0.60 | 0.60 |
| Red Pine               | 0.60               | 0.60 | 0.60 |
| Lodgepole Pine         | 0.60               | 0.60 | 0.60 |
| Radiata Pine (Chilean) | NA                 | NA   | NA   |
| Western Red Cedar      | 0.60               | 0.60 | 0.60 |
| Alaska Yellow Cedar    | 0.60               | 0.60 | 0.60 |
| Western Larch          | 0.60               | 0.60 | 0.60 |
| Ponderosa Pine         | 0.60               | 0.60 | 0.60 |



## Field Treating

Wherever practical wood should be manufactured to its final form prior to treatment. Treated wood products should not be dragged along the ground. All field cuts and drill holes should be field treated. Field treating (as well as applying sealers) should be done well away from the water if at all possible. If over-water treatment is necessary, steps should be taken (such as using tarps) to collect any surplus treatment for removal and disposal. Any damage to treated wood should be treated in accordance with the American Wood Protection Association (AWPA) Standard M4.

Per AWPA Standard M4 acceptable preservatives for field treatment include copper naphthenate (minimum 2% copper metal), borates (minimum 1.5%  $B_2O_3$ ; not permitted with water or ground contact), and oilborne oxine copper (minimum 0.675% oxine copper or 0.12% copper metal).

## Removal and Disposal

Many utilities reinstall poles removed from service at other locations. It is also very common for poles to be reused for other purposes. Disposal requirements are typically the same as for other large construction products; check with local landfills for details.

TREATED WOOD SHOULD NOT BE BURNED in open fires or in stoves, fireplaces, or residential boilers because toxic substances may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g., construction sites) may be disposed of by complying with local landfill rules or burned in commercial or industrial incinerators or boilers when done in accordance with state and federal regulations.

Dispose of in accordance with local, state, and federal regulations. State run hazardous waste programs may be more stringent. Some state sites are listed below.

California : <https://dtsc.ca.gov/toxics-in-products/treated-wood-waste/>

Oregon : <https://www.oregon.gov/deq/hazards-and-cleanup/hw/pages/hw-rules.aspx>

Washington : <https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/dangerous-waste-guidance>

# Environmental Life Cycle Assessment of Ammoniacal Copper Zinc Arsenate-Treated Utility Poles with Comparisons to Concrete, Galvanized Steel, and Fiber-Reinforced Composite Utility Poles

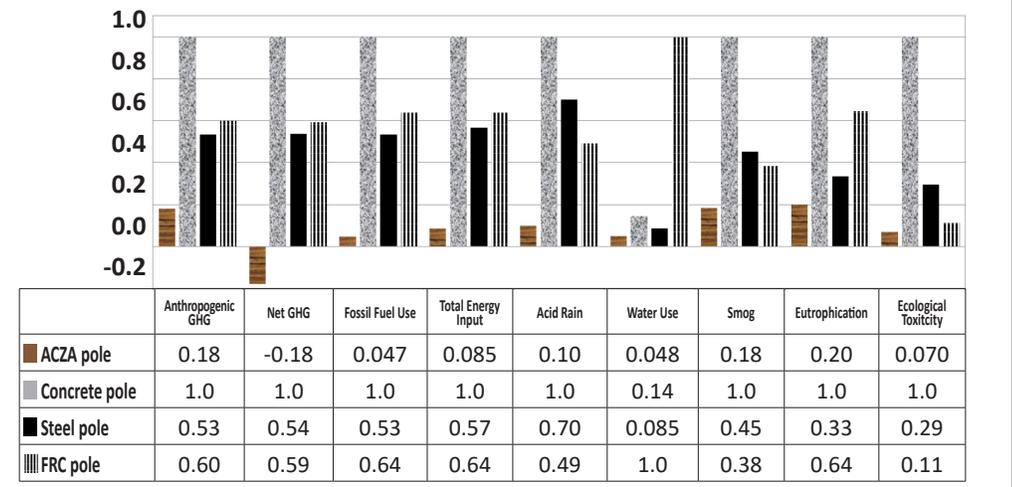
Arxada commissioned AquAeTer, Inc., an independent consulting firm, to prepare a quantitative evaluation of the environmental impacts associated with the national production, use, and disposition of ammoniacal copper zinc arsenate (ACZA)-treated, concrete, galvanized steel, and fiber-reinforced composite utility poles using life cycle assessment (LCA) methodologies and following ISO 14044 standards. The comparative results confirm:

- **Less Energy & Resource Use:** ACZA-treated utility poles require less total energy, less fossil fuel, and less water than concrete, galvanized steel, and fiber-reinforced composite utility poles.
- **Lower Environmental Impacts:** ACZA-treated utility poles have lower environmental impacts in comparison to concrete, steel, and fiber-reinforced composite utility poles for all six impact indicator categories assessed: anthropogenic greenhouse gas, net greenhouse gas, acid rain, smog, ecotoxicity, and eutrophication-causing emissions.
- **Decreases Greenhouse Gas Levels:** Use of ACZA-treated utility poles lowers greenhouse gas levels in the atmosphere whereas concrete, galvanized steel, and fiber-reinforced composite utility poles increase greenhouse gas levels in the atmosphere.
- **Offsets Fossil Fuel Use:** Reuse of ACZA-treated utility poles for energy recovery in permitted facilities with appropriate emission controls will further reduce greenhouse gas levels in the atmosphere, while offsetting the use of fossil fuel energy.

Impact indicator values for the cradle-to-grave life cycle of ACZA-treated utility poles were normalized. The cradle-to-grave pole product with the highest impact value receives a value of one and the other pole product impacts are then a fraction of one. The normalized results are provided in Figure 1.



**Figure 1.** Impact indicator comparison (normalized to maximum = 1.0)



## Scope

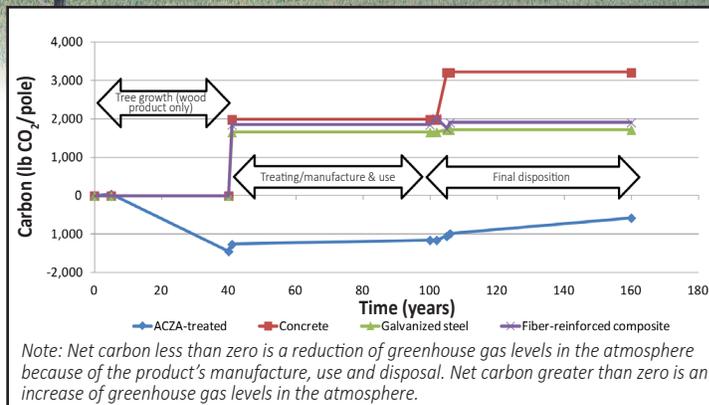
The scope of this study includes:

- A life cycle inventory of ACZA-treated, concrete, galvanized steel, and fiber-reinforced composite utility poles, modified from a life cycle inventory of pentachlorophenol-treated utility poles done for the Treated Wood Council.
- Calculation and comparison of life cycle impact assessment indicators: anthropogenic greenhouse gas, net greenhouse gas, acid rain, smog, ecotoxicity, and waterborne eutrophication impacts potentially resulting from life cycle air emissions.
- Calculation of energy, fossil fuel, and water use.



| Impact Category                | Units                  | ACZA-treated pole | Concrete tie | Galvanized steel pole | FRC pole |
|--------------------------------|------------------------|-------------------|--------------|-----------------------|----------|
| <b>Energy Use</b>              |                        |                   |              |                       |          |
| Energy input from technosphere | MMBTU                  | 1.0               | 6.5          | 2.9                   | 0.19     |
| Energy Input from nature       | MMBTU                  | 0.38              | 10           | 6.5                   | 11       |
| Biomass energy                 | MMBTU                  | 0.56              | 0.094        | 0.11                  | -0.012   |
| <b>Impact indicators</b>       |                        |                   |              |                       |          |
| Anthropogenic GHG emissions    | lb-CO <sub>2</sub> -eq | 573               | 3,190        | 1,699                 | 1,911    |
| Net GHG emissions              | lb-CO <sub>2</sub> -eq | -576              | 3,213        | 1,725                 | 1,908    |
| Acid rain air emissions        | lb-H+ mole-eq          | 87                | 886          | 622                   | 436      |
| Smog potential                 | g NOx/m                | 0.93              | 5.0          | 2.3                   | 1.9      |
| Ecotoxicity air emissions      | lb-2,4-D-eq            | 1.3               | 19           | 5.5                   | 2.1      |
| Eutrophication air emissions   | lb-N-eq                | 0.063             | 0.32         | 0.10                  | 0.20     |
| <b>Resource use</b>            |                        |                   |              |                       |          |
| Fossil fuel use                | MMBTU                  | 0.75              | 16           | 8.4                   | 10       |
| Water use                      | gal                    | 60                | 180          | 106                   | 1,248    |

**Table 1. Environmental performance (per pole)**



**Figure 3. Carbon balance for utility pole products (per pole)**

## Environmental Performance

The assessment phase of the LCA uses the inventory results to calculate total energy use, impact indicators of interest, and resource use. For environmental indicators, USEPA's Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI) is used to assess anthropogenic and net greenhouse gas, acid rain, smog potential, ecotoxicity, and eutrophication impacts potentially resulting from air emissions. The categorized energy use, resource use, and impact indicators provide general, but quantifiable, indications of environmental performance. The results of this impact assessment are used for comparison of all utility pole products as shown in Table 1.

Wood products begin their life cycles removing carbon from the atmosphere (as carbon dioxide) and atmospheric carbon removal continues as trees grow during their approximate 40-year growth cycle, providing an initial life cycle carbon credit. Approximately half the mass of dry wood fiber is carbon. Transportation and treating operations are the primary sources of carbon emissions in the manufacture of treated wood products.

Non-wood utility pole products begin their life cycle with the extraction of resources, such as limestone or silica sand or carbon-sequestered resources such as oil and coal, and require energy to convert resources into manufactured products.

Minimal impacts are required for both wood and non-wood products in the service life stage. Following the service life stage, ACZA-treated wood poles are recycled for secondary uses or disposed in landfills. Non-wood material poles are recycled, disposed in landfills, or recycled for energy. The carbon balance of each utility pole product, through the life cycle stages, is shown in Figure 3.

## Quality Criteria

This study was done as an extension of work performed by the Treated Wood Council and is not intended as a stand-alone LCA. The study includes most elements required for an LCA meeting the International Organization for Standardization (ISO) guidelines as defined in standards ISO/DIS 14040 "Environmental Management – Life Cycle Assessment – Principles and Framework" and ISO/DIS 14044 "Environmental Management – Life Cycle Assessment – Requirements and Guidelines". However, there was no external peer review of the ACZA components of this LCA.



## Additional Information

This study is further detailed in a Life Cycle Assessment Report completed in March 2013 and is available Arxada at 1200 Bluegrass Lakes Parkway, Alpharetta, GA 30004. Additional information is also available at [WolmanizedWood.com](http://WolmanizedWood.com).

This study is based on data collection and analysis done as part of an LCA on pentachlorophenol-treated utility poles. A manuscript of the pentachlorophenol-treated utility poles findings was published in the peer-reviewed Renewable and Sustainable Energy Review and is available at <http://dx.doi.org/10.1016/j.rser.2011.01.019>.

## **Model Specification for ACZA-Treated Wood**

*The following paragraphs are for insertion into a section of generic specifications or generic/proprietary specifications covering rough carpentry to include preservative treated wood. Notes shown in italics should not be included in the final specification.*

### **PART 1 GENERAL**

#### **1.01 REFERENCES**

- A. American Wood Protection Association (AWPA) Book of Standards:
  - 1. Standard U1, Use Category System: User Specification for Treated Wood.
  - 2. Standard P22, Standard for Ammoniacal Copper Zinc Arsenate (ACZA).
  - 3. Standard M4, Standard for the Handling, Storage, Field Fabrication, and Field Treatment of Preservative-Treated Wood Products.
  - 4. Standard T1, UCS Processing and Treatment Standard.
- B. National Institute of Standards and Technology (NIST):
  - 1. PS 1, U.S. Product Standard for Construction and Industrial Plywood.
  - 2. PS 20, American Softwood Lumber Standard.
- C. Western Wood Preservers Institute
  - 1. Best Management Practices for the Use of Treated Wood in Aquatic Environments.

#### **1.02 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. Treatment Facility: Provide treated materials that have been produced under the appropriate ASTM or ANSI standard or an ALSC recognized quality assurance program.

#### **1.03 DELIVERY, STORAGE, AND HANDLING**

*If drying after treatment is selected in Part 2, retain the two paragraphs below.*

- A. Packing and Shipping:
  - 1. Provide waterproof covers for preservative treated wood during shipment.
- B. Storage and Protection:
  - 1. Store preservative treated wood off the ground and protected from the weather.

### **PART 2 PRODUCTS**

#### **2.01 MANUFACTURERS**

- A. Preservative: Chemonite® ACZA (Ammoniacal Copper Zinc Arsenate); Arch Wood Protection, Inc.

#### **2.02 MATERIALS**

*Lumber for preservative treatment must conform to the following specifications. Select grade and species below. Other grades and species may be acceptable, contact Arch to verify.*

- A. Lumber: In accordance with NIST PS 20 and as follows:
  - 1. Grade:
  - 2. Species:
  - 3. Surfacing:
  - 4. Moisture Content: 19%, maximum.

*Plywood for preservative treatment must conform to the following specifications. Select panel grade, exposure durability, species group, and structural rating from below.*

- A. Plywood: In accordance with NIST PS 1 and as follows:
  - 1. Panel Grade: A-C.
  - 1. Panel Grade: B-C.
  - 1. Panel Grade: C-C.
  - 1. Panel Grade: C-D.
  - 2. Exposure Durability: Exterior.
  - 2. Exposure Durability: Exposure 1.
  - 3. Species Group: 1.
  - 3. Species Group: 2.
  - 4. APA Structural Rating: Structural I.
  - 4. APA Structural Rating: Structural II.
  
- B. Preservative: ACZA in accordance with AWPA P5.

### **2.03 PRESERVATIVE TREATMENT**

- A. Pressure Treatment: In accordance with the requirements of AWPA Standard U1 and in accordance with the following Commodity Specification:
  - 1. A: Sawn Products.
  - 2. B: Posts.
  - 3. D: Poles.
  - 3. E: Round Timber Piling.
  - 4. F: Wood Composites (including Plywood).
  - 5. G: Marine (Salt Water) Applications.
  
- B. Preservative Retention: In accordance with AWPA Standard U1 and appropriate Commodity Specification for the following use category:
  - 1. UC2 Interior construction, Above Ground, damp.
  - 2. UC3A Exterior construction, Above Ground, coated & rapid water run-off.
  - 3. UC3B Exterior construction, Above Ground, uncoated or poor water run-off.
  - 4. UC4A Ground Contact or Fresh Water, non-critical components.
  - 5. UC4B Ground Contact or Fresh Water, critical components or difficult replacement.
  - 6. UC4C Ground Contact or Fresh Water, critical structural components.
  - 7. UC5A Salt or brackish water and adjacent mud zone, northern waters.
  - 8. UC5B Salt or brackish water and adjacent mud zone, NJ to GA, south of San Francisco.
  - 9. UC5C Salt or brackish water and adjacent mud zone, south of GA, Gulf Coast, Hawaii, and Puerto Rico.

C. Moisture Content: Drying after treatment is not required.

*Select above or below.*

C. Moisture Content: Dry after treatment as follows:

1. Lumber: 19%, maximum.
2. Plywood: 18%, maximum.
3. Plywood: 15%, maximum (*for Permanent Wood Foundation*).

*Retain below if fixed preservative is required for aquatic environments.*

D. Pressure Treatment of Materials for Aquatic Environments: In accordance with the Best Management Practices published by the Western Wood Preservers Institute.

## **2.05 SOURCE QUALITY CONTROL**

A. Inspection:

1. Untreated Material:

- a. Lumber: Provide lumber that has been inspected and graded before treatment by an ALSC-recognized grading agency.
- b. Plywood: Provide plywood that has been inspected and graded before treatment by a code-recognized inspection and testing agency.
- c. Poles: Provide poles that have been inspected and graded before treatment in accordance with ANSI standards.
- d. Piling: Provide piling that has been inspected and graded before treatment in accordance with ASTM standards.

2. Treated Material: Provide treated material that bears the quality mark of an ALSC-recognized agency which maintains supervision, testing, and inspection of the quality of the product.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

*Below is not generally required for sapwood species such as southern pine less than 5 inches thick in the eastern and central U.S. No other special installation specifications are required for preservative treated wood.*

A. Surface Treatment of Field Cuts: Treat field cuts on members that provide structural support to a permanent structure in accordance with AWWPA Standard M4.

# SAFETY DATA SHEET

Issue Date 27-May-2015

Revision Date 09-Dec-2021

Version 4

## 1. IDENTIFICATION

### Product identifier

Product Name

**Chemonite® Treated Wood**

### Other means of identification

Product Code

20007

Synonyms

ACZA Treated Wood

### Recommended use of the chemical and restrictions on use

Recommended Use

Treated Wood.

### Details of the supplier of the safety data sheet

Supplier Address

Manufacturer Address

Customers and Licensees of:

Arch Wood Protection, Inc.

3941 Bonsal Road

Conley, GA 30288

### Emergency telephone number

Company Phone Number

Emergency Telephone

## 2. HAZARDS IDENTIFICATION

### Classification

#### OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|  |             |
|--|-------------|
| Skin corrosion/irritation                        | Category 3  |
| Serious eye damage/eye irritation                | Category 2B |
| Respiratory sensitization                        | Category 1  |
| Skin sensitization                               | Category 1  |
| Carcinogenicity                                  | Category 1A |
| Specific target organ toxicity (single exposure) | Category 3  |

### Label elements

#### Emergency Overview

**Danger**

#### Hazard statements

Causes eye irritation

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause cancer

May cause an allergic skin reaction

May cause respiratory irritation  
Causes mild skin irritation



**Physical state** Solid

**Odor** Slight Ammonia

#### Precautionary Statements - Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Avoid breathing dust/fume/gas/mist/vapors/spray  
In case of inadequate ventilation wear respiratory protection  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves  
Use only outdoors or in a well-ventilated area

#### Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention  
IF ON SKIN: Wash with plenty of soap and water  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

#### Precautionary Statements - Disposal

Dispose of contents/ container to an approved landfill

#### Hazards not otherwise classified (HNOC)

Not applicable

#### Other Information

Causes mild skin irritation

Unknown acute toxicity

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

#### Synonyms

ACZA Treated Wood.

| Chemical Name | CAS No. | Weight-% | Trade Secret |
|---------------|---------|----------|--------------|
|---------------|---------|----------|--------------|

|                            |              |          |  |
|----------------------------|--------------|----------|--|
| Wood and Wood Dust         | NOT ASSIGNED | 90 - 100 |  |
| Ammonium hydroxide (>10 %) | 1336-21-6    | 0.3 - 3  |  |
| Cupric Oxide               | 1317-38-0    | 0.3 - 3  |  |
| Zinc oxide                 | 1314-13-2    | 0.3 - 3  |  |
| Arsenic Pentoxide          | 1303-28-2    | 0.3 - 3  |  |

#### 4. FIRST AID MEASURES

##### Description of first aid measures

|                       |  |
|-----------------------|--|
| <b>General advice</b> | If symptoms persist, call a physician.   |
| <b>Eye contact</b>    | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Do not rub affected area. |
| <b>Skin contact</b>   | Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.   |
| <b>Inhalation</b>     | Remove to fresh air. If not breathing, give artificial respiration. If symptoms persist, call a physician.   |
| <b>Ingestion</b>      | Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.                              |

##### Most important symptoms and effects, both acute and delayed

**Symptoms** See Section 11: TOXICOLOGICAL INFORMATION.

##### Indication of any immediate medical attention and special treatment needed

**Note to physicians** May cause sensitization in susceptible persons. Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

##### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Carbon dioxide (CO<sub>2</sub>). Water spray or fog.

**Unsuitable extinguishing media** Do not use a solid water stream as it may scatter and spread fire.

##### Specific hazards arising from the chemical

In the event of fire and/or explosion do not breathe fumes. May cause sensitization in susceptible persons.

**Hazardous combustion products** Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

##### Explosion data

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

##### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Ensure adequate ventilation, especially in confined areas.

**For emergency responders** Use personal protection recommended in Section 8.

### Environmental precautions

**Environmental precautions** See Section 12: ECOLOGICAL INFORMATION.

### Methods and material for containment and cleaning up

**Methods for containment** Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Take precautionary measures against static discharges.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Do not burn treated wood. Do not use pressure treated chips or sawdust as mulch. Use with local exhaust ventilation. May form combustible dust concentrations in air. Take precautionary measures against static discharges. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Do not breathe dust/mist/vapors/spray.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Avoid generation of dust.

**Incompatible materials** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Guidelines

| Chemical Name                      | ACGIH TLV  | OSHA PEL  | NIOSH IDLH   |
|------------------------------------|--|---|--|
| Wood and Wood Dust<br>NOT ASSIGNED | 1.0 mg/m <sup>3</sup> Inhalable,<br>0.5 mg/m <sup>3</sup> Inhalable Western Red<br>Cedar                                 | 15 mg/m <sup>3</sup> Total Dust<br>5.0 mg/m <sup>3</sup> Respirable Fraction  | -  |
| Cupric Oxide<br>1317-38-0          | TWA: 1 mg/m <sup>3</sup> Cu dust and mist  | -   | IDLH: 100 mg/m <sup>3</sup> Cu dust and mist<br>TWA: 0.1 mg/m <sup>3</sup> Cu fume<br>TWA: 1 mg/m <sup>3</sup> Cu dust and mist                |
| Zinc oxide<br>1314-13-2            | STEL: 10 mg/m <sup>3</sup> respirable<br>particulate matter<br>TWA: 2 mg/m <sup>3</sup> respirable<br>particulate matter | TWA: 5 mg/m <sup>3</sup> fume<br>TWA: 15 mg/m <sup>3</sup> total dust<br>TWA: 5 mg/m <sup>3</sup> respirable fraction<br>(vacated) TWA: 5 mg/m <sup>3</sup> fume<br>(vacated) TWA: 10 mg/m <sup>3</sup> total | IDLH: 500 mg/m <sup>3</sup><br>Ceiling: 15 mg/m <sup>3</sup> dust<br>TWA: 5 mg/m <sup>3</sup> dust and fume<br>STEL: 10 mg/m <sup>3</sup> fume |

|                                |                                |   |  |
|--------------------------------|--------------------------------|---|--|
|                                |                                | dust<br>(vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction<br>(vacated) STEL: 10 mg/m <sup>3</sup> fume |  |
| Arsenic Pentoxide<br>1303-28-2 | TWA: 0.01 mg/m <sup>3</sup> As | TWA: 10 µg/m <sup>3</sup> As  | IDLH: 5 mg/m <sup>3</sup> As<br>Ceiling: 0.002 mg/m <sup>3</sup> As 15 min |

NIOSH IDLH *Immediately Dangerous to Life or Health*

**Other Information** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

**Engineering Controls** Showers. Eyewash stations. Ventilation: Saw, cut or machine wood outdoors or in well ventilated areas. Due to the explosive potential of dust when suspended in air, precautions should be taken when sawing, sanding, or machining wood or wood products to prevent sparks or other ignition sources. If required, use wet methods and/or explosion suppression systems to reduce generation of dust. Local exhaust ventilation is recommended when sawing, sanding, or machining this product. General dilution ventilation is recommended in processing and storage areas.

**Individual protection measures, such as personal protective equipment**

- Eye/face protection** Use safety glasses with side shields or chemical goggles when sawing or cutting treated or untreated wood.
- Skin and body protection** Wear leather gloves. Wear long sleeve shirt, pants, and steel-toed shoes when handling treated or untreated wood.
- Respiratory protection** None normally required. When sawing or cutting treated or untreated wood, wear a NIOSH approved N95 or better dust mask.

**General Hygiene Considerations** When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

|                                |                          |                                |                          |
|--------------------------------|--------------------------|--------------------------------|--------------------------|
| <b>Physical state</b>          | Solid                    | <b>Odor</b>                    | Slight Ammonia           |
| <b>Appearance</b>              | No information available | <b>Odor threshold</b>          | No information available |
| <b>Color</b>                   | dark brown dark green    |                                |                          |
| <b><u>Property</u></b>         | <b><u>Values</u></b>     | <b><u>Remarks • Method</u></b> |                          |
| pH                             | No information available |                                |                          |
| Melting point / freezing point | No information available |                                |                          |
| Boiling point / boiling range  | No information available |                                |                          |
| Flash point                    |                          |                                |                          |
| Evaporation rate               | No information available |                                |                          |
| Flammability (solid, gas)      | No information available |                                |                          |
| Flammability Limit in Air      |                          |                                |                          |
| Upper flammability limit:      | No information available |                                |                          |
| Lower flammability limit:      | No information available |                                |                          |
| Vapor pressure                 | No information available |                                |                          |
| Vapor density                  | No information available |                                |                          |

|                                     |                          |
|-------------------------------------|--------------------------|
| <b>Relative density</b>             | No information available |
| <b>Water solubility</b>             | No information available |
| <b>Solubility in other solvents</b> | No information available |
| <b>Partition coefficient</b>        | No information available |
| <b>Autoignition temperature</b>     | No information available |
| <b>Decomposition temperature</b>    | No information available |
| <b>Kinematic viscosity</b>          | No information available |
| <b>Dynamic viscosity</b>            | No information available |
| <b>Explosive properties</b>         | No information available |
| <b>Oxidizing properties</b>         | No information available |

**Other Information**

|                         |                          |
|-------------------------|--------------------------|
| <b>Softening point</b>  | No information available |
| <b>Molecular weight</b> | No information available |
| <b>VOC Content (%)</b>  | No information available |
| <b>Density</b>          | No information available |
| <b>Bulk density</b>     | No information available |

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

Extremes of temperature and direct sunlight.

**Incompatible materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | WOOD and WOOD DUST :. May cause cancer. May cause sensitization by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| <b>Eye contact</b>  | WOOD and WOOD DUST :. Irritating to eyes.   |
| <b>Skin contact</b> | WOOD and WOOD DUST :. May cause irritation. May cause allergic skin reaction.   |
| <b>Ingestion</b>    | WOOD and WOOD DUST :. Harmful if swallowed.   |

| Chemical Name                           | Oral LD50         | Dermal LD50       | Inhalation LC50   |
|---|-------------------|-------------------|-------------------|
| Ammonium hydroxide (>10 %)<br>1336-21-6 | = 350 mg/kg (RT)  | -                 | -                 |
| Cupric Oxide<br>1317-38-0               | >2,500 mg/kg (RT) | >3,500 mg/kg (RT) | -                 |
| Zinc oxide<br>1314-13-2                 | > 2000 mg/kg (RT) | >2000 mg/kg (RT)  | -                 |
| Arsenic Pentoxide<br>1303-28-2          | 69.3 mg/kg (RT)   | 1235 mg/Kg (RBT)  | 0.46 mg/L (RT) 4h |

Note:  
 RT = Rat  
 RBT = Rabbit  
 MSE = Mouse  
 GP = Guinea Pig  
 V = Vapour

### Information on toxicological effects

**Symptoms** No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

| Chemical Name                      | ACGIH | IARC    | NTP   | OSHA |
|------------------------------------|-------|---------|-------|------|
| Wood and Wood Dust<br>NOT ASSIGNED | X     | Group 1 | X     | X    |
| Arsenic Pentoxide<br>1303-28-2     | A1    | Group 1 | Known | X    |

**IARC (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

X - Present

### Numerical measures of toxicity - Product Information

ATEmix (oral)  
 ATEmix (dermal)  
 ATEmix (inhalation-gas)  
 ATEmix (inhalation-dust/mist)  
 ATEmix (inhalation-vapor)

Numerical measures of toxicity

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

| Chemical Name                           | Algae/aquatic plants                                     | Fish  | Crustacea                           |
|---|--|---|-------------------------------------|
| Ammonium hydroxide (>10 %)<br>1336-21-6 | -  | 8.2 mg/L LC50 96h (Pimephales promelas)     | 0.66 mg/L EC50 48h (Daphnia magna)  |
| Cupric Oxide<br>1317-38-0               | -  | 0.0384 mg/L LC50 96h (Pimephales promelas)  | -                                   |
| Zinc oxide<br>1314-13-2                 | 0.044 mg/L EC50 72h<br>(Pseudokirchneriella subcapitata) | 0.112 mg/L LC50 96h (Thymallus articus)     | >1.0 mg/L EC50 24h (Daphnia magna)  |
| Arsenic Pentoxide<br>1303-28-2          | 10.5 mg/L EC50 72h<br>(Pseudokirchneriella subcapitata)  | 17.3 mg/L LC50 96 h (Cyprinodon variegatus) | 1.11 mg/L Ec50 48 h (Daphnia pulex) |

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available.

**Other adverse effects**

No information available

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Disposal of wastes**

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. Dispose of in accordance with federal, state and local regulations.

**Contaminated packaging**

No information available.

| Chemical Name                           | California Hazardous Waste Status |
|---|-----------------------------------|
| Ammonium hydroxide (>10 %)<br>1336-21-6 | Toxic<br>Corrosive                |
| Cupric Oxide<br>1317-38-0               | Toxic                             |
| Zinc oxide<br>1314-13-2                 | Toxic                             |

**14. TRANSPORT INFORMATION****DOT**

Not regulated

**15. REGULATORY INFORMATION****US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name                 | SARA 313 - Threshold Values % |
|-------------------------------|-------------------------------|
| Arsenic Pentoxide - 1303-28-2 | 0.1                           |

**SARA 311/312 Hazard Categories**

|                                   |     |
|-----------------------------------|-----|
| Acute health hazard               | Yes |
| Chronic Health Hazard             | Yes |
| Fire hazard                       | Yes |
| Sudden release of pressure hazard | No  |
| Reactive Hazard                   | No  |

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical Name                           | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|-----------------------------|------------------------|---------------------------|----------------------------|
| Ammonium hydroxide (>10 %)<br>1336-21-6 | 1000 lb                     | -                      | -                         | X                          |
| Cupric Oxide<br>1317-38-0               | -                           | X                      | -                         | -                          |
| Zinc oxide<br>1314-13-2                 | -                           | X                      | -                         | -                          |
| Arsenic Pentoxide<br>1303-28-2          | 1 lb                        | X                      | -                         | X                          |

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name                           | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ)                  |
|---|--------------------------|----------------|---|
| Ammonium hydroxide (>10 %)<br>1336-21-6 | 1000 lb                  | -              | RQ 1000 lb final RQ<br>RQ 454 kg final RQ |
| Arsenic Pentoxide<br>1303-28-2          | 1 lb                     | 1 lb           | RQ 1 lb final RQ<br>RQ 0.454 kg final RQ  |

**US State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals

| Chemical Name                     | California Proposition 65   |
|-----------------------------------|-----------------------------|
| Wood and Wood Dust - NOT ASSIGNED | Carcinogen                  |
| Arsenic Pentoxide - 1303-28-2     | Carcinogen<br>Developmental |

Warning: This wood contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**U.S. State Right-to-Know Regulations**

| Chemical Name                           | New Jersey | Massachusetts | Pennsylvania |
|---|------------|---------------|--------------|
| Ammonium hydroxide (>10 %)<br>1336-21-6 | X          | X             | X            |
| Cupric Oxide<br>1317-38-0               | X          | -             | X            |
| Ammonium bicarbonate<br>1066-33-7       | X          | X             | X            |
| Zinc oxide                              | X          | X             | X            |

|                                |   |   |   |
|--------------------------------|---|---|---|
| 1314-13-2                      |   |   |   |
| Arsenic Pentoxide<br>1303-28-2 | X | X | X |

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. OTHER INFORMATION**

**Issue Date** 27-May-2015

**Revision Date** 09-Dec-2021

**Revision Note**

No information available

**Disclaimer**

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**

# 50-Year Limited Warranty — Chemonite® ACZA-Treated Western Red Cedar Pole

***This warranty extends ONLY to the owner of the Chemonite® ACZA-treated pole and is good for fifty (50) years from the date of first purchase.***

Subject to the terms, conditions and limitations contained in this Warranty, Arch Wood Protection, Inc. ("Warrantor") warrants to the owner of a Chemonite® ACZA-treated wood pole that for a period of 50 years following the date of original purchase such pole will not suffer damage caused by termites or fungal decay that makes the pole structurally unfit for the application for which it was intended (as defined by the National Electric Safety Code for the year of manufacture). In the event of a valid warranty claim, the owner of the pole will be entitled, as the sole and exclusive remedy, to reimbursement of the original price paid for the non-conforming Chemonite® ACZA wood pole. To obtain approval for reimbursement under the warranty, the owner must send, within 30 days of discovery of the damage covered hereunder, the original purchase invoice, or other proof showing that the Chemonite® ACZA pole was purchased from Warrantor's licensee or its authorized supplier, to the Warrantor at:

Chemonite® ACZA-Treated Wood Poles  
Warranty Claim Administrator  
360 Interstate North Parkway, Suite 450  
Atlanta, GA 30339

Before approving any warranty claim, Warrantor may require owner to send photographs and pieces of damaged wood. In addition, at the Warrantor's request, the Warrantor and its representatives and agents must be permitted to inspect and test the damaged structure to determine the validity of the warranty claim.

Notwithstanding any provision hereof to the contrary, Warrantor shall NOT be liable hereunder for any of the following: (a) damage to any Chemonite® ACZA pole resulting from any cause other than termites or fungal decay; (b) damage to any Chemonite® ACZA pole that has been used in a non-utility structure or a structure outside of North America or used for an application or in a way that is not consistent with its intended end use (as defined by the National Electric Safety Code for the year of manufacture); (c) damage to any Chemonite® ACZA pole that was not pressure-treated in accordance with the American Wood Protection Association (AWPA) Standard U1; or (d) damage to any Chemonite® ACZA pole that does not bear (i) a brand or tag that incorporates the name of the Chemonite® ACZA wood pole producer including month/year of production with quality assurance program marks (if applicable) and (ii) the mark(s) of a quality assurance program or an independent inspection agency showing acceptance to AWPA Standard U1.

The warranty does not cover, and Warrantor shall not be responsible for, installation, repair, construction, labor or similar costs, or for any costs or damage which may be associated with the natural characteristic of some wood to split, crack, warp, twist, weather or erode.

BY PURCHASING OR ACCEPTING OWNERSHIP OF A CHEMONITE® ACZA WOOD POLE, OWNER ACCEPTS AND ACKNOWLEDGES, AND WARRANTOR HEREBY STATES, THAT THIS WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY AND REPLACES ALL OTHER REPRESENTATIONS, WARRANTIES, GUARANTEES, TERMS, COVENANTS, AGREEMENTS, PROMISES, COM-

MITMENTS, DUTIES OF CARE OR CONDITIONS, EXPRESSED OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH WARRANTOR HEREBY SPECIFICALLY DISCLAIMS, AND THERE ARE NO OTHER REPRESENTATIONS WHATSOEVER WITH RESPECT TO CHEMONITE® ACZA WOOD POLES EXCEPT THE LIMITED WARRANTY GIVEN HEREUNDER. ONLY THE WARRANTOR IS LIABLE UNDER THIS LIMITED WARRANTY AND ITS DIRECTORS, OFFICERS, EMPLOYEES AND AGENTS SHALL HAVE NO LIABILITY OF ANY KIND WITH RESPECT TO THE PURCHASE OR USE OF CHEMONITE® ACZA WOOD POLES.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL WARRANTOR BE RESPONSIBLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND WHATSOEVER, HOWSOEVER CAUSED AND WHETHER OR NOT DUE TO ANY DEFICIENCY OR NEGLIGENCE IN MANUFACTURING, AND WHETHER OR NOT RELATING TO LOSS, DAMAGE, DEATH OR INJURY ARISING OUT OF OR RELATING TO THE PURCHASE OR USE OF CHEMONITE® ACZA WOOD POLES.

This warranty shall be governed by the laws of the State of Georgia, without regard to its conflict of laws rules.

# CHEMONITE® ACZA TREATED WOOD POLES 50-YEAR LIMITED WARRANTY

*This warranty extends ONLY to the owner of the Chemonite® ACZA-treated pole, and is good for fifty (50) years from the date of first purchase.*

Subject to the terms, conditions and limitations contained in this Warranty, Arch Wood Protection, Inc. ("Warrantor") warrants to the owner of a Chemonite® ACZA-treated wood pole that for a period of 50 years following the date of original purchase such pole will not suffer damage caused by termites or fungal decay that makes the pole structurally unfit for the application for which it was intended (as defined by the National Electric Safety Code for the year of manufacture). In the event of a valid warranty claim, the owner of the pole will be entitled, as the sole and exclusive remedy, to reimbursement of the original price paid for the non-conforming Chemonite wood pole. To obtain approval for reimbursement under the warranty, the owner must send, within 30 days of discovery of the damage covered hereunder, the original purchase invoice, or other proof showing that the Chemonite pole was purchased from Warrantor's licensee or its authorized supplier, to the Warrantor at:

Chemonite® ACZA-Treated Wood Poles  
Warranty Claim Administrator  
Arch Wood Protection, Inc.  
1200 Bluegrass Lakes Parkway  
Alpharetta, GA 30004

Before approving any warranty claim, Warrantor may require owner to send photographs and pieces of damaged wood. In addition, at the Warrantor's request, the Warrantor and its representatives and agents must be permitted to inspect and test the damaged structure to determine the validity of the warranty claim.

Notwithstanding any provision hereof to the contrary, Warrantor shall NOT be liable hereunder for any of the following: (a) damage to any Chemonite pole resulting from any cause other than termites or fungal decay; (b) damage to any Chemonite pole that has been used in a non-utility structure or a structure outside of North America or used for an application or in a way that is not consistent with its intended end use (as defined by the National Electric Safety Code for the year of manufacture); (c) damage to any Chemonite pole that was not pressure-treated in accordance with the American Wood Protection Association (AWPA)

Standards U1, T1 and Commodity Specification D Use Category 4C; or (d) damage to any Chemonite pole that does not bear (i) a brand or tag that incorporates the name of the Chemonite wood pole producer including month/year of production with quality assurance program marks (if applicable) and (ii) the mark(s) of a quality assurance program or an independent inspection agency showing acceptance to AWPA Standard UC4C. **This warranty is limited to AWPA listed species for treatment by ACZA.**

The warranty does not cover, and Warrantor shall not be responsible for, installation, repair, construction, labor or similar costs, or for any costs or damage which may be associated with the natural characteristic of some wood to split, crack, warp, twist, weather or erode.

BY PURCHASING OR ACCEPTING OWNERSHIP OF A CHEMONITE WOOD POLE, OWNER ACCEPTS AND ACKNOWLEDGES, AND WARRANTOR HEREBY STATES, THAT THIS WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY AND REPLACES ALL OTHER REPRESENTATIONS, WARRANTIES, GUARANTEES, TERMS, COVENANTS, AGREEMENTS, PROMISES, COMMITMENTS, DUTIES OF CARE OR CONDITIONS, EXPRESSED OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH WARRANTOR HEREBY SPECIFICALLY DISCLAIMS, AND THERE ARE NO OTHER REPRESENTATIONS WHATSOEVER WITH RESPECT TO CHEMONITE WOOD POLES EXCEPT THE LIMITED WARRANTY GIVEN HEREUNDER. ONLY THE WARRANTOR IS LIABLE UNDER THIS LIMITED WARRANTY AND ITS DIRECTORS, OFFICERS, EMPLOYEES AND AGENTS SHALL HAVE NO LIABILITY OF ANY KIND WITH RESPECT TO THE PURCHASE OR USE OF CHEMONITE WOOD POLES.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL WARRANTOR BE RESPONSIBLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND WHATSOEVER, HOWSOEVER CAUSED AND WHETHER OR NOT DUE TO ANY DEFICIENCY OR NEGLIGENCE IN MANUFACTURING, AND WHETHER OR NOT RELATING TO LOSS, DAMAGE, DEATH OR INJURY ARISING OUT OF OR RELATING TO THE PURCHASE OR USE OF CHEMONITE WOOD POLES.

This warranty shall be governed by the laws of the State of Georgia, without regard to its conflict of laws rules.



## Additional Information

Western Wood Preservers Institute : [www.wwpi.org](http://www.wwpi.org)

North American Wood Pole Council : [www.woodpoles.org](http://www.woodpoles.org)

Preserved Wood : [wolmanizedwood.com](http://wolmanizedwood.com)

American National Standard Institute : [www.ansi.org](http://www.ansi.org)

American Society for Testing & Materials : [www.astm.org](http://www.astm.org)

American Wood Protection Association : [www.awpa.com](http://www.awpa.com)

Canadian Standards Association : [www.csa.ca](http://www.csa.ca)

Rural Utility Services (formerly REA) : [www.usda.gov/rus](http://www.usda.gov/rus)