

J.H. BAXTER & CO.  
CHEMONITE PART C  
FOR FORMULATING ACZA WOOD  
PRESERVATIVE ONLY

ACTIVE INGREDIENT: Zinc Oxide ..... 99%  
INERT INGREDIENTS: ..... 1%

KEEP OUT OF REACH OF CHILDREN

CAUTION

Statement of Practical Treatment

If in eyes: Flush with plenty of water. Get medical attention if irritation persists.  
If on skin: Wash with plenty of soap and water. Get medical attention if irritation persists.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Caution: Causes eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

In case of contact, immediately flush skin or eyes with plenty of water. If irritation develops, get medical attention.

ENVIRONMENTAL HAZARDS

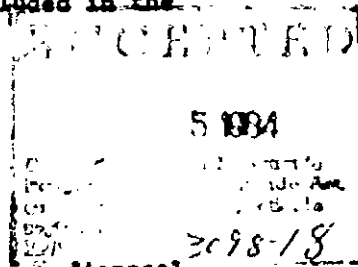
Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of wastes.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Sold only for use with other J.H. Baxter & Co. products in formulating CHEMONITE ACZA wood preservative for pressure treatment. Use with caution strictly in accordance with the detailed instructions for use included in the technical bulletin.

STORAGE AND DISPOSAL

1. STORAGE  
Protect from precipitation.
2. PROHIBITIONS  
Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.
3. PESTICIDE DISPOSAL  
Pesticide, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of according to applicable Federal, State or local procedures.
4. CONTAINER DISPOSAL  
Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by other approved state and local procedures.



Manufactured for:  
J.H. BAXTER  
1700 SOUTH EL CIMINO REAL  
SAN MATEO, CALIFORNIA 94007  
E.P.A. Reg. No. 3098-  
E.P.A. Est. No. 26883

NET CONTENTS: LBS.

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CHEMONITE PART C - PRODUCT BULLETIN

CHEMONITE PART C is sold for use in formulating CHEMONITE ACZA solution, an end-use tank mixture for use only in pressure treatment. When mixed in accordance with the detailed instructions provided by J.H. Baxter & Co., CHEMONITE ACZA wood preservative will conform with AWPA specification P5(3)-83.

RECOMMENDATION FOR USE

CHEMONITE PART C is zinc oxide. It is intended to be mixed with other CHEMONITE components to formulate CHEMONITE ACZA wood preservative for use only in pressure treatment. The attached J.H. Baxter & Co. mixing instructions must be followed carefully to ensure that the treatment solution conforms with AWPA specification P5(3)-83. Further information and assistance in solving particular problems is available from our technical staff. CHEMONITE ACZA wood preservative should be used in accordance with the AWPA standards. Wood products treated with CHEMONITE ACZA in accordance with AWPA standards should be handled in the same manner as those treated with ACA.

PRECAUTIONARY STATEMENTS: HAZARDS TO HUMAN AND DOMESTIC ANIMALS

The following precautions should be observed in handling and using CHEMONITE PART C.

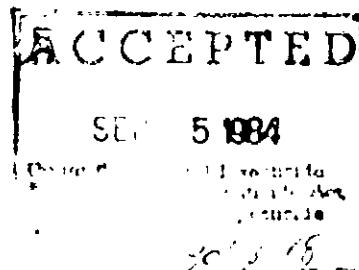
CHEMONITE PART C may cause eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

Do not contaminate water by cleaning equipment or disposal of wastes.

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide or rinsate that cannot be used according to label instructions must be disposed of according to federal, state or local procedures under the Resource Conservation and Recovery Act. Do not reuse empty container. Container should be triple rinsed (or equivalent) and offered for recycling or reconditioning or disposed of in a sanitary landfill, or by other approved state or local procedures.

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TYPICAL CHEMONITE (ACZA) MIX

4384 pounds dry oxide basis containing:  
220 gallons or 4 drums Chemonite Part A  
(Arsenic Acid), 120 gallons (5 drums) of  
Chemonite Part B (Copper), 1100 pounds  
Chemonite Part C (Zinc Oxide)

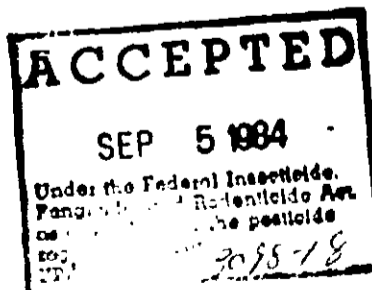
Aqua Ammonia equivalent to 3024 pounds  
Anhydrous Ammonia

2016 pounds Ammonium Bicarbonate or  
equivalent in Ammonia and Carbon Dioxide

Larger or smaller mixes may be made by  
varying in proportion the constituent parts.

- STEP 1. Add initial water to mix tank. As Aqua Ammonia concentration will affect quantities of water used, see Table 1 for initial water quantity. Turn on agitator.
- STEP 2. Add 120 gallons (five drums) Chemonite Part B (Cement Copper) as supplied.  
1100 lbs. Chemonite Part C (Zinc Oxide)  
2016 lbs. Ammonium Bicarbonate (if used as powder).
- STEP 3. Close the hatch and open vent line valve to the Ammonia scrubber system. Agitate about 10 minutes to slurry the contents. Note that when using 10% or 12% Ammonia, there may be insufficient liquid in the mix tank to complete Step 3. In that case, add the Aqua Ammonia specified in Step 4 and then agitate.
- STEP 4. Add Aqua Ammonia containing about 800 pounds of Anhydrous Ammonia. Based on available Ammonia concentration, quantities are shown in Table 1.
- STEP 5. 220 gallons (4 drums) of Chemonite Part A (Arsenic Acid 75% concentration) will be added now. The mix tank should have an Arsenic Acid addition system as shown on the attached sketches. The Arsenic Acid is pumped into the mixer, using a corrosion-resistant drum pump and Acid-resistant hose or piping. Upon emptying each drum of Arsenic Acid,

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it should be rinsed with about eight gallons of water sprayed into and around the drum insides. This rinsate should be transferred to the mixer. Repeat this washing two more times for each drum, resulting in three complete washings of each drum. Replace the 2" diameter plugs in the drums.

NOTE: 75% Arsenic Acid is a strong Acid and should be handled with care. In handling, workers should wear rubber coats, pants, and gloves and an Acid-resistant plastic face shield.

Equivalent volume of bulk Arsenic Acid can be used if available.

- STEP 6. Agitate mix noting temperature increase for two hours.
- STEP 7. Add final Aqua-Ammonia as shown in Table 1 and continue agitation for an additional hour.
- STEP 8. Withdraw a sample from the mix tank toward the end of the Step 7 agitation period. Allow the sample to settle for a few minutes and note if any metallic Copper is visible in the settlings. If there is, continue agitation with periodic samplings until no metallic Copper is visible in the settling. When visible metallic Copper is absent, test for the presence of unreacted Copper by the AWPA test method. A negative test for unreacted metallic Copper indicates the mix is completed.
- STEP 9. Add the final water as shown in Table 1 and agitate 10 more minutes.

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- STEP 2. Add Copper, Zinc Oxide and Ammonium Bicarbonate to mix tank. The Copper will complex with Ammonia in solution. Zinc Oxide is soluble in Ammonia solution as is Ammonium Bicarbonate. The Ammonium Bicarbonate increases the solubility of the Copper.
- STEP 3. Add water - Ammonium Bicarbonate goes into solution. Limited solubility of Copper and Zinc Oxide at this stage. Start mixer - adds air.
- STEP 4. Add Aqua Ammonia - Copper goes into solution as Ammonia Copper complex. Zinc Oxide goes into solution as complex as well.
- STEP 5. Add Arsenic Acid - reacts as Acid - Base with Ammonium Hydroxide.
- STEP 6. Air oxidation starts.
  - Step A.  $Cu^0$  oxidized to  $Cu II$  } temperature rise to: ~150°F. Do not exceed 150°F. Control temperature by air flow rate.
- STEP 7. Add final Aqua Ammonia.
- STEP 8. Reaction finished when all Copper metal is in solution. Test with starch iodine.
- STEP 9. Add water for proper solution strength.

Since several concentrations of Aqua Ammonia are used in mixing Chemonite, the following table may be useful along with instructions.

MIX: Approx. 4390 lbs. oxide basis, made to 10% active ingredients solution

<u>Ammonia Conc.</u>	<u>Step 1 Initial Water</u>	<u>Step 4 Initial Aqua Gallon</u>	<u>Step 5 Drum Rinse</u>	<u>Step 7 Final Aqua Ammonia</u>	<u>Step 9 Final Water</u>
10	300 gal.	3000	96	794.23	390.82
13	600	2307	"	633.78	928.77
17	1000	2000	"	568.15	901.19
18	1300	1666	"	496.16	1004.65
20	1500	1500	"	461.09	1006.38
25	1800	1200	"	395.78	1069.49
28	2000	1071	"	367.08	1025.11

Note: To make double Ammonia solutions, the amounts of Ammonia added should be doubled with equal volumes of water subtracted from water to be added.

Per Cent Ammonia % NH <sub>3</sub>	Per Cent Nitrogen % N	( Wt % of H <sub>2</sub> O at 60°F	Baume at 60°F	Per Gallon (lbs.)	Per Gallon at 60°F	Per Gallon at 60°F	Boiling Point at 14.7 PSIA (°F)
13.00	10.7	.9493	17.49	7.91	1.03	0.85	144.4
13.37	11.0	.9479	17.69	7.89	1.05	.86	142.9
14.00	11.5	.9459	18.02	7.88	1.10	.91	140.4
14.58	12.0	.9439	18.33	7.86	1.15	.95	138.1
15.00	12.3	.9425	18.55	7.85	1.18	.97	136.4
15.80	13.0	.9398	18.99	7.83	1.24	1.02	133.2
16.00	13.2	.9392	19.08	7.82	1.25	1.03	132.4
17.00	14.0	.9359	19.60	7.79	1.32	1.09	128.4
18.00	14.8	.9326	20.13	7.77	1.40	1.15	124.5
18.23	15.0	.9318	20.25	7.76	1.41	1.16	123.6
19.00	15.6	.9293	20.65	7.74	1.47	1.21	120.5
19.44	16.0	.9280	20.88	7.73	1.50	1.23	118.9
20.00	16.4	.9261	21.17	7.71	1.54	1.27	116.7
20.65	17.0	.9240	21.15	7.70	1.59	1.31	114.3
21.00	17.3	.9230	21.69	7.69	1.62	1.33	113.0
21.67	18.0	.9203	22.14	7.66	1.68	1.38	109.9
22.00	18.1	.9198	22.21	7.66	1.69	1.39	109.4
23.00	18.9	.9166	22.73	7.63	1.75	1.44	106.0
23.09	19.0	.9163	22.78	7.63	1.76	1.45	105.7
24.00	19.7	.9135	23.24	7.61	1.83	1.51	102.6
24.30	20.0	.9126	23.40	7.60	1.85	1.52	101.6
25.00	20.6	.9105	23.76	7.58	1.90	1.56	99.3
25.52	21.0	.9090	24.02	7.57	1.93	1.59	97.6
26.00	21.4	.9075	24.27	7.56	1.97	1.62	96.0
26.73	22.0	.9053	24.54	7.54	2.02	1.66	93.6
27.00	22.2	.9045	24.78	7.53	2.03	1.67	92.7
28.00	23.0	.9016	25.29	7.51	2.10	1.73	89.4
29.00	23.9	.8986	25.80	7.48	2.17	1.79	86.1
29.16	24.0	.8983	25.85	7.48	2.18	1.80	85.6
30.00	24.7	.8957	26.31	7.46	2.24	1.85	82.6
30.36	25.0	.8946	26.50	7.45	2.26	1.86	81.6

Notes: Specific gravity and Baume Handbook of Chemistry and Physics, 22nd Ed., Pg. 1483 (W. C. Ferguson). Adopted as standard by I.C.A.

Wt. of 1 gallon water at 60°F = 8.32828 lbs. — I.C.A. Value (Metric)

$$\% \text{ N in NH}_3 = \frac{14.008 \times 100}{14.008 + 3 \times 1.008} = \frac{14.008 \times 100}{17.032} = 82.245\%$$

Boiling Point at 14.7 psia: Lehigh University Studies, Tables and Properties of Aqua Ammonia Solutions.

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