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Standard Specification for Copper Dimethyldithiocarbamate[1]

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1. Scope

1.1 The values stated in SI units are to be regarded as the standard.

2. Referenced Documents

2.1 *AWPA Standards:*

AWPA A 9 Analysis of Treated Wood and Treating Solutions by X-Ray Spectroscopy[2]

AWPA A 25 Method of Analysis of Copper Dimethyldithiocarbamate (CDDC) Treated Wood by Colorimetry[2]

3. Composition and Properties

3.1 Copper dimethyldithiocarbamate (CDDC), formed in the wood, shall be a reaction product resulting from the dual treatment of two separate treating solutions, the first treating solution containing bivalent copper ethanolamine (2-aminoethanol) and the second treating solution containing sodium dimethyldithiocarbamate.

3.2 The analytical composition of the components present in the two treating solutions shall be maintained at concentrations that will result in the treated wood retaining average weight ratios of components varying within the limits specified in Table 1.

3.3 The treating solution used for the first treatment of the dual treatment shall contain bivalent copper derived from copper ethanolamine complex dissolved in water. The weight ratio of ethanolamine to bivalent copper in the copper ethanolamine treating solution shall be a minimum of 1.70 and the resulting complex shall be completely water soluble at 5°C.

TABLE 1 Specification for Copper Dimethyldithiocarbamate Formed by Dual Treatment (CDDC)

Weight Ratio—Sodium Dimethyldithiocarbamate: Copper	
Minimum	Maximum
2.5	5.0

3.4 The bivalent copper source may be cupric hydroxide, cupric oxide, basic cupric carbonate, or other copper sources other than cupric salts of mineral acids. The purity shall be in excess of 95 % on an anhydrous basis.

3.5 The treating solution used for the second treatment of the dual treatment shall contain sodium dimethyldithiocarbamate dissolved in water. Sodium dimethyldithiocarbamate shall be derived from material in excess of 95 % purity on an anhydrous basis.

3.6 The commercial preservative components for each of the treatments shall be labeled as to their total content of active ingredients.

4. Chemical Analysis

4.1 The preservative component elements shall be analyzed in accordance with test methods in AWPA Standard A 9. The copper dimethyldithiocarbamate chelate in the treated wood shall be analyzed in accordance with test methods in AWPA A 25.

5. Keywords

5.1 copper dimethyldithiocarbamate; wood preservative

[1] This specification is under the jurisdiction of ASTM Committee D-7 on Wood and is the direct responsibility of Subcommittee D07.06 on Treatments for Wood Products.

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[2] Available from American Wood Preservers' Association, PO Box 286, Woodstock, MD 21163.