



COBRA™ CUB LIQUID

Product Overview

Cobra™ CuB Liquid is a ready-to-use copper borate solution synthesized to provide effective immediate treatment and long-term internal protection to wood structures. It provides the highest concentration of actives offered in the market today. The formulation mirrors that of the widely used Cobra™ Rod technology. Cobra™ CuB Liquid is a water-based remedial preservative that protects against a broad range of insects, fungi, and other wood decaying organisms. Cobra™ CuB 20 Liquid surpasses other preservative internal treatments in its eco-friendly design and is

VOC and solvent free.

Technical Summary (including 3rd party data and research)

Cobra™ CuB Liquid is available in 1 or 5-gallon containers:

- Cobra™ CuB Liquid (Genics' product number 23204), box of (4) 1-gallon jugs
- Cobra™ CuB Liquid (Genics' product number 23210), 5-gallon pail
- Cobra™ CuB Liquid 2-20 (Genics' product number 23404), box of (4) 1-gallon jugs
- Cobra™ CuB Liquid 2-20 (Genics product number 223410), 5-gallon pail

Additional products available:

- Cobra™ Foaming Agent (Genics' product number 20915), box of (4) 1-gallon jugs
- Application nozzle for 1-gallon Cobra™ CuB Liquid jug (Genics' product number 95180)
- Additional equipment upon request

Cobra CuB:

- Disodium Octaborate Tetrahydrate: 9.10%
- Boric Acid: 0.89%
- Copper Hydroxide: 0.99% (Total Metallic Copper Equivalent: 0.64%)

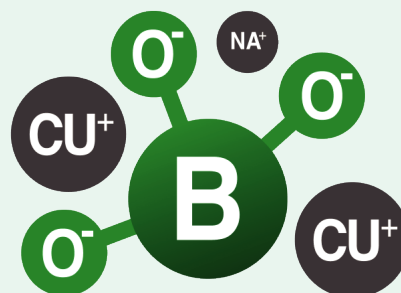
Cobra CuB 2-20:

- Disodium Octaborate Tetrahydrate: 19.98%
- Copper Hydroxide: 3.80% (Total Metallic Copper Equivalent: 2.47%)

Composition and Chemistry

Cobra™ CuB Liquid – Composition and Chemistry:

The active ingredients of Copper Hydroxide and Disodium Octaborate Tetrahydrate are registered and listed with OMRI (Organic Materials Review Institute) and may be used in certified organic production farms as disease control or plant and soil amendment, respectively.



Cobra™ CuB Liquid – Performance Summary

Genics has conducted research and testing with the following research institutions:

- FPIInnovations
- Louisiana State University
- University of Toronto
- Mississippi State University
- Oregon State University
- University of Hawaii
- Innotech Alberta
- Powertech Laboratories

Internal and Independent studies completed by third-party research institutions conclude that the combination of copper and boron in the Cobra™ CuB Liquid 2-20 formulation is effective at preserving and controlling against wood decay, fungi, molds, insects, ants, and termites.

- AWPA ASTM D3273-94 test method - mold growth is effectively controlled when Cobra™ CuB Liquid 2-20 is applied at 1.5%.
- AWPA E10-12 Standard Method for Testing Wood Preservative by Laboratory Soil-Block Cultures – Cobra™ CuB Liquid 2-20 was effective against several aggressive decay fungi at retentions of 1.0 kg/m³ or less.
- AWPA E33-18 Standard Test Method of Evaluating Wood Preservatives Against Decay in Use Category 2 (UC2) – Cobra™ CuB Liquid 2-20 effectively reduced the rate of decay when applied on blocks that had fungal and decay activity present.
- AWPA E1-09 Standard Method of Laboratory Evaluation to Determine Resistance to Subterranean Termites – Cobra™ CuB Liquid 2-20 was associated with a less than 5% weight loss from Formosan termites in an AWPA E1 laboratory test at retentions greater than 3.8 kg/m³.

Boron is highly effective against basidiomycetes, insects, and termites.
Copper is highly effective against soft-rot fungi or ascomycetes.

Active Ingredient Bio-Availability

Cobra™ CuB Liquid provides the highest concentration of active ingredients to deliver the highest volume of net copper and boron per oz/ml of solution. The active ingredients are solubilized into a homogenous solution that provides the highest diffusability of copper and boron to increase the rate of diffusion and reduce the leachability of the actives. The rate of uptake is enhanced due to the homogeneity of the solution as it behaves as water would and, therefore, it is absorbed within the wood fibers as such.

Biophysical Copper: Copper hydroxide is solubilized and complexed into solution to increase its bioavailability when applied to wood. This process allows the copper ions to diffuse and migrate within the moisture gradient and bulk flow of water within the cell walls on the surface and interior of wood. Delivery of active elemental copper concentration is 2.0%, which is above industry standards and exceeds the minimum toxic threshold for all decay fungi that are prevalent in wood.

Biophysical Boron: Disodium Octaborate Tetrahydrate (DOT) provides the highest yield of boron molecules per hydrated borate compound. Net concentration of DOT in Cobra™ CuB liquid is 19.98%, which is the highest available concentration of BORON AND BORATE of any ready-to-use solution currently used in the wood preservation world as a remedial preservative system.

Cobra™ CuB Liquid - Installation Instructions for ground line application:

- Drill new inspection boring as per utility's specification or remove plug from existing boring.
- Pour Cobra™ CuB Liquid into the hole to reach desired loading.
- Seal the treatment holes with a Cobra™ Plug. Plug should be 1/16" larger in diameter than treatment hole.
- Treatment holes can be checked after several years and reloaded with Cobra™ CuB Liquid.

Cobra™ CuB Liquid can be mixed with a foaming agent to ensure preservative delivery to voids and insect galleries.

Cobra™ CuB Liquid - Installation Instructions for treatment of voids:

Internal treatment involves boring 1/2" holes into the pole, foaming the void with preservative via the holes and then plugging the holes with a Cobra™ Plug. For maximum effectiveness, it is recommended that the solution be applied at temperatures above 10°C (50°F). Proceed as follows:

- Locate the void by using utility specified practices.
- Typically drill into the center of the void at a downward angle.
- Mix 32 ounces of Cobra™ Foaming Agent with 128-ounces (1-gallon) of Cobra™ CuB Liquid.
- Using a pressurized sprayer, fill the void until evidence of complete coverage.
- Genics recommends boring at the bottom and top of the void, then applying Cobra™ CuB Liquid.

with Cobra™ Foaming Agent from the bottom hole until the foam escapes from the hole above.

However, always refer to the utility's specifications for treating voids

- Based on utility specification for the size of the hole, insert appropriate Cobra™ Plug.

Ensure the use of proper PPE as per the label, SDS sheet, State guidelines.

This product is manufactured in an ISO 14001 facility.

