

AWARD FOR WOOD PRESERVATIVE

Chemical Specialties, Inc. (CSI), based in Charlotte, NC, USA (a subsidiary of Rockwood Specialties Inc. from Princeton, NJ, USA) has been awarded one of the prestigious Presidential Green Chemistry Challenge Awards for 2002 for its non-arsenic wood preservative, Alkaline Copper Quaternary (ACQ).

Environmental concerns

The pressure-treated wood industry is a \$4 billion industry, producing approximately 7 billion board feet of preserved wood per annum. More than 95% of the pressure-treated wood used in the United States is currently preserved with chromated copper arsenate (CCA). Approximately 150 million pounds of CCA wood preservatives were used in the production of pressure-treated wood in 2001, enough wood to build 435,000 homes. About 40 million pounds of arsenic and 64 million pounds of hexavalent chromium were used to manufacture these CCA wood preservatives.

Over the past few years, scientists, environmentalists, and regulators have raised concerns regarding the risks posed by the arsenic that is either dislodged or leached from CCA-treated wood. A principal concern is the risk to children from contact with CCA-treated wood in playground equipment, picnic tables, and decks. This concern has led to the increased demand for and use of alternatives to CCA.

EPA takes action

On February 12, 2002, EPA announced a voluntary decision by industry to move consumer use of treated lumber products away from a variety of pressure-treated wood that contains arsenic by December 31, 2003, in favor of new alternative wood preservatives. This transition affects virtually all residential uses of wood treated with chromated copper arsenate, also known as CCA, including wood used in play-structures, decks, picnic tables, landscaping timbers, residential fencing, patios and walkways/boardwalks. By January 2004, EPA will not allow CCA products for any of these residential uses. This decision will facilitate the voluntary transition to new alternative wood preservatives that do not contain arsenic in both the manufacturing and retail sectors. Although the Agency has not concluded that there is unreasonable risk to the public from these products, we do believe that any reduction in exposure to arsenic is desirable. This action comes years ahead of completing the Agency's regulatory and scientific assessment of CCA and will result in substantial reductions in potential exposure to CCA.

CSI's ACQ alternative

Chemical Specialties, Inc. (CSI) developed its alkaline copper quaternary (ACQ) wood preservative as an environmentally advanced formula designed to replace the CCA industry

standard. ACQ formulations combine a bivalent copper complex and a quaternary ammonium compound in a 2:1 ratio. The copper complex may be dissolved in either ethanolamine or ammonia. Carbon dioxide (CO₂) is added to the formulation to improve stability and to aid in solubilization of the copper. The ACQ formulation offers equivalent performance against biological hazards, such as decay and termite attack, to traditional preservative formulations that contained arsenic and hexavalent chromium.

Replacing CCA-treated wood

Replacing CCA with ACQ is one of the most dramatic pollution prevention advancements in recent history. Because more than 90% of the 44 million pounds of arsenic used in the U.S. each year is used to make CCA, replacing CCA with ACQ will virtually eliminate the use of arsenic in the United States. In addition, ACQ Preserve® will eliminate the use of 64 million pounds of hexavalent chromium. Further, ACQ avoids the potential risks associated with the production, transportation, use, and disposal of the arsenic and hexavalent chromium contained in CCA wood preservatives and CCA-treated wood. In fact, ACQ does not generate any RCRA (Resource Conservation and Recovery Act) hazardous waste from production and treating facilities. The disposal issues associated with CCA-treated wood and ash residues associated with the burning of treated wood will also be avoided.

In 1996, CSI commercialized ACQ Preserve® in the United States. More than 1 million active pounds of ACQ wood preservatives were sold in the U.S. in 2001 for use by thirteen wood treaters to produce over 100 million board feet of ACQ-preserved wood. The ACQ formulation has gained wide spread international acceptance with its use in the U.S., Europe, Japan, Asia, Australia and New Zealand. In 2002, CSI plans to spend approximately \$20 million to increase its production capacity for ACQ to 30 million active pounds. This will convert 60% of CSI's production from CCA to ACQ, with a plan to continue to increase ACQ sales while phasing out CCA production. Through investment in ACQ, CSI has helped to trigger a significant market shift away from arsenic-based wood preservatives that will continue over the next several years. This shift will result in major benefits to public health and the environment.

For further information see <http://www.treatedwood.com>