

CONCRETE ADMIXTURES BUGBUSTERS™

Dow Biocides for Use as Preservatives in Concrete Admixtures

A wide variety of formulations/additives, collectively described as concrete admixtures, are used throughout the world. These materials are generally aqueous based and therefore require preservation. The Dow Chemical Company has the two leading preservatives used for this application, UCARCIDE™ 50 Antimicrobial and DOWICIDE* 25L Antimicrobial.

These two products are more cost effective than formalin or thione and do not release formaldehyde or have the pungent odor of thione. In a recent study, the use of Dow preservatives saved one company 20 to 65% in total preservative costs. Both of the Dow preservatives are offered globally, with worldwide technical support to assist customers in optimizing preservative concentrations. Although the concrete admixture is a small component of the total concrete structure, its performance or failure can have significant ramifications. An effective preservative can prevent costly product failures and potential liability.

Chemistry

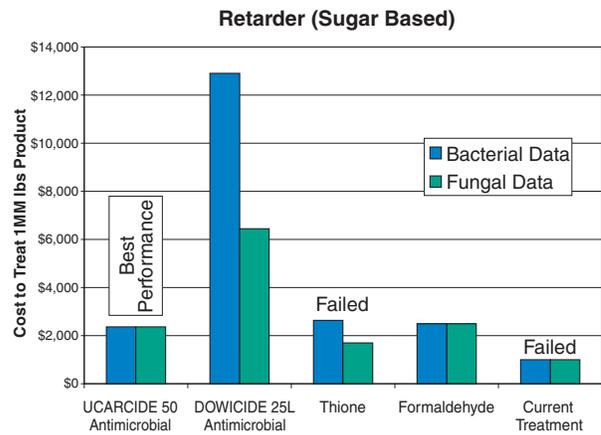
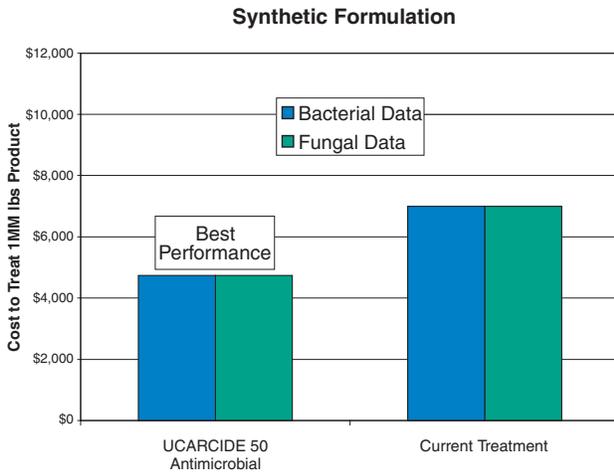
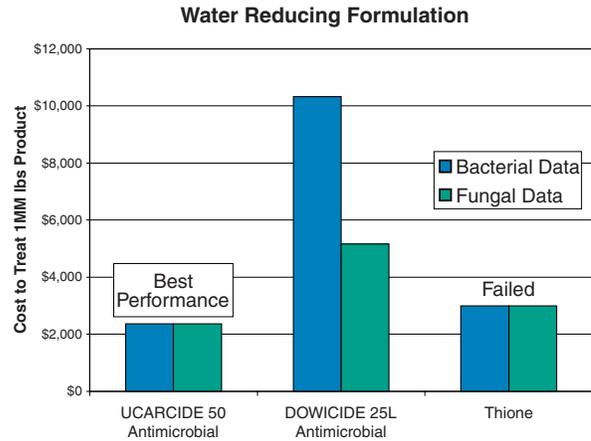
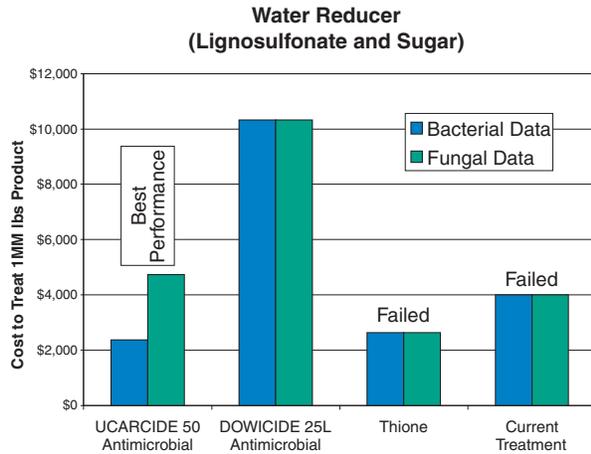
UCARCIDE 50 Antimicrobial (50% aqueous glutaraldehyde) has been used successfully for over 10 years to preserve a variety of different admixtures. Typical admixture use rates are 0.1 to 0.4%. Glutaraldehyde is a very effective and environmentally friendly biocide that has been used in a variety of applications such as kaolin slurries preservation, pulp and paper processing and medical-device disinfection.

DOWICIDE 25L Antimicrobial is a patented 25% liquid formulation that was developed recently as a preservative for admixtures and clay slurries. Typical admixture use-rates are 0.4 to 1.0%. Other product forms, DOWICIDE* A Antimicrobial (water soluble sodium ortho-phenylphenate tetrahydrate) and DOWICIDE* 1E Antimicrobial (oil soluble ortho-phenylphenol), can be solubilized at the worksite and then used to preserve admixtures. The active ingredient, ortho-phenylphenol, is also used as a biocide in many other areas, such as preservation of calcium carbonate slurries and metalworking fluids, disinfection of hard surfaces and prevention of mold in citrus fruit after it has been harvested.

These highly effective preservatives have both been used to preserve various formulations in the four types of admixtures: high range water reducers, mid-range water reducers, accelerating admixtures and retarding admixtures.

Comparative Preservative Activity

A variety of different admixture formulations were tested using our standard challenge testing protocol. Passing concentrations of each preservative were determined and converted into cost-to-preserve. The cost comparisons are shown in the following graphs.



In all four tests, Dow preservatives outperformed the current treatments, saving the customer from 20 to 65%. Using these products to preserve your formulations can provide better protection at a reduced cost compared to your current treatment system. Since every concrete admixture formulation is different, we recommend contacting Dow at one of the numbers listed below to initiate challenge testing in your specific formulation.

For further information visit our website:
www.dowbiocides.com
 or call:

United States 1-800-447-4369 (phone)
 and Canada: 1-989-832-1560 (phone)
 1-989-832-1465 (fax)
 Europe: 800-3-694-6367 (phone)
 32-3-450-2240 (phone)
 32-3-450-2815 (fax)
 Pacific: 800-7776-7776† (phone)
 800-7779-7779† (fax)
 603-7958-3392 (phone)
 603-7958-5598 (fax)
 Latin America: 55-11-5188-9555 (phone)
 55-11-5188-9937 (fax)
 Other Global 1-989-832-1560 (phone)
 Areas: 1-989-832-1465 (fax)

†except Indonesia and Vietnam

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