



## Spectrus™ NX1104 Microbiological Control Agent

- Broad spectrum antimicrobial
- Patented blend minimizes microbial resistance
- Compatible with halogens
- Approved for once-through cooling
- FDA Approved (CFR 176.300)
- USDA Approved (G-5, G-7)

### DESCRIPTION AND USE

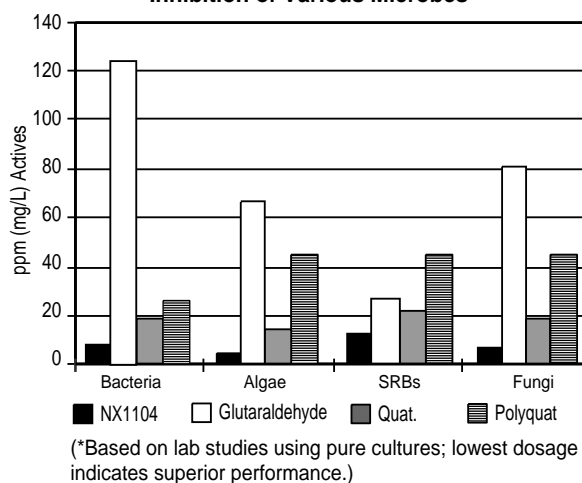
Spectrus™ NX1104 is EPA approved for control of bacteria, algae and fungi in a variety of industrial, water-based systems. Spectrus NX1104 consists of a patented blend of 5% dodecylguanidine hydrochloride (DGH) and 8% quaternary ammonium hydrochloride (Quat).

Spectrus NX1104 is approved for use in open recirculating cooling systems, heat exchange systems and evaporative condensers. This product is also approved for use in once-through cooling water systems.

Control of microbiological populations in industrial water systems is essential to prevent biofouling. In cooling systems, biofouling of heat exchange equipment and tower fill reduces heat transfer efficiency and can force unscheduled shutdowns and extended turnarounds leading to lost production. Equipment can also be damaged as a result of microbiologically influenced corrosion (MIC) associated with biofouling. Consequently, biofouling must be prevented in order for operating units to avoid such events and achieve profitability goals.

Spectrus NX1104 is highly effective against Sulfate Reducing bacteria which are frequently associated with MIC (see Chart). Compared to single active biocide products, the combination of active ingredients (DGH and Quat) in Spectrus NX1104 work together to provide faster microbial control at lower dosages. The blend of actives in Spectrus NX1104 also limits development of resistant microbial populations and reduces the need to alternate products to maintain

**Dosages Required to Achieve 90%  
Inhibition of Various Microbes\***



effectiveness. Spectrus NX1104 demonstrates excellent activity against algae even under alkaline pH conditions and is fully compatible with chlorine and bromine disinfectants. The surface active nature of Spectrus NX1104 aids in control and removal of biofilms and enhances the performance of oxidizer-based disinfection programs.

In addition to cooling systems, Spectrus NX1104 can be used to control microbes in auxiliary water systems such as fire protection systems, and waste water and waste material disposal systems such as storage tanks, ponds and disposal wells. Spectrus NX1104 can also be used to control microbes in influent water systems, pasteurizers, and water-based scrubbers. See the Spectrus NX1104 product label for a complete listing of approved end uses.

## TREATMENT AND FEEDING REQUIREMENTS

Correct treatment levels and frequency of Spectrus NX1104 addition depend on many factors. These include, but are not limited to, system cleanliness, types of microbes, nutrient concentrations, temperature, pH, retention time, and other system operating characteristics. Consult the product label for general dosage guidelines. Microbiological monitoring is recommended to evaluate product requirements. Consult your GE Betz representative for technical advice on your specific application.

In all cases, this product must be applied in accordance with use instructions on the Spectrus NX1104 label.

**Feed point** - Apply Spectrus NX1104 to a point in the system where turbulence and flow patterns assure good mixing with the water being treated.

**Dilution** - This blended product is best fed neat (undiluted) from the storage container.

**Compatible Materials** - Spectrus NX1104 is compatible with the following materials of construction: 316L, Hastalloy 825; High Density Cross-linked Polyethylene; Teflon; PVC; Neoprene; Buna N; Buna S; Litharge Viton; Ethylene Propylene Resin; Hypalon.

**Avoid:** 304 and 316 Stainless Steels (especially in thin walled feed lines); High Density Polypropylene.

This product may be fed using the PaceSetter® Control system.

## GENERAL PROPERTIES

Physical properties of Spectrus NX1104 are shown on the Material Safety Data Sheet, a copy of which is available on request.

## PACKAGING INFORMATION

Spectrus NX1104 is a liquid blend available in a wide variety of containers and delivery methods, including GE Betz's ChemSure Drumless Delivery Services.

## STORAGE

Protect from extreme temperatures. Protect from freezing. Keep containers closed when not in use. Keep away from flames or sparks.

## SAFETY PRECAUTIONS

Use of eye protection (goggles and face shield) and gauntlet-type neoprene gloves is required when handling this product. See section 7 of the MSDS for additional information on recommended personal protective equipment.

## GENERAL INFORMATION

EPA Registration Number 3876-145

Purchase of Spectrus NX1104 from GE Betz Water Management Group includes a license to practice the processes covered by U.S. Patent 4,745,132.