

# Spectrus\* NX1100

## Microbiological Control Agent

- Broad spectrum antimicrobial
- Patented blend minimizes microbial resistance
- Non-foaming, water-based
- Compatible with all corrosion and deposit control treatments
- Synergistic with halogen-based disinfectants
- Contains no copper or iron stabilizers
- FDA approved (CFR 176.170, 180, and 300)
- USDA approved (G-5, G-7)
- Approved for sale in California<sup>1</sup>

### Description and Use

Spectrus\* NX1100 is a proprietary blend of antimicrobial agents, specifically formulated for industrial water applications. It may be used in open or closed recirculating cooling water systems. Spectrus NX1100 is also approved for use in auxiliary water systems as well as wastewater and waste material disposal applications. The product label provides a complete listing of approved end uses.

#### <sup>1</sup>NOTE TO CALIFORNIA USERS

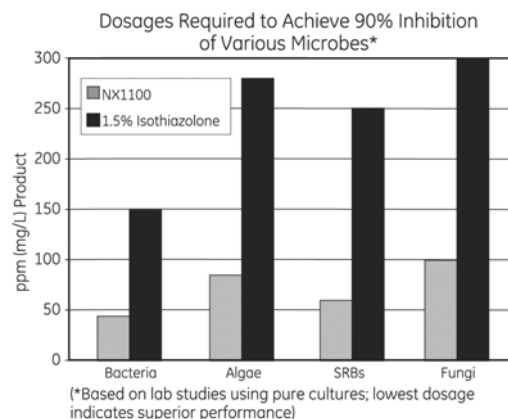
At the present time, the State of California has approved this product for use in recirculating cooling systems (evaporative condensers, heat exchange water systems, commercial and industrial cooling towers) and brewery pasteurizers, only. Consult the California version of the Spectrus NX1100 product label for a complete listing of approved end-uses and recommended dosages.

Spectrus NX1100 is EPA registered for control of a wide range of microbial species, including aerobic bacteria, anaerobic bacteria, algae, yeast, and fungi. Control of microbiological populations in in-

dustrial 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 shut-downs and extended turnarounds leading to lost production. Biofouling can also damage equipment through microbiologically influenced corrosion (MIC). As a result of these effects, biofouling must be prevented in order for operating units to achieve profitability goals.

The actives in Spectrus NX1100 consist of 5.3% 2-bromo-2-nitropropane-1,3-diol (BNPD) and 2.6% Isothiazolone (1.9% 5-chloro-2-methyl-4 isothiazolin-3-one and 0.68% 2-methyl-4-isothiazolone-3-one). Compared to single-active, Isothiazolin-based products, the combination of actives in Spectrus NX1100 gives better microbial control at lower dosages (see chart). This blend of actives also limits the development of resistant microbial populations and eliminates the need to alternate products to maintain microbiological control.

Spectrus NX1100 is synergistic with chlorine and bromine disinfection programs. It demonstrates increased efficacy in the presence of these oxidizing agents. This means that continuous halogenation does not have to be interrupted or suspended when



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this product is fed into a cooling system. This is especially important when organic contamination leads to rapid microbial growth.

Spectrus NX1100 is water-based to minimize impact on the environment. It contains no metal-based stabilizers, such as copper or iron, thus simplifying customer compliance with NPDES permits. The Environmental Fate and Effects (aquatic toxicity and biodegradation) data package for this product is listed in Section 12 of the Material Safety Data Sheet.

## Spectrus NX1100 Environmental Features

- Non-combustible
- Free of glycols, oils, and organic solvents
- Biodegradable
- Drumless delivery service available
- Copper stabilizer for isothiazolone eliminated
- Reduced BOD and COD
- No SARA 302 warnings
- No Michigan critical materials
- No Proposition 65 materials
- No reportable spill quantity

## Treatment And Feeding Requirements

Correct treatment levels and frequency of Spectrus NX1100 addition depend on many factors. They include, but are not limited to, system cleanliness, nutrient concentrations, temperature, types of microorganisms, 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 representative for technical advice about your specific application.

In all cases, this product must be applied in accordance with use instructions on the Spectrus NX1100 label.

**Feed point** - Spectrus NX1100 should be applied to a point in the cooling system where turbulence and flow patterns assure good mixing with the water being treated.

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

**Compatible Materials** - Spectrus NX1100 is compatible with most plastics, such as polyvinylchloride (PVC), high density, cross-linked polyethylene (HDPE), polypropylene (PP), and Teflon (PTFE). (Teflon is a registered trademark of DuPont.)

**Avoid:** mild steel, copper and copper alloys, aluminum, galvanized metals, 304 stainless steel, and thin-wall 316 SS tubing.

This product may be fed using a PaceSetter\* Plus or PaceSetter Model E Control System.

## General Properties

Physical properties of Spectrus NX1100 are shown on the Material Safety Data Sheet, a copy of which is available on request.

## Packaging Information

Spectrus NX1100 is a liquid blend, available in a wide variety of customized containers and delivery methods, including the ChemSure\* Drumless Delivery Service program. Contact your GE representative for details.

## Storage

Protect from freezing. If this product is frozen during shipment or storage, slight mixing may be required to insure homogeneity.

## Safety Precautions

Use of eye protection (goggles & face shield) and gauntlet-type 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: 3876-151.

Purchase of Spectrus NX1100 from GE includes a license to practice the processes covered by U.S. Patents 4,732,905, 4,855,296 and 4,966,775.