



## OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

July 1, 2025

Luanne Jeram  
Head of Regulatory Affairs  
Lanxess  
[luanne.jeram@lanxess.com](mailto:luanne.jeram@lanxess.com)

Subject: Label Amendment – Dodine/DGH Voluntary Deletion of Use, Lowering Rates  
Product Name: N-2000 Antimicrobial  
EPA Registration Number: 39967-107  
Application Date: Jan 5, 2023  
Action Case Number: 00423633

Dear Luanne Jeram:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling and must be used at your next label printing. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide, Fungicide, and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website

contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions about this letter, please contact Stephen Savage via email at [savage.stephen@epa.gov](mailto:savage.stephen@epa.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Gayoso', is centered below the 'Sincerely,' text. The signature is fluid and cursive.

Jose Gayoso, Senior Regulatory Advisor  
Reevaluation Branch  
Antimicrobials Division (7510P)  
Office of Pesticide Programs

ENCLOSURE: Stamped label

# N-2000 ANTIMICROBIAL

FOR THE CONTROL OF ALGAE, BACTERIA, FUNGI,  
AND MOLLUSKS IN A WIDE RANGE OF  
INDUSTRIAL PROCESS WATERS, WATER FLOOD  
INJECTION WATERS, FRACKING FLUIDS, DRILLING  
AND WORKOVER FLUIDS, AND MATERIAL  
PRESERVATIONS

Active Ingredient:  
Dodecylguanidine hydrochloride ..... 35.0%  
Other Ingredients ..... 65.0%  
TOTAL ..... 100.0%

KEEP OUT OF REACH OF CHILDREN  
**DANGER**

EPA Reg. No. 39967-107

EPA Est. No.

LOT NO.:

NET WEIGHT:

**ACCEPTED**

07/01/2025

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 39967-107

**LANXESS**

Energizing Chemistry

LANXESS Corporation

111 RIDC Park West Drive  
Pittsburgh, PA 15275-1112

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**DANGER.** Corrosive. Causes irreversible eye damage and skin burns. May be fatal if inhaled. Do not get in eyes, on skin, or on clothing. Do not breathe vapor or spray mist. Harmful if swallowed or absorbed through skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

### PHYSICAL OR CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame. Do not use or store near heat or open flame.

### FIRST AID

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**IF SWALLOWED:** Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**HOT LINE NUMBER:** Have the product container or label with you when calling a poison control center or doctor before going for treatment. You may also contact 800-410-3063 for emergency medical treatment information. For transportation emergencies, call Chemtrec at 1-800-424-9300.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage corrosive to eyes and skin. Treat symptomatically.

### Personal Protective Equipment

All handlers must wear:

- Protective eyewear (goggles, face shield or safety glasses)
- Respirator with an organic-vapor removing cartridge with a prefilter approved for pesticide (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE prefilter.

- Coveralls over long-sleeved shirt, long pants,

- Socks and chemical-resistant footwear, and

- Chemical resistant gloves (Barrier laminate, Butyl rubber, Nitrile rubber, Neoprene rubber, Polyvinyl Chloride or Viton, selection category C)

When mixing, loading, and cleaning equipment wear a chemical resistant apron. For overhead exposure wear chemical resistant head gear.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this production's concentrate. Do not reuse them.

### User Safety Requirements

User should wash hands before, eating, drinking, chewing gum, using tobacco, or using the toilet. User should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. User should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish, aquatic invertebrates, shrimp and oysters.. Do not discharge effluent containing this product into lakes, stream, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination systems (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of waste. Apply this pesticide only as specified on this label.

### DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. N-2000 Antimicrobial is approved by the FDA (21 CFR 176.170 and 176.300) for use in the manufacturer of paper and paperboard that contacts food and for slimicides. Other than the two uses for pulp and paper mill systems, and food packaging, do not use for any material preservation applications involving direct or indirect food or drinking water containers.

FOR DETAILED DIRECTIONS FOR USE, PLEASE REFER TO THE  
**LANXESS CORPORATION LABEL SUPPLEMENT.** Read these entire  
Directions before using N-2000 Antimicrobial.

### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**PESTICIDE STORAGE:** Keep away from heat, sparks, and open flame. Do not puncture or incinerate container. Store this product between 60° F and 110° F. Keep drum tightly closed when not in use.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to the label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional Office for guidance.

**CONTAINER HANDLING.** Do no refill or reuse container. Triple rinse as follows: Empty remaining contents into application equipment or mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into the application equipment or mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning. If not available, puncture and dispose in a sanitary landfill.



Energizing Chemistry  
Product Information

## **N-2000 ANTIMICROBIAL**

EPA Registration Number 39967-107

# N-2000 ANTIMICROBIAL

FOR THE CONTROL OF ALGAE, BACTERIA, FUNGI, AND MOLLUSKS IN A WIDE RANGE OF INDUSTRIAL PROCESS WATERS, WATER FLOOD INJECTION WATERS, FRACKING FLUIDS, DRILLING AND WORKOVER FLUIDS AND MATERIAL PRESERVATIONS

## DIRECTIONS FOR USE

**It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.** N-2000 Antimicrobial is approved by the FDA (21 CFR 176.170 and 176.300) for use in the manufacture of paper and paperboard that contacts food and for slimicides. Other than the two uses for pulp and paper mill systems, and food packaging, do not use for any material preservation applications involving direct indirect food or drinking water containers.

### INDUSTRIAL PROCESSES AND WATER SYSTEMS

**AIR WASHING SYSTEMS:** For use only in Industrial Air Washer Systems that maintain effective mist eliminating components. Badly fouled systems must be cleaned before treatment is begun. **SLUG OR INTERMITTENT METHOD: Initial dose:** When system is noticeably fouled apply 6.3 to 12.5 oz./1000 gal (50 to 100 ppm). Repeat until control is achieved. **Subsequent dose:** When control is evident, apply 3.1 to 6.3 oz/1000 gal (25-50 ppm) every three days or as needed. **CONTINUOUS METHOD: Initial dose:** When system is noticeably fouled, apply 6.3 oz/1000 gal (50) per day. **Subsequent dose:** Maintain initial rate by continuously feeding 3.1 to 6.3 oz/1000 gal (25-50 ppm) per day.

**INDUSTRIAL RECIRCULATING WATER COOLING TOWERS: For use only in:** Auxiliary and Standby Commercial and Industrial Systems that maintain effective mist eliminating components, Brewery Pasteurizer Water and Industrial Recirculating Water Cooling Towers. Badly fouled systems must be cleaned before treatment is begun. **SLUG OR INTERMITTENT METHOD: Initial dose:** When system is noticeably fouled apply 6.3 to 12.5 oz/1000 gal (50 to 100 ppm). Repeat until control is achieved. **Subsequent dose:** When control is evident, apply 3.1 to 6.3 oz/1000 gal (25-50 ppm) every three days or as needed. **CONTINUOUS METHOD: Initial dose:** When system is noticeably fouled, apply 6.3oz/1000 gal (50 ppm) per day. **Subsequent dose:** Maintain initial rate by continuously feeding 3.1 to 6.3 oz/1000 gal (25-50 ppm) per day.

**CLOSED LOOP SYSTEMS:** For use in closed loop cooling, N-2000 Antimicrobial will reduce the biofouling of pipe work and condenser tubes. Apply N-2000 Antimicrobial once weekly to once monthly to the tank where the flow will ensure quick incorporation, a metering pump delivery system is required for this use and application method. Shock dose N-2000 Antimicrobial at 50 to 100 ppm (6.3 oz. to 12.5 oz. /1000 gal.). Subsequent dosing can be reduced to 25 -50 ppm (3.1oz. to 6.3 oz. /1000 gal.).

**OIL FIELD WATER SYSTEMS ( Including water flood injection water and frac fluids):** Badly fouled systems should be cleaned prior to treatment. Addition may be made at the free water knockouts before or after the injection pumps and injection well headers

**SLUG OR INTERMITTENT METHOD: Initial dose:** When system is noticeably fouled apply 6.3 to 12.5 oz/1000 gal (50 to 100 ppm). Repeat until control is achieved for 2 to 8 hours per day once per week or daily as needed. **Subsequent dose:** When control is evident, apply 3.1 to 6.3 oz/1000 gal (25-50 ppm) every three days or as needed.

**CONTINUOUS METHOD: Initial dose:** When system is noticeably fouled, apply 6.3 oz/1000 gal (50 ppm) per day. **Subsequent dose:** Maintain initial rate by continuously feeding 3.1 to 6.3 oz/1000 gal (25-50 ppm) per day.

#### **A) WATER FLOOD INJECTION WATER**

**Initial Treatment:** When the system is noticeably contaminated, add 50-100 ppm N-2000 Antimicrobial to the system (0.05 to 0.10 gallons N-2000 Antimicrobial per 1,000 gallons flood water). Repeat until control is achieved.

**Subsequent Dose:** When microbial control is evident, add 25-100 ppm N-2000 Antimicrobial (0.025 to 0.10 gallons N-2000 Antimicrobial per 1,000 gallons flood water) to the system weekly, or as needed to maintain

#### **B)FRAC FLUIDS**

Add N-2000 Antimicrobial to the frac water storage tanks or directly into the well head injection pipeline as the water is being pumped down-hole.

**Dose Range:** N-2000 Antimicrobial should be added at a rate of 25 to 100 ppm (0.025 – 0.10 gallons per 1,000 gallons) depending on the degree of bacterial fouling in the source water.

**OIL RECOVERY DRILLING FLUIDS:** Add directly to the packer fluid, completion fluids, workover fluids or drilling mud. The dosage rate will depend upon the severity of the contamination. **SLUG OR INTERMITTENT METHOD: Initial dose:** when system is noticeably fouled apply 6.3 to 12.5 oz/1000 gal (50 to 100 ppm) intermittently for 2 to 8 hours per week or daily as needed. Repeat until control is achieved. **Subsequent dose:** When control is established, apply 3.1 to 6.3 oz/1000 gal (25 to 50 ppm) every three days or as needed to maintain control.

#### **A)DRILLING, COMPLETION AND WORKOVER FLUIDS**

N-2000 Antimicrobial should be added to a drilling fluid system at a point of uniform mixing such as the circulating mud tank.

**Initial treatment:** Add 50 to 100 ppm N-2000 Antimicrobial (0.158 to 0.315 gallons N-2000 Antimicrobial per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination.

**Maintenance dosage:** Maintain a concentration of 25 to 100 ppm of N-2000 Antimicrobial by adding 0.079 to 0.315 gallons of N-2000 Antimicrobial per 100 barrels of additional fluid, or as needed, depending on the severity of the contamination.

**PULP AND PAPER MILL SYSTEMS:** N-2000 Antimicrobial should be added to a paper making system at a point of uniform mixing such as the beaters, broke chest pump,

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save-all tank, or white tank. **Initial Dose:** When the system is noticeably contaminated, add 0.007-0.57 lbs of N-2000 Antimicrobial per ton of pulp or paper (dry basis) (1.2 – 100 ppm active) as a slug dose. Repeat until control is achieved. Heavily fouled systems should be boiled out prior to initial treatment. **Subsequent Dose:** When microbial control is evident, add 0.007 – 0.57 lbs of N-2000 Antimicrobial per ton of pulp or paper (dry basis) (1.2 – 100 ppm active) as a slug dose as necessary to maintain control.

## **MATERIAL PRESERVATION**

Other than food packaging, do NOT use for any material preservation applications involving direct or indirect food or drinking water contact.

### **PULP AND PAPER MILL PROCESSING CHEMICALS, ADHESIVES, AND**

**COATINGS:** Add N-2000 Antimicrobial directly to the material to be preserved prior to manufacturing into the finished product, (i.e., pulp, broke, polymers, defoamers, alum, emulsions, adhesives, papermill coatings, pigment slurries, and paper products. The dosage rate will depend upon the material to be preserved and the storage time. The usual addition should be 1.3 to 3.8 oz/1000 gal (10-30 ppm). Under extreme conditions of spoilage, the dosage rate should be increased to 1.6 to 10.0 oz/1000 gal (12.5 to 80 ppm). The dosage rates are based on a maximum storage time of 2 weeks. For storage time greater than 2 weeks the maximum concentration should be increased to 6.3 to 12.5 oz/1000 gal (50 to 100 ppm). Do not use for adhesives or coatings that involve direct or indirect food, or human drinking water contact application.

Dosage Rate per 1000 gallons of material:

Adhesives:	1.3 - 3.8 oz (10-30 ppm)
Alum:	1.3 - 3.8 oz (10-30 ppm)
Broke:	1.3 - 3.8 oz (10-30 ppm)
Defoamers:	1.3 - 3.8 oz (10-30 ppm)
Emulsions:	1.3 - 3.8 oz (10-30 ppm)
Paper products:	1.3 - 3.8 oz (10-30 ppm)
Papermill coatings:	1.3 - 3.8 oz (10-30 ppm)
Pigment slurries:	1.3 - 3.8 oz (10-30 ppm)
Polymers:	1.3 - 3.8 oz (10-30 ppm)
Pulp:	1.3 - 3.8 oz (10-30 ppm)

**ADHESIVE SYSTEMS (NON-FOOD CONTACT PAPER):** N-2000 Antimicrobial is used in the preservation of non-food contact paper related aqueous systems. The exact amount for the preservative of any given formulation will depend on the components, storage time, temperature, etc., and can be determined by the actual testing based on formula weight. Dosage Rate per 1000 gallons of material:

Automobile adhesives tapes:	2.0 - 8.01 lbs (250-1000 ppm)
Glues:	2.0-8.01 lbs (250-1000 ppm)
Nonfood packaging adhesives:	2.0-8.01 lbs (250-1000 ppm)
Wallpaper:	2.0-8.01 lbs (250-1000 ppm)

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Wood glue: 2.0-8.01 lbs (250-1000 ppm)

**PIGMENTS, DYES, AND FILLER SUSPENSION:** N-2000 Antimicrobial is used in the preservation of non-food contact paper related aqueous systems. The exact amount for the preservative of any given formulation will depend on the components, storage time, temperature, etc., and can be determined by the actual testing based on formula weight. Dosage Rate per 1000 gallons of material:

Pigments slurries (paint dyes for non-clothing such as industrial fibers):

2.0-8.01 lbs (250-1000 ppm)

Calcium Carbonate: 2.0-8.01 lbs (250-1000 ppm)

Clay: 2.0-8.01 lbs (250-1000 ppm)

Titanium dioxide: 2.0-8.01 lbs (250-1000 ppm)

**POLYMER DISPERSION AND EMULSIONS:** N-2000 Antimicrobial is used in the preservation of non-food contact paper related aqueous systems. The exact amount for the preservative of any given formulation will depend on the components, storage time, temperature, etc., and can be determined by the actual testing based on formula weight. Dosage Rate per 1000 gallons of material:

Contact polymer systems: 2.0-8.01 lbs (250-1000 ppm)

Latex emulsions systems: 2.0-8.01 lbs (250-1000 ppm)

**FOOD PACKAGING:** For paper and paperboard intended for use in contact with food, the rate of application of this product must be adjusted so that the amount of active ingredient (dodecylguanidine hydrochloride) retained does not exceed 0.045 percent by weight of the paper or paperboard. This product is effective in controlling microorganisms, such as bacteria, fungi, and yeasts, which cause deterioration of paper and paperboard products or articles molded from paper pulp. It may be added to the pulp stock in the beater or applied to the formed sheet by size press or roll coater, or as a uniform spray. If the product is used as a beater additive, the degree of retention of the active ingredient will depend upon the nature of the other additives in the system. Technical service is available from the manufacturer of this product to assist customers in making the proper and most efficient use of the product.

#### REMARKS

If you need assistance or information, please call your nearest LANXESS representative, or our Pittsburgh office at 800-LANXESS.

**IN CASE OF EMERGENCY, CALL: CHEMTREC 1-800-424-9300  
INTERNATIONAL (703)-527-3887**

**HAVE THE PRODUCT CONTAINER OF LABEL WITH YOU WHEN CALLING A POISON  
CONTROL CENTER OR DOCTOR OR GOING FOR TREATMENT.**



LANXESS Corporation  
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Pittsburgh, PA 15275  
412-809-1000

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