

VigorOx[®] SP-15 Antimicrobial Agent

EPA Registration No. 65402-3

EPA Est. No. 00279-NY-003

For Industrial Use Only

Active Ingredients:	Peroxyacetic Acid	15%
	Hydrogen Peroxide	10%
Inert Ingredients:	75%
Total:	100%

KEEP OUT OF REACH OF CHILDREN DANGER

VigorOx[®] SP-15 Antimicrobial Agent is for biofouling and slime control in:

- Pulp and paper mill systems
- Recirculating process and cooling water systems
- Coating preservation
- Dispersed pigment preservation

VigorOx[®] SP-15 Antimicrobial Agent is for use in commercial and Institutional /Industrial laundry operations for disinfection and sanitization.

VigorOx[®] SP-15 Antimicrobial Agent is for use in the disinfection of hard surfaces in general commercial environments.

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Precautionary Statements

Hazards to Humans and Domestic Animals

DANGER

Corrosive, causes eye and skin damage. Harmful if swallowed. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. Wash thoroughly with soap and water after handling. Do not breathe vapor or spray mist. Do not enter an enclosed area without proper respiratory protection.

Physical or Chemical Hazards

Strong oxidizing agent. Mix only with water. VigorOx[®] SP-15 Antimicrobial Agent is not combustible; however, at temperatures exceeding 156°F, decomposition occurs, releasing oxygen. The oxygen released could initiate or promote combustion of other materials.

Environmental Hazards

This pesticide is toxic to birds, mammals, fish and aquatic invertebrates. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with requirements of a National Pollutant Discharge Elimination System (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.

Any solution released from the system should be diluted with water and tested for residuals to ensure that there is less than 3 ppm peroxygen remaining.

First Aid

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

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

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

Storage and Disposal

Storage

NEVER RETURN VigorOx® SP-15 Antimicrobial Agent TO THE ORIGINAL CONTAINER AFTER IT HAS BEEN REMOVED. Avoid all contaminants, especially dirt, caustic, reducing agents, and metals. Contamination and impurities will reduce shelf life and can induce decomposition. In case of decomposition, isolate container, douse container with cool water and dilute with large volumes of water.

Avoid damage to containers. Keep container closed at all times when not in use. Keep container out of direct sunlight. To maintain product quality, store at temperatures below 86°F. Do not store on wooden pallets.

Procedure for Leak or Spill

Stop leak if this can be done without risk. Shut off ignition sources; no flames, smoking, flares, or spark producing tools. Keep combustible and organic materials away. Flush spilled material with large quantities of water. Undiluted material should not enter confined spaces.

Disposal

Pesticide Disposal

If material has been spilled, an acceptable method of disposal is to dilute with at least 20 volumes of water followed by discharge into suitable treatment system in accordance with all local, state, and Federal environmental laws, rules, regulations, standards, and other requirements. Because acceptable methods of disposal may vary by location, regulatory agencies should be contacted prior to disposal.

VigorOx® SP-15 Antimicrobial Agent which is to be discarded should be disposed of as hazardous waste after contacting the appropriate local, state, or Federal agency to determine proper procedures.

Container Disposal

Empty drums are not returnable to FMC unless special arrangements have been made. Triple rinse drums with water. Dispose of drums in accordance with local, state, and Federal regulations. **DO NOT REUSE.**

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Biofouling Control in Pulp and Paper Mill Systems

For use in the manufacture of paper and paperboard intended for food and non-food contact.

VigorOx® SP-15 Antimicrobial Agent can be used to control bacterial, fungal and yeast growth in pulp, paper and paperboard mills.

1. Severely fouled systems should be cleaned before initial treatment with VigorOx® SP-15 Antimicrobial Agent. Refer to the plant operations manual for directions for cleaning severely fouled systems. The product should be added directly to the system and not mixed with any other chemicals or additives. Other chemicals can be added separately. Contamination with other chemicals could result in product decomposition.
2. Add the VigorOx® SP-15 Antimicrobial Agent at a point in the system where it can be mixed uniformly with the pulp, e.g., the beater, hydro pulper, fan pump, broke pump etc.
3. Intermittent feed method: Apply 0.5 lb to 1.2 lb (7 to 16 fluid ounces) of VigorOx® SP-15 Antimicrobial Agent per ton (dry basis) of pulp or paper produced for two to three hours every eight-hour shift. Maintain a concentration that provides adequate control. Daily rate could change depending on the severity of the biofouling.
4. Continuous feed method: Initially, use the intermittent feed method to achieve control. When control is accomplished, apply VigorOx® SP-15 Antimicrobial Agent continuously at the rate determined adequate for intermittent control. Then reduce the rate of addition to the lowest level sufficient to maintain control. Depending on the severity of the biofouling, control usually can be maintained using a continuous rate of 0.2 to 1.2 lb (2.6 to 16 fluid ounces) of VigorOx® SP-15 Antimicrobial Agent solution per ton (dry basis) of pulp or paper produced on a continuous basis. This will provide 15 to 90 ppm of peroxyacetic acid and 10 to 60 ppm of hydrogen peroxide.

Control of Bacteria and Fungi in Dispersed Pigments

VigorOx® SP-15 Antimicrobial Agent can be used to control bacteria and fungi in the manufacture and storage of dispersed pigments used in paint and paper production such as kaolin clay, titanium dioxide, calcium carbonate, calcium sulfate, barium sulfate, magnesium silicate and kieselguhr.

Apply 0.2 to 1.2 lb (2.6 to 16 fluid ounces) (90 to 545 grams) of VigorOx® SP-15 Antimicrobial Agent solution to each 1,000 lb (454 Kg) of fluid. This will provide 200 to 1200 ppm of product (30 to 180 ppm of peroxyacetic acid and 20 to 120 ppm of hydrogen peroxide).

Control of Slime Forming Bacteria in Recirculating Cooling Water Systems (Cooling Towers, Evaporative Condensers) and Non-Food Contact Water Systems (Pulp and Paper Mill Water Systems).

VigorOx® SP-15 Antimicrobial Agent is for use in treating raw (make-up) and process waters, closed and opened loop systems such as heat exchanges, wet scrubbers, cooling towers, evaporative condensers and recirculating industrial process waters, such as pulp and paper mill water systems.

1. Severely fouled systems should be cleaned before adding the VigorOx® SP-15 Antimicrobial Agent solution. Refer to the system operation manual for directions to clean severely fouled systems. The product should be added directly to the system and not mixed with any other chemicals or additives. Other chemicals should be added separately. Contamination with other chemicals could result in product decomposition.
2. Add the VigorOx® SP-15 Antimicrobial Agent solution at a point in the system where uniform mixing and even distribution will occur.
3. Intermittent feed method: When the system is noticeably fouled, apply 0.8 to 1.2 lb (10 to 16 fluid ounces) of VigorOx® SP-15 Antimicrobial Agent solution per 1000 gallons of water in the system. Repeat until control is achieved. When microbial control is evident, add 1.0 lb (14 fluid ounces) of the solution per 1000 gallons of water in the system every day, or as needed, to maintain control. The daily dose rate could vary depending upon the severity of the biofouling.
4. Continuous feed method: Initial dose – When the system is just noticeably fouled, apply 0.8 to 1.2 lb (10 to 16 fluid ounces) of VigorOx® SP-15 Antimicrobial Agent solution per 1000 gallons of water in the system. When microbial control is achieved, start adding VigorOx™ SP-15 Antimicrobial Agent solution continuously at a rate of 1.0 lb (14 fluid ounces) per 1000 gallons of water (provides 17 ppm peroxyacetic acid and 12 ppm of hydrogen peroxide). Then reduce the rate of addition to a level sufficient to maintain control. The dose rate may have to be adjusted to account for losses due to blowdown and evaporation. Add 1.4 fluid ounces of VigorOx™ SP-15 Antimicrobial Agent for every 100 gals of make-up water.

Control of Bacteria and Fungi in Coating Preservation

Do not use for coatings preservation applications involving direct or indirect food contact.

VigorOx® SP-15 Antimicrobial Agent can be used as an in-container preservative for the control of bacteria and fungi in water-based coatings such as paper coatings.

- Add 0.2 to 1.2 lb (2.6 to 16 fluid ounces) (90 to 545 grams) of VigorOx® SP-15 Antimicrobial Agent solution to each 1,000 lbs (454 Kg) of water (provides 200 to 1200 ppm of product or 30 to 180 ppm peroxyacetic acid and 20 to 120 ppm of hydrogen peroxide).

For Sanitization and Disinfection of Laundry in Commercial and Institutional and Industrial Operations

Use VigorOx® SP-15 Antimicrobial Agent in commercial and Institutional and Industrial including Hospitality laundry operations for control of microorganisms including *Klebsiella pneumoniae*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *E. coli* and other coliforms.

For sanitization to control *Klebsiella pneumoniae*:

1. Add 2.3 fluid ounces VigorOx[®] SP-15 Antimicrobial Agent per 100 pounds of dry laundry - assumes 5 parts water to 1 part dry laundry based on 100 lbs. of dry laundry.
2. Inject VigorOx[®] SP-15 Antimicrobial Agent into the sanitizing rinse step at 2.3 fluid ounces per 60 gallons of water applied. VigorOx[®] SP-15 Antimicrobial Agent is effective in water up to 400 ppm of water hardness. Treat laundry for a minimum of 5 minutes at a minimum of 18 °C. Following sanitization, laundry may be rinsed with water that may include a softener, starch, odor neutralizer, fragrance, soil release agent, and/or fluid repellent.

For disinfection:

1. Add 13.6 fluid ounces VigorOx[®] SP-15 Antimicrobial Agent per 100 pounds of dry laundry - assumes 5 parts water to 1 part dry laundry based on 100 lbs. of dry laundry.
2. Inject VigorOx[®] SP-15 Antimicrobial Agent into the disinfecting rinse step at 13.6 fluid ounces per 60 gallons of water applied. VigorOx[®] SP-15 Antimicrobial Agent is effective in water up to 400 ppm of water hardness. Treat laundry for a minimum of 15 minutes at a minimum of 20 °C. Following disinfection, laundry may be rinsed with water that may include a softener, starch, odor neutralizer, fragrance, soil release agent, and/or fluid repellent.

Disinfection

VigorOx[®] SP-15 Antimicrobial Agent is an effective one-step cleaner and disinfectant against gram positive and negative bacteria (vegetative forms) such as *Staphylococcus aureus*, *Salmonella choleraesuis*, *Pseudomonas aeruginosa*. It is effective in hard water (up to 400 ppm as calcium carbonate equivalent), and in the presence of moderate organic soil. It may be used in general commercial environments to clean, disinfect, and deodorize inanimate surfaces, such as:

- Floors, walls, and other non-porous surfaces such as tables, chairs, counter tops, garbage cans/bins, bathroom fixtures, sinks, bed frames, shelves, racks, carts, refrigerators, coolers, glazed tile, linoleum, vinyl, sealed asphalt, glazed porcelain, plastic (such as polypropylene and polyethylene), stainless steel or glass.

Prepare VigorOx[®] SP-15 Antimicrobial Agent disinfecting solution by adding 1.1 to 9.5 fluid ounces of the product to 5 gallons of potable water. This will provide 300 to 2600 ppm peroxyacetic acid and 200 to 1730 ppm hydrogen peroxide. If surfaces are moderately soiled, the disinfection solution may be used without a pre-cleaning step. For grossly soiled surfaces, remove filth from surfaces to be disinfected by cleaning with a detergent or suitable cleaning product. Rinse with clean water. To disinfect, apply VigorOx[®] SP-15 Antimicrobial Agent by wiping, mopping, or as a coarse spray. Allow to soak for at least 10 minutes, then air dry.

Note: Before using VigorOx[®] SP-15 Antimicrobial Agent to sanitize metal surfaces, it is recommended that the diluted solution be tested on a small area to determine compatibility.

In all applications always prepare a new solution daily to ensure effectiveness. Do not re-use solutions. Dispose of unused solution.

EMERGENCY TELEPHONE NUMBERS

(24 HOURS)

MEDICAL: COLLECT 303-595-9048

TRANSPORTATION: 800-424-9300

OTHER: COLLECT 716-879-0400

For more information see Material Safety Data Sheet