

1757-315

10/19/2009

10f1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

**FILE COPY**

United States  
Environmental Protection  
Agency

**Office of Pesticide Programs**

Eliot Harrison  
Agent for Drew Industrial Division  
Ashland Chemical Company  
c/o Lewis & Harrison  
122 C St. NW, Suite 740  
Washington, DC 20001

OCT 19 2009

Subject: Generox 750  
EPA Registration No. 1757-315  
Application Date: June 30, 2009  
Receipt Date: July 21, 2009

Dear Mr. Harrison:

The following amendments, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable with the conditions below:

Addition of the following uses to the product label:

- Final sanitizing bottle/cap rinse
- Sanitization of conveyors for food, dairy and beverage processing plants
- sanitizer rinse for fruits and vegetables
- Food-processing water systems, including dairies, bottling plants and non-alcoholic and alcoholic beverage processing water
- General environmental surfaces sanitization
- Antimicrobial rinse of pre-cleaned and/or new returnable or non-returnable containers
- Bacterial slime control in paper mills
- Potable water treatment
- Wastewater treatment
- Industrial water treatment (once-through)
- Industrial cooling and process water treatment (Recirculating)
- Bacterial slime control in oil wells and petroleum systems

**Conditions:**

1. You must revise the Storage and Disposal Statement to include the following language: "Nonrefillable container. Do not reuse or refill this container." This statement must be added directly beneath the sentence "Do not contaminate water, food or feed by storage and disposal."
2. You must revise the Directions for Use heading for "General Environmental Surfaces Sanitization" to read "Sanitization of Hard, Non-Porous, Non-food Surfaces". You must also delete the phrase "such as" and specify the sites where the product may be used.

3. You must revise the Directions for Use section "Antimicrobial rinse of pre-cleaned and/or new returnable or non-returnable containers" to remove the phrase "beverage spoilage microorganisms" and specify the microorganisms to be controlled.
4. You must revise the Directions for use section "Bacterial slime control in oil wells and petroleum systems" to either delete the term "bacteria" or specify the general types of bacteria being controlled (e.g. anaerobic bacteria, aerobic bacteria, sulfate-reducing bacteria), as well as examples of the genus and species to be controlled.

**General Comments**

A stamped copy of the labeling accepted with conditions is enclosed. Submit one copy of your final printed label before distributing or selling the product bearing the revised labeling.

Should you have any questions or comments concerning this letter, please contact Wanda Henson at 703-308-6345.

Sincerely,

for Wanda YOR

Emily H. Mitchell  
Product Manager (32)  
Regulatory Management Branch II  
Antimicrobials Division (7510P)

3067

**GENEROX™ 750**  
**CHLORINE DIOXIDE PRECURSOR FOR MICROBIAL CONTROL IN WATER AND WASTEWATER**  
**AND ON HARD SURFACES**

**ACTIVE INGREDIENT:**  
Sodium Chlorite ..... 7.5%  
**OTHER INGREDIENTS:** ..... 92.5%  
**TOTAL** ..... 100.0%  
Available Chlorine – 11.8%

**KEEP OUT OF REACH OF CHILDREN**  
**DANGER**

<b>FIRST AID</b>	
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present after first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice if burning or irritation of the skin persists.</li> </ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person drink a glass of water immediately if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air and monitor for respiratory distress.</li> <li>• If cough or difficulty in breathing develops, consult a physician immediately.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>For emergency medical information call 1-800-ASHLAND</b> Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
<b>NOTE TO PHYSICIAN</b> Probable mucosal damage may contraindicate the use of gastric lavage.	

EPA Reg. No. 1757-315

EPA Est. No. 1757-NJ-01  
1757-TX-01  
5382-KS-01  
70547-IL-01

NET CONTENTS MARKED ON DRUM

Sold by:  
Drew Industrial Division  
Ashland Chemical Company  
Division of Ashland Inc.

One Drew Plaza, Boonton, New Jersey 07005  
Phone (973) 263-7600  
24 Hour Emergency Telephone Number  
1-800-274-5263 or 1-800-ASHLAND

**ACCEPTED**  
**with COMMENTS**  
**EPA Letter Dated:**

**OCT 19 2009**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act as  
amended, for the pesticide,  
registered under EPA Reg. No. **1757-315**

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER: CORROSIVE. CAUSES EYE AND SKIN DAMAGE.** Harmful if swallowed. Irritating to nose and throat. Avoid breathing vapor. Do not get in eyes, on skin or clothing. Wear goggles or face shield, rubber gloves and protective clothing when handling. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the 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 sewage treatment plant authority. For guidance, contact your State Water Board of Regional Office of the EPA.

**PHYSICAL OR CHEMICAL HAZARDS**

DO NOT mix with acids or other chemicals except water. Mixing with acid or other chemicals may cause evolution of chlorine dioxide gas, which is poisonous and explosive.

**DIRECTIONS FOR USE**

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

**DIRECTIONS FOR USE IN THE SANITIZATION OF FOOD CONTACT SURFACES**

Use GENEROX™ 750 in combination with FOAM ADD 10 to generate chlorine dioxide containing foam solution for use as a terminal no-rinse sanitizer for food contact surfaces, food processing equipment and utensils. Prior to application of the sanitizing foam, remove gross food particles and soil by a preflush or pre-scrape, and when necessary, a pre-soak treatment. Then thoroughly wash all equipment, surfaces and utensils with a suitable detergent or cleaner, followed by a potable water rinse.

Application of the foam sanitizing solution can be accomplished by manually combining 15 oz of FOAM ADD 10 with 2.5 oz of GENEROX™ 750, gently mixing for ten minutes and then immediately diluting with water to ten gallons. Alternatively, use the Rio Linda Chemical Portable Foamer or a centrally located installed system to mix the components, at the use levels noted above. Cover the entire area being treated with the foam sanitizer to a depth of 1/4 - 1". A contact time of at least one minute is required for sanitization. Allow the foam sanitizer to thoroughly drain and dry from all equipment and surfaces prior to recontact of the sanitized surface with food or feed items.

The efficacy of GENEROX™ 750 was demonstrated to be equivalent to that of > 200 ppm NaOCl when tested against Salmonella typhi.

**DIRECTIONS FOR USE IN THE MECHANICAL OR ELECTROLYTIC GENERATION OF CHLORINE DIOXIDE AS A DISINFECTANT, OR FOR MICROORGANISM CONTROL IN WATER AND WASTEWATER SYSTEMS**

GENEROX™ 750 may be used in the mechanical generation of chlorine dioxide for use in controlling microorganisms in water and wastewater systems. GENEROX™ 750 is fed to chlorine dioxide generation equipment, which produces an aqueous solution of chlorine dioxide by one of the following methods of generation:

1. The chlorine method, which uses GENEROX™ 750 and chlorine gas;
2. The hypochlorite method, which uses GENEROX™ 750 and a combination of a hypochlorite solution, and an acid;
3. The acid-chlorite method, which uses GENEROX™ 750 and an acid as the activating agent; or,
4. The electrolytic method which uses GENEROX™ 750 with sodium chloride added as needed.

Your Ashland representative can guide you in the selection, installation and operation of generation systems. Consult the instructions on the chlorine dioxide generation system before using GENEROX™ 750.

**FEED REQUIREMENTS**

Feed rates of GENEROX™ 750 will depend on the severity of contamination and the degree of control desired. The exact dosage will depend on the size of the system and residual necessary for effective control. Depending on the generator type GENEROX™ 750 may be diluted at the point of use to prepare a 3% to 7.5% active aqueous solution for use in the chlorine dioxide generators.

In all cases, generated chlorine dioxide solution should be applied in such a manner to ensure adequate mixing and minimal volatilization. The water stream to be treated may either be passed directly through the chlorine dioxide generator or treated via side stream injection point. The generation system employed should be in good working order and capable of achieving chlorine dioxide solutions free from chlorine contamination.

Because of the variability of demand in water and process systems, the dosage of chlorine dioxide required to achieve the target residuals is normally lower for continuous feed systems than for slug or timed feed applications. The minimum acceptable residual for chlorine dioxide, as determined by a verified procedure, is 0.1 ppm for a minimum one minute contact time.

Residual determination procedures should be substantiated methods and should also be specific for chlorine dioxide or used in systems where no chlorine contamination is possible. Do not add GENEROX™ 750 directly to process water.

#### **APPLICATIONS POTABLE WATER AND WASTEWATER DISINFECTION:**

For most municipal and public potable water systems a chlorine dioxide residual concentration up to 2.0 ppm is sufficient to provide adequate disinfection. Residual disinfectant and disinfection byproducts must be monitored as required by the National Primary Drinking Water Regulations (40 CFR Part 141) and state drinking water standards. For wastewater and sewage applications, residual chlorine dioxide concentrations up to 5.0 ppm are generally adequate.

**FINAL SANITIZING BOTTLE/CAP RINSE:** Use chlorine dioxide generated from GENEROX 750 as a final sanitizing rinse for plastic, glass, or metal returnable and non-returnable bottles/caps/kegs/beverage containers.

1. Prior to sanitization, wash bottles with detergent or cleaning solution and rinse with potable water.
2. From GENEROX 750, apply a 15-25 ppm chlorine dioxide use-solution and rinse bottles/cans/containers with the use-solution. Allow to drain dry.

**SANITIZATION OF CONVEYORS FOR FOOD, DAIRY AND BEVERAGE PROCESSING PLANTS:** Use chlorine dioxide generated from GENEROX 750 in the static or continuous washing, rinsing and sanitizing of conveyor equipment, peelers, collators, slicers and saws.

1. During processing or interruptions in operations, apply a 15-25 ppm use solution of chlorine dioxide from GENEROX 750.
2. Apply the use-solution to the return portion of the conveyor or to the equipment using a coarse spray or other means of wetting the surfaces. Control the volume of the use-solution so as to permit maximum drainage and to prevent puddles. The conveyor may still be damp when food-contact occurs. Treat for at least one (1) minute.

**SANITIZER RINSE FOR FRUITS AND VEGETABLES:** Use chlorine dioxide generated from GENEROX 750 in food-processing facilities to reduce the growth of microorganisms that cause spoilage and decay of fruits and vegetables.

1. From GENEROX 750, generate a chlorine dioxide use-solution from 1.0 - 10.0 ppm.
2. Apply the use-solution to pre-process fruits and vegetables by spray or immersion methods at a level that will result in a chlorine dioxide residual  $\leq 3.0$  ppm. The required dosage will depend on the degree of contamination present.
3. Treatment of the fruits and vegetables must be followed by a potable water rinse or by blanching, cooking or canning.

**FOOD-PROCESSING WATER SYSTEMS, INCLUDING DAIRIES, BOTTLING PLANTS, AND NON-ALCOHOLIC AND ALCOHOLIC BEVERAGE PROCESSING WATER:** Use chlorine dioxide generated from GENEROX 750 for microbial control in food-processing water systems and non-alcoholic and alcoholic beverage processing water systems, such as flume transport, chill water systems, hydrocoolers, non-alcoholic and alcoholic beverage pasteurizers and bottle rinsing systems.

1. From GENEROX 750, apply a chlorine dioxide use-solution from 0.25 - 5.0 ppm.
2. Apply the use-solution to the target water system at a level that will result in a residual concentration  $\leq 1.0$  ppm. The required dosage will vary with process conditions and the degree of contamination present.

GENEROX™ 750 can also be used to generate chlorine dioxide for control microbial contamination in, and removal of chlorine and impurities from, brewery influent water. Apply the generated chlorine dioxide to influent water at a dosing level so that the residual amount of chlorine dioxide in influent water does not exceed 0.8 ppm.

6067

**GENERAL ENVIRONMENTAL SURFACES SANITIZATION:** Use chlorine dioxide generated from GENEROX 750 to sanitize non-food contact surfaces, such as floors, walls, tables, chairs, benches, drains, troughs and drip pans in food-processing plants, breweries, food-handling establishments, ice-cream and bottling plants and breweries.

1. Prior to sanitization, pre-clean surfaces.
2. From GENEROX 750, prepare a 15 –25 ppm chlorine dioxide use-solution.
3. Soak items in/with the 15 – 25 ppm use-solution using mop/wipe, or coarse spray or flood techniques and allow contact for at least one minute.
4. Allow treated surfaces and items to drain adequately and air dry.
5. Fresh sanitizing solution must be made up daily or more often if solution becomes diluted or soiled.

For drains, this product is not expected to be effective past the trap or elbow in the drain.

**ANTIMICROBIAL RINSE OF PRE-CLEANED AND/OR NEW RETURNABLE OR NON-RETURNABLE CONTAINERS:** Use chlorine dioxide generated from GENEROX 750 to reduce the number of beverage spoilage microorganisms in pre-cleaned and/or new returnable or non-returnable containers.

1. From GENEROX 750, prepare a 15-25 ppm use-solution of chlorine dioxide.
2. Apply the use-solution at a temperature of 25°C to 40°C, with a contact time of 7 seconds.
3. Allow containers to drain thoroughly and then rinse with sterile or potable waters.

**POULTRY PROCESSING WATER:** Use GENEROX™ 750 to generate chlorine dioxide for use as an antimicrobial agent in water used in poultry processing in an amount not to exceed 3 ppm residual chlorine dioxide as determined by an appropriate method in accordance with 21 CFR § 173.300.

**BACTERIAL SLIME CONTROL IN PAPER MILLS:** Use GENEROX 750 to generate a chlorine dioxide use-solution for use as a slimicide in process water during the manufacture of paper and paperboard and in influent water systems. Apply the chlorine dioxide use-solution at a level in order to achieve a residual chlorine dioxide concentration in process water from 0.1 to 5.0 ppm. The necessary dosage will vary with the degree of microbiological and process contamination present.

**POTABLE WATER TREATMENT:** Use GENEROX 750 to generate a chlorine dioxide use-solution for use as both a disinfectant and oxidant in potable water treatment and in influent water systems. The required dosage will vary with source water conditions and the degree of contamination present. For most municipal and public potable water systems, a typical chlorine dioxide dosing concentration 2 ppm or less is sufficient to provide adequate disinfection. Residual disinfectant and disinfectant byproducts must be monitored as required by the National Primary Drinking Water Regulations (40 CFR Part 141) and state drinking water standards.

**WASTEWATER TREATMENT:** Use GENEROX 750 to generate a chlorine dioxide use-solution for use as a disinfectant, for odor control or as an oxidant in wastewater treatment and influent water systems. The required dosages will vary with water conditions and the degree of contamination present. For most municipal and other wastewater systems, a chlorine dioxide residual concentration of up to 5 ppm is sufficient to provide adequate disinfection. In odor control, and wastewater oxidant application, the applied dosage will depend on process water loading and conditions to achieve results and be in compliance with local, and state permits.

**INDUSTRIAL WATER TREATMENT (ONCE-THROUGH):** Use GENEROX 750 to generate a chlorine dioxide use-solution for controlling mollusks and other contaminants (microbiological and macrobiological) of once-through water systems. The required dosages of the chlorine dioxide use-solution will vary depending on the system type, system conditions, and the degree of water contamination present and the desired level of control. Depending on the extent of infestation, the chlorine dioxide use-solution may be applied either continuously or intermittently. The residual concentration of chlorine dioxide ranges from 0.1 - 2 ppm for continuous application to 0.1 - 25 ppm for intermittent application.

**INDUSTRIAL COOLING AND PROCESS WATER TREATMENT (RECIRCULATING):** Use GENEROX 750 to generate a chlorine dioxide use-solution for controlling bacterial slime, algae and biofilm in industrial recirculating cooling water systems including reverse osmosis systems for plant cooling water and other process water makeup.

Clean badly fouled systems before starting treatment. The required dosages of the chlorine dioxide use-solution will vary depending on the exact application and the degree of contamination present. The required chlorine dioxide residual concentrations range from 0.1 to 5.0 ppm. The chlorine dioxide use-solution can be applied either continuously or intermittently. The typical chlorine dioxide residual concentration range is 0.1 - 1.0 ppm for continuous doses and 0.1 - 5.0 ppm for intermittent doses.

**BACTERIAL SLIME CONTROL IN OIL WELLS AND PETROLEUM SYSTEMS:** Use GENEROX 750 to generate a chlorine dioxide use-solution for use in the remediation of bacterial and sulfide contamination in oilfield production, injection and disposal fluids. The chlorine dioxide use solution (0.25 - 5.0 ppm) can be applied either continuously or intermittently to oil production water as it is separated from the oil and before it is re-injected into the well. For continuous feeds, the chlorine dioxide use-solution may be applied at dosages slightly higher than sulfide's oxidative demand, as determined by a demand study. For intermittent treatment, the chlorine dioxide use-solution must be applied at shock dosage of 200-3000 ppm.

#### **STORAGE AND DISPOSAL**

##### **DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL.**

**STORAGE:** Store this product in a cool, dry area away from direct sunlight and heat to avoid deterioration. In case of spill, flood the area with large quantities of water.

**PESTICIDE WASTES:** 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 label instructions, contact your State Pesticide or Environment Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

**CONTAINER DISPOSAL:** Triple rinse (or equivalent) all containers and offer for recycling or reconditioning, or puncture and dispose in a sanitary landfill, or by other procedures approved by state and local authorities.

**IMPORTANT NOTICE:** Seller warrants that the product conforms to its chemical description and is reasonable fit for the purposes stated on the label under normal conditions of use. THE FOREGOING WARRANTIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL OR IMPLIED. THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN OTHER RESPECTS THAN AS EXPRESSLY SET FORTH HEREIN, ARE EXPRESSLY EXCLUDED AND DISCLAIMED.

**NOTE:** Buyer assumes all responsibility for safety and use not in accordance with directions.