



**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER.** Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed or absorbed through the skin. Do not get into eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves and protective clothing when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and aquatic invertebrates. 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 into sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**PHYSICAL OR CHEMICAL HAZARDS**

Do not use or store near heat or open flame. Do not mix with oxidizers, anionic soaps and detergents.

**STORAGE AND DISPOSAL**

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

**STORAGE:** Store only in original container. Keep this product under locked storage sufficient to make it inaccessible to children or persons unfamiliar with its proper 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 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: For non-refillable containers equal to or less than 5 gal.** Non-Refillable Container. Do not reuse or refill this container. Triple rinse container promptly after emptying. Triple rinse as follows: Fill the container ¼ full with water and recap. Shake for 10 seconds. Drain for 10 seconds after the flow begins to drip. Follow Pesticide Disposal instructions for rinsate disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. **For non-refillable containers greater than 5 gal.** Non-Refillable Container. Do not reuse or refill this container. Triple rinse container promptly after emptying. Triple rinse as follows: Fill the container ¾ 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 back and forth several times. Turn the container over onto its other end and tip back and forth several times. Follow Pesticide Disposal instructions for rinsate disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

**DIRECTIONS FOR USE**

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

Before use in federally inspected meat and poultry food processing plants and dairies, food products and packaging materials must be removed from room or carefully protected.

**DISINFECTION PERFORMANCE IN NON-MEDICAL FACILITIES (Food Services, Dairies, Farms, Beverage and Food**

**Processing Plants and Other Non-Medical Facilities):** At 4 fluid ounces of this product per 5 gallons of water use level (or equivalent use dilution) (625 ppm active) and with a 10-minute contact time, this product is bactericidal according to the AOAC Use Dilution Test method on hard non-porous surfaces modified in the presence of 5% organic serum against: *Campylobacter jejuni*, *Salmonella enterica*, *Escherichia coli* O157:H7, *Staphylococcus aureus*, *Staphylococcus aureus* (Methicillin Resistant), *Proteus mirabilis*, *Yersinia enterocolitica*.

**FUNGICIDAL PERFORMANCE:** At 4 ounces per 5 gallons of water use level (or equivalent use dilution) (625 ppm active) and with a 10-minute contact time, this product is effective in the presence of 5% blood serum against the following on hard non-porous surfaces: *Trichophyton mentagrophytes*, *Aspergillus niger*.

**NON-FOOD CONTACT SANITIZING PERFORMANCE:** At 1 ounce of this product per 4 gallons of water use level (or equivalent use dilution) (200 ppm active), this product was evaluated in the presence of 5% serum and found to be an effective one-step sanitizer with a 3-minute contact time against the following on hard non-porous surfaces: *Enterobacter aerogenes*, *Staphylococcus aureus*.

**PREPARATION OF DISINFECTION/FUNGICIDAL USE SOLUTION:** For heavily soiled areas, a preliminary cleaning is required. Add 4 ounces per 5 gallons of water (or equivalent use dilution) (625 ppm active) to disinfect hard non-porous surfaces. Apply use solution using a brush, sponge, cloth, mop, auto scrubber, mechanical spray device, coarse pump or trigger spray device, or by immersion so as to thoroughly wet surfaces. For sprayer applications, spray 6-8 inches from surface. Do not breathe spray. Rub with brush, cloth, or sponge. Treated surfaces must remain wet for 10 minutes. Allow to air dry. Rinse all treated surfaces that come in contact with food such as countertops, appliances, tables and stovetops with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. Change the solution at least daily or when use solution becomes visibly dirty.

**DIRECTIONS FOR FOOD PROCESSING PLANTS:** For use on non-food contact hard nonporous surfaces such as floors, walls, tables, garbage cans and disposal areas. Follow the **PREPARATION OF DISINFECTION/FUNGICIDAL USE SOLUTION** use directions.

**DIRECTIONS FOR FOOD STORAGE AREAS:** For use on non-food contact hard nonporous surfaces such as shelves, floors, walls and tables. Follow the **PREPARATION OF DISINFECTION/FUNGICIDAL USE SOLUTION** use directions.

**FOGGING - ALL SURFACES MUST BE CLEANED AND DISINFECTED IN ACCORDANCE WITH LABEL DIRECTIONS**

**PRIOR TO FOGGING. DIRECTIONS FOR FOGGING IN DAIRIES, BEVERAGE AND FOOD PROCESSING PLANTS:** Prior to fogging, food products and packaging material must be removed from the room or carefully protected. After cleaning, fog desired areas using 1 quart per 1000 cubic feet of room area with a solution containing 1.5 ounces of product to 1 gallon of water (or equivalent use dilution) (1171 ppm active). Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. Vacate the area of all personnel during fogging and for a minimum of 2 hours after fogging and a minimum of 4 air exchanges (ACH) per hour in the facility.

All food contact surfaces must be sanitized with an EPA approved food contact sanitizer solution of 200 ppm active, 1 ounce of this product to 4 gallons of water (or equivalent use dilution) prior to use. All food contact surfaces must be thoroughly rinsed prior to reuse with potable water.

**Note:** The fog generated is irritating to the eyes, skin and mucous membranes. Under no circumstances must a room or building be entered by anyone within two hours of the actual fogging and a minimum of 4 air exchanges (ACH) per hour in the facility. If the building must be entered, then the individuals entering the building must wear a self-contained respirator approved by NIOSH/MSHA, goggles, long sleeves and long pants.

**SANITIZER DIRECTIONS FOR NON-FOOD CONTACT SURFACES IN FOOD PROCESSING FACILITIES/SHOE/BOOT**

**BATH SANITIZER DIRECTIONS:** To prevent cross contamination from area to area in animal areas, and the packaging and storage areas of food plants, shoe baths containing one inch of freshly made sanitizing solution must be placed at all entrances to buildings, hatcheries and at all the entrances to the production and packaging rooms. Scrape waterproof shoes and place in a 1/4 ounce of this product per gallon of water (or equivalent use dilution) (200 ppm active) use solution for 3 minutes prior to entering area. Change the sanitizing solution in the bath at least daily or when use solution becomes visibly dirty.

# DUOQUAT

**Disinfectant - Sanitizer - Fungicide - Virucide\***

**This product is for use on hard, non-porous surfaces in Food Processing Plants, USDA Inspected Food-Processing Facilities, Dairy Farms, Egg Processing Plants, Meat/Poultry Processing Plants, Meat/Poultry Producing Establishments.**

**ACTIVE INGREDIENTS:**

Alkyl (C14 60%, C16 30%, C12 5%, C18 5%)  
dimethyl benzyl ammonium chloride ..... 5.0%

Alkyl (C12 68%, C14 32%)  
dimethyl ethylbenzyl ammonium chloride ..... 5.0%

**INERT INGREDIENTS:** ..... 90.0%

**TOTAL:** ..... 100.0%

## KEEP OUT OF REACH OF CHILDREN DANGER PELIGRO

See side panel for additional precautionary statements.

**FIRST AID**

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

**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 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 SWALLOWED:** Call a 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.

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

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.

**E.P.A. Reg. No. 10324 - 63 - 12446**

**E.P.A. Est. No. 12446 - TN - 01**

Sold By:  
**ZEE COMPANY, INC.**  
4146 South Creek Road  
Chattanooga, TN 37406

## NET CONTENTS:

5 gal.     30 gal.     55 gal.     275 gal.

**ENTRYWAY SANITIZING SYSTEMS:** To prevent cross contamination from area to area, set the system to deliver 0.51 - 1.04 oz. per gallon of water (or equivalent use dilution) (400 - 800 ppm active) of sanitizing solution. The foam must cover the entire path of the doorway. Set the system so that a continuous wet blanket of sanitizer solution is delivered to the floor. Do not mix other foam additives to the sanitizing solution.

**FOOD CONTACT AND PROCESSING EQUIPMENT SANITIZING DIRECTIONS:**

Before use as a sanitizer in public eating places and dairies, food products and packaging materials must be removed from the room or carefully protected. Prior to application, remove gross food particles and soil by a pre-flush or pre-scrape and when necessary, presoak. Then thoroughly wash or flush objects with a good detergent or compatible cleaner, followed by a potable water rinse before application of the sanitizing solution.

**FOOD CONTACT SANITIZING PERFORMANCE:** At 1 ounce per 4 gallons of water (or equivalent use dilution) (200 ppm active), this product eliminates 99.999% of the following bacteria in 60 seconds in 500 ppm hard water, calculated as CaCO3, according to the Germicidal and Detergent Sanitizing Action of Disinfectants test: *Campylobacter jejuni*, *Escherichia coli*, *Escherichia coli* O157:H7, *Listeria monocytogenes*, *Salmonella typhi*, *Shigella dysenteriae*, *Staphylococcus aureus*, *Yersinia enterocolitica*.

**FOOD CONTACT SANITIZING DILUTION GUIDE:** To prepare a 200, 300 or 400 ppm active solution, use the following dilution table. Prepare the correct dilution rate based upon the appropriate use site.

Active solution	1 gallon	4 gallons	10 gallons	20 gallons
200 ppm	1/4 ounce	1.0 ounce	2 1/2 ounces	5.0 ounces
300 ppm	0.375 ounces	1 1/2 ounces	3 3/4 ounces	7 1/2 ounces
400 ppm	1/2 ounce	2.0 ounces	5.0 ounces	10.0 ounces

**DIRECTIONS FOR FOOD PROCESSING EQUIPMENT AND UTENSILS, AS REGULATED BY 40CFR sec 180.940(c):** Apply sanitizing solution containing 1-2 ounces per 4 gallons of water (or equivalent use dilution) (200-400 ppm active) to hard nonporous equipment and utensils with a brush, cloth, sponge, auto scrubber, mechanical spray device or by immersion. For spray applications, spray 6 to 8 inches from surface. Rub with brush, sponge, or cloth. Do not breathe spray. Surfaces must remain wet for at least 1 minute. Allow sanitized surfaces to adequately drain before contact with food. **NO POTABLE WATER RINSE IS ALLOWED.** Change cloth, sponge or towels frequently to avoid redeposition of soil. Prepare a fresh solution at least daily or when use solution becomes visibly dirty. The used sanitizing solution must not be reused for sanitizing, but can be reused for other purposes such as cleaning.

**SANITIZING EGG SHELLS INTENDED FOR FOOD DIRECTIONS:** To sanitize previously cleaned food-grade eggs in shell egg and egg product processing plants, spray with a solution of 1-2 ounces of this product per 4 gallons of warm water (or equivalent use dilution) (200-400 ppm active). The solution must be warmer than the eggs, but not to exceed 130°F. Wet eggs thoroughly and allow solution to drain. Eggs sanitized with this product must be subjected to a potable water rinse only if they are to be broken immediately for use in the manufacture of egg products. Eggs must be reasonably dry before casing or breaking. Prepare a fresh solution at least daily or when use solution becomes visibly dirty. The solution must not be re-used for sanitizing eggs.

**Note:** Only clean, whole eggs can be sanitized. Dirty, cracked or punctured eggs cannot be sanitized.

**FOR TREATMENT OF MEAT AND POULTRY OR FRUIT AND VEGETABLE CONVEYORS:** To sanitize the belt, apply at a 200-400 ppm active level (1 to 2 ounces per 4 gallons) (or equivalent use dilution) to conveyors with suitable feeding equipment. Do not allow this solution to be sprayed directly on food. Controlled volumes of sanitizer are applied to return portion of conveyor through nozzles so located as to permit maximum drainage of sanitizer from equipment and to prevent puddles on top of belt. During interruptions in operation, apply solution using a coarse spray device to equipment, peelers, collators, slicers and saws, and other nonporous conveyor equipment. Allow surfaces to remain wet for at least 60 seconds. Conveyor equipment must be free of product when applying this coarse spray.

**GLOVE DIP SANITIZER DIRECTIONS:** To prevent cross contamination from area to area into animal areas and the packaging and storage areas of food plants, dip pre-washed plastic, latex or other synthetic rubber non-porous gloved hands into a suitable clean container that contains enough freshly made sanitizing solution to cover the gloved area for at least 60 seconds. Make up the sanitizing solution by adding 1/4 - 1/2 ounce of this product per gallon of water (or equivalent use dilution) (200-400 ppm active). **NO POTABLE WATER RINSE IS ALLOWED.** Change the solution at least daily or when solution becomes visibly dirty. The used sanitizing solution must not be reused for sanitizing, but can be reused for other purposes such as cleaning. **Do not let sanitizing solution come into contact with exposed skin.**

**ANIMAL PREMISES:** Prior to use of this product, cover or remove all food and packaging material before disinfection and remove all animals and feeds from areas to be treated, animal transportation vehicles, and enclosures. Remove all litter, droppings and manure from floors, walls and surfaces of barns, pens, stalls, chutes and other surfaces of facilities and fixtures occupied or traversed by poultry or other animals. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean surfaces with soap or detergent and rinse with water.

**ANIMAL PREMISE VIRUCIDAL\* PERFORMANCE:** At a 4 ounce per 5 gallons of water use level (625 ppm active), this product was evaluated and found to be effective in the presence of 5% serum and with a 10 minute contact time against the following viruses on hard, non-porous surfaces: Avian influenza A H9N2 /Turkey/Wisconsin virus, Avian influenza A H5N1 virus, Avian Reovirus, Bovine Viral Diarrhea virus, Infectious Laryngotracheitis Virus, Infectious Bovine Rhinotracheitis virus - IBR, Newcastle disease virus, Porcine Respiratory & Reproductive Virus - PRRSV, Equine Arteritis virus, Porcine Rotavirus, Pseudorabies virus.

**SPECIAL INSTRUCTIONS FOR INACTIVATING AVIAN INFLUENZA A H5N1 VIRUS:** Apply the disinfecting solution of 4 oz per 5 gallons of water to all hard nonporous surfaces and allow to remain wet for a period of 10 minutes. Apply by cloth, mop, brush, sponge, auto scrubber, mechanical spray device or by immersion. For spray applications, spray 6-8 inches from surface. Do not breathe spray. Immerse all halters and other types of hard nonporous equipment used in handling and restraining animals as well as forks, shovels, and scrapers used in removing litter and manure. Ventilate buildings, coops, and other closed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set, or dried. Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains, and waterers, and other treated equipment with soap or detergent, and rinse with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

**DISINFECTION/FUNGICIDE/VIRUCIDE\* OF POULTRY/TURKEY EQUIPMENT, SWINE QUARTERS, LIVESTOCK FARMS, EQUINE QUARTERS, ANIMAL QUARTERS AND KENNELS DIRECTIONS:** Use 4 ounces per 5 gallons of water (or equivalent use dilution) (625 ppm active) to hard nonporous surfaces. Apply by cloth, mop, brush, sponge, auto scrubber, mechanical spray device or by immersion. For spray applications, spray 6-8 inches from surface. Do not breathe spray. Allow to remain wet for a period of 10 minutes. Immerse all halters and other types of hard nonporous equipment used in handling and restraining animals, as well as forks, shovels, and scrapers used for removing litter and manure. After application, ventilate buildings, coops and other closed spaces. Do not house poultry or other animals or employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub all treated equipment which may contact food and water with soap or detergent and rinse with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

**HATCHERIES:** Use 4 ounces per 5 gallons of water use solution. Apply to hard, non-porous surfaces such as hatchers, setters, trays, racks, egg flats, walls, floors, ceilings, chickboxes, egg cases, trash containers, carts, sexing tables, delivery trucks, vans and other hard non-porous surfaces. Apply by cloth, mop, brush, sponge, auto scrubber, mechanical spray device or by immersion. For spray applications, spray 6-8 inches from surface. Do not breathe spray. Leave all treated surfaces wet for 10 minutes or more. Rinse treated surfaces with potable water before reuse. Allow surface to air dry. Change cloth, sponge or towels frequently to avoid redeposit ion of soil. Prepare a fresh solution at least daily or when use solution becomes visibly soiled.

**FOR SECONDARY  
CONTAINER USE ONLY.**

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