



DIALD 45

ACTIVE INGREDIENT:

Glutaraldehyde 45.0%

INERT INGREDIENTS: 55.0%**TOTAL** 100.00%

KEEP OUT OF REACH OF CHILDREN DANGER

FIRST AID

If swallowed	<ul style="list-style-type: none">• Call poison control center or doctor immediately for treatment advice.• DO NOT INDUCE VOMITING.• Do not give anything to drink.
If in eyes	<ul style="list-style-type: none">• Wash immediately and continuously with flowing water for at least 30 minutes.• Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.• Call a poison control center or doctor immediately for treatment advice.
If on skin or clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15–20 minutes.• Call a poison control center for treatment advice.
If inhaled	<ul style="list-style-type: none">• 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.

HOT LINE NUMBER

Have the product container or label with you when calling a Poison Control Center or doctor, or going for treatment. You may also contact 901-278-0330 or 1 800 BUCKMAN for emergency medical treatment information.

NOTE TO PHYSICIAN

Aspiration may cause lung damage. Probable mucosal damage may contraindicate the use of gastric lavage.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Corrosive. Causes irreversible eye damage. Causes skin burns. Harmful if inhaled. May be fatal if swallowed. Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Causes asthmatic signs and symptoms in hyper-reactive individuals. Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Do not swallow. Wear goggles, protective clothing, and butyl or nitrile gloves. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. 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 or Regional Office of the EPA.

STORAGE AND HANDLING

DIALD 45 is incompatible with many commonly used materials of construction such as steel, galvanized iron, aluminum, tin, and zinc. DIALD 45 can be stored and handled in baked phenolic-lined steel, polyethylene, stainless steel, or reinforced epoxy-plastic equipment. This product freezes at about 1°F (–17°C). Therefore, unless the storage tank is inside or underground, heating and insulation may be required. If heating is needed, exposure to high temperatures should be avoided. For short storage times (up to about 1 month), temperatures of up to 100°F (37.8°C) can be tolerated but the preferred maximum storage temperature is about 80°F (26.7°C).

A stainless steel centrifugal pump is suggested for transfer service. Spiral-wound stainless steel with TEFLON® Polymer is suitable for gaskets and packing.

Handle in a well-ventilated area. If vapors are irritating to the nose or eyes, special ventilation or respiratory protection (MSHA/NIOSH approved air purifying respirator equipped with an organic vapor cartridge) may be required.

DIRECTIONS FOR USE

AIR WASHERS AND INDUSTRIAL SCRUBBING SYSTEMS/RECIRCULATING COOLING AND PROCESS WATER SYSTEMS: This product may be used only in industrial air washer systems which have mist-eliminating components. DIALD 45 should be added at the application rates described below, to a water treatment system at a convenient point of uniform mixing such as the basin area. Addition may be made intermittently (SLUG DOSE) or continuously. Badly fouled systems can be shock treated with DIALD 45. Under these conditions, blowdown should be discounted for up to 24 hours.

DIALD 45 can be used in industrial process water systems that contain ultra filtration units and non-medical reverse osmosis membranes (where approved for compatibility by the membrane manufacturer) and associated distribution systems.

INTERMITTENT (SLUG DOSE) METHOD: Initial Dose: When the system is noticeably fouled, apply 12.7–25.4 fluid ounces of DIALD 45 per 1,000 gallons of water in the system. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 5.1–12.7 fluid ounces of DIALD 45 per 1,000 gallons of water in the system weekly, or as needed to maintain control. Badly-fouled systems must be cleaned before treatment is begun.

CONTINUOUS FEED SYSTEM: Initial Dose: When the system is noticeably fouled apply 12.7–25.4 fluid ounces of DIALD 45 per 1,000 gallons of water in the system.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 2.5–12.7 fluid ounces of DIALD 45 per 1,000 gallons of water in the system per day. Badly fouled systems must be cleaned before treatment is begun.

SERVICE WATER AND AUXILIARY SYSTEMS: DIALD 45 should be used at the same application rates, and in the same manner as described above. It should be added to the system at a point that will allow for uniform mixing throughout the system.

HEAT TRANSFER SYSTEMS: (Evaporative Condensers, Dairy Sweetwater Systems, Hydrostatic Sterilizers and Retorts, and Pasteurizers and Warmers and Once-Through Cooling Water Systems)

DIALD 45 should be used at the same application rates, and in the same manner as described above. It should be added to the system at a point of uniform mixing such as a basin area, sump area, or other reservoir or collecting area from which the treated water will be circulated uniformly throughout the system.

INDUSTRIAL WASTEWATER SYSTEMS: (Wastewater Systems, Wastewater Sludge and Wastewater Holding Tanks). DIALD 45 should be added to a wastewater system or sludge at a convenient point of uniform mixing such as the digester. Add 0.45 to 2.2 gallons (500 to 2,500 ppm DIALD 45) per 1,000 gallons of wastewater or sludge.

MACROFOULING CONTROL: (*Not for use in the state of California). DIALD 45 should be added continuously to maintain a level of 20 ppm active ingredient in the system for a period of at least 96 hours. Initial Dose: When macrofouling is present in the system, apply 5.6 fluid ounces of DIALD 45 per 1,000 gallons of water in the system. Continue to add as needed to maintain the 20 ppm active ingredient level for a period of at least 96 hours.

BET SUGAR MILLS AND BET SUGAR MILL PROCESS WATER SYSTEMS: DIALD 45 should be added to the system at a point of uniform mixing such as the diffuser, transport water pump, weir box, or diffuser feed water pump. Additions may be made intermittently (SLUG DOSE) or continuously.

INTERMITTENT (SLUG DOSE) METHOD: Initial Dose: When the system is noticeably contaminated, add 6.1 to 15.2 fluid ounces (222 to 560 ppm product) of DIALD 45 per ton or 200 to 500 mL of DIALD 45 per metric ton of sliced beets as a slug dose. Repeat until control is achieved. **Subsequent Dose:** When microbial control is evident, add 0.9 to 9.1 fluid ounces (33 to 330 ppm) of DIALD 45 per ton or 30 to 300 mL of DIALD 45 per metric ton of sliced beets in the system as a slug dose as necessary to maintain control. The total should not exceed 118 gallons per 1,000 tons of beets sliced per day.

CONTINUOUS FEED METHOD: Initial Dose: When the system is noticeably contaminated, add 6.1 to 15.2 fluid ounces/minute (222 to 560 ppm product) of DIALD 45 per ton or 200 to 500 mL/minute of DIALD 45 per metric ton of beets sliced per minute in the system via automatic pump of suitable construction. **Subsequent Dose:** When microbial control is evident, add 0.9 to 9.1 fluid ounces/minute (33 to 330 ppm) of DIALD 45 per ton or 30 to 300 mL/minute of DIALD 45 per metric ton of beets sliced per minute in the system, or as necessary to maintain control. The total should not exceed 118 gallons per 1,000 tons of beets sliced per day.

PAPER MILLS AND PAPER MILL PROCESS WATER SYSTEMS: DIALD 45 should be added to paper making system at a point of uniform mixing such as the beaters, broke chest pump, save-all tank, or white-water tank. Initial Dose: When the system is noticeably contaminated, add 0.6–3.3 lbs of DIALD 45 per ton of pulp or paper (dry basis) 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 0.3–2.2 lbs of DIALD 45 per ton of pulp or paper (dry basis) as a slug dose as necessary to maintain control.

PIGMENTS AND FILLER SLURRIES FOR PAPER AND PAPERBOARD: (For use in food and non-food contact pigments and filler slurries). Use from 0.11 to 0.7 lbs of DIALD 45 per 1,000 lbs dry powder to produce a concentration of 100 to 600 ppm as product (based on slurry solids) in the mixed slurry.

WATER-BASED COATINGS FOR PAPER AND PAPERBOARD: (For use in non-food contact coatings only). Use from 0.1 to 0.6 lbs of DIALD 45 per 1,000 lbs dry powder to produce a concentration from 111 to 667 ppm as product (based on slurry solids) in the mixed slurry.

AQUEOUS METALWORKING FLUIDS: DIALD 45 should be added to a metalworking fluid system at a point of uniform mixing such as the fluid collection tank. Additions may be made intermittently (SLUG DOSE) at intervals of one week or less. Initial Dose: When the system is noticeably fouled apply 2 to 6 gallons of DIALD 45 per 10,000 gallons of metalworking fluid to the system. Repeat until control is achieved. **Subsequent Dose:** When microbial control is evident, add 0.8 to 4 gallons of DIALD 45 per 10,000 gallons of metalworking fluid to the system weekly, or as needed to maintain control. Badly fouled systems should be cleaned before treatment is begun.

WATER BASED CONVEYOR LUBRICANTS: (Brewery, Juice, Dairy, Beverage, and Food Processing Systems). Avoid contamination of food in application of product. Thoroughly clean all tracks and conveyors to remove gross soil. Rinse well. Use an automatic feed system to provide 1.3 to 7.6 fluid ounces (50 to 300 ppm active) of DIALD 45 per 100 gallons of diluted lubricant.

GENERAL PRESERVATIVE USE: DIALD 45 is recommended for use in aqueous or water containing products and systems, including industrial, institutional and consumer in-can processes and products, to control the growth of bacteria and fungi. For effective preservation, add DIALD 45 to the product formulation at a rate of 0.022% to 0.22% (222.5 to 2,222.5 ppm product) based on the water content of the product (0.22 to 2.2 lbs DIALD 45 per 1,000 lbs water content). Mix uniformly.

PRESERVATIVE FOR CONCENTRATES: For use in concentrates where effective preservation is needed after dilution, add DIALD 45 to the product formulation at a rate such that the diluted end-use product will contain 0.022% to 0.22% DIALD 45. At no time during the preservation process should the level of DIALD 45 exceed 2.2%.

REVERSE OSMOSIS MEMBRANES: For effective preservation of reverse osmosis elements (where approved for compatibility by membrane manufacturer), immerse elements in a tank containing 0.22% to 2.2% DIALD 45. DIALD 45 can also be added to in-line recirculating systems for preservation of installed out-of-service reverse osmosis equipment (where approved for compatibility by membrane manufacturer). Add 0.22% to 2.2% DIALD 45 to the tank in the circulating system. Maintain the concentration of DIALD 45 by periodic addition to counteract any system leakage.

CONCRETE ADMIXTURES: For effective preservation of concrete admixtures, add DIALD 45 to the product formulation at a rate of 2.222 to 8.889 ppm based on the weight of the admixture (2.2 to 8.9 lbs DIALD 45 per 1,000 lbs concrete admixture). Mix uniformly.

WATER FLOODS: DIALD 45 should be added to a water flood system at a point of uniform mixing. Initial Treatment: When the system is noticeably contaminated, add 110 to 5,500 ppm DIALD 45 to the system (0.1 to 4.9 gallons DIALD 45 per 1,000 gallons flood water). Repeat until control is achieved. **Subsequent Dose:** When microbial control is evident, add 22 to 5,500 ppm DIALD 45 (0.02 to 4.9 gallons DIALD 45 per 1,000 gallons flood water) to the system weekly, or as needed to maintain control.

DRILLING, COMPLETION, AND WORKOVER FLUIDS: DIALD 45 should be added to a drilling fluid system at a point of uniform mixing. Initial Treatment: Add 55 to 1,100 ppm DIALD 45 (0.21 to 4.1 gallons DIALD 45 per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination. **Maintenance Dosage:** Maintain a concentration of 55 to 1,100 ppm DIALD 45 by adding 0.21 to 4.1 gallons of DIALD 45 per 100 barrels of additional fluid, or as needed, depending on the severity of contamination.

PACKER FLUIDS: DIALD 45 should be added to a packer fluid at a point of uniform mixing such as a circulating holding tank. Add 55 to 666 ppm DIALD 45 (0.21 to 2.5 gallons DIALD 45 per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination. Seal the treated packer fluid in the well between the casing and production tube.

GAS PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS: DIALD 45 should be added to a gas production or transmission pipeline via direct injection. The application should be conducted to ensure maximum distribution of the DIALD 45 through the entire internal surface of the pipeline. To facilitate application, it may be desirable to dilute the DIALD 45 with an appropriate solvent immediately before use. Injections to the system should be weekly, or as needed to maintain control.

GAS STORAGE WELLS AND SYSTEMS: Individual injection wells should be treated with a sufficient quantity of DIALD 45 to produce a concentration of 556 to 5,556 ppm DIALD 45 when diluted by the water present in the formulation. Injection should take place before gas is injected (during the summer). Injections should be repeated yearly, or as needed to maintain control. Individual dips should be treated with a sufficient quantity of DIALD 45 to produce a concentration of 222 to 2,222 ppm DIALD 45 when diluted by the water present in the dip. Injections should be repeated yearly, or as needed to maintain control.

HYDROTESTING: Water used to hydrotest pipelines or vessels should contain 110 to 4,444 ppm DIALD 45 (0.1 to 3.9 gallons DIALD 45 per 1,000 gallons water), depending on water quality and length of time the equipment will remain idle.

PIPELINE PIGGING AND SCRAPING OPERATIONS: Add DIALD 45 to a slug of water immediately following the scraper (ideally this water volume can be kept to a minimum and contained between the scraper and a trailing pig). Sufficient DIALD 45 should be added to produce a concentration of 0.11 to 1.1% (0.1 to 1.0 gallons DIALD 45 per 100 gallons water), depending on the length of the pipeline and the severity of biofouling.

STORAGE AND DISPOSAL

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Pesticide wastes are toxic. 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 your Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Metal Containers or Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or other procedures approved by state and local authorities. Plastic Containers: May be incinerated, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Metal Containers: Must not be incinerated. Do not cut or weld on or near metal containers.

Manufactured By:

Buckman Laboratories, Inc.

1256 N. McLean Blvd., Memphis, Tennessee 38108, U.S.A.

(901) 278-0330 or 1-800-BUCKMAN

EPA Est. No. 10352-WV-2^(A); 464-WV-1^(B)

EPA Reg. No. 1448-421

(A) 5-gallon pails in pallets; all drums

(B) Single 5-gallon pails only

Product Weight: 8.7 lbs/gal 1.04 kg/L

NET CONTENTS MARKED ON CONTAINER

HMIS/NPCA RATING

Health 3 Flammability 1 Reactivity 0

ACCEPTED

JUN 06 2005

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide, registered under EPA Reg. No. 1448-421