

464-700

12/23/2008

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



Office of Pesticide Programs

The Dow Chemical Company  
1803 Building  
Midland, Mi 48674

DEC 23 2008

Attention: Maureen Mikszal  
Senior Regulatory Specialist

**Subject: UCARCIDE™ 14 Microbiocide**  
EPA Registration No. 464-700  
Amendment Dated November 24, 2008

The amendment, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable.

- Minor Labeling Changes to the Directions For Use

A stamped copy of the "accepted" labeling is enclosed for your records.

If you have any questions concerning this letter, please contact Martha Terry at (703) 308-6217.

Sincerely

Marshall Swindell  
Product Manager 33  
Regulatory Management Branch 1  
Antimicrobials Division (7510P)

Enclosure

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

**KEEP OUT OF REACH OF CHILDREN**

Corrosive. Causes irreversible eye damage. Causes skin irritation. Harmful if inhaled. Harmful 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 local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

**STORAGE AND HANDLING**

UCARCIDE 14 Antimicrobial is incompatible with many commonly used materials of construction such as steel, galvanized iron, aluminum, tin, and zinc. UCARCIDE 14 Antimicrobial can be stored and handled in baked phenolic-lined steel, polyethylene, stainless steel, or reinforced epoxy-plastic equipment. This product freezes at about 27° F (-3° 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.

**LIMITED WARRANTY AND DISCLAIMER**

Seller warrants that the product conforms to its chemical description as contained on this label and is reasonably fit for the purposes stated on this label when used in accordance with directions under normal conditions of use. THE WARRANTIES MADE IN THIS PARAGRAPH ARE SELLER'S SOLE WARRANTIES WITH RESPECT TO THE PRODUCT AND ARE MADE EXPRESSLY IN LIEU OF AND EXCLUDE ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES.

**BEFORE HANDLING OR USING THIS PRODUCT, SEE YOUR EMPLOYER AND READ CURRENT MATERIAL SAFETY DATA SHEET.**

**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.



**NOTICE**

Do Not Ship or Store with Food, Feeds, Drugs, or Clothing

655672-04/29/2008

**UCARCIDE™ 14 Antimicrob**

A HIGHLY EFFECTIVE MICROBIOCIDICIDE FOR USE IN CONTROLLING BACTERIA INCLUDING FORMING BACTERIA AND SULFATE-REDUCING BACTERIA AND FUNGI (YEAST AND MOLDS) ALGAE IN AIR WASHERS AND INDUSTRIAL SCRUBBING SYSTEMS, RECIRCULATING COOLING PROCESS WATER SYSTEMS INCLUDING THOSE THAT CONTAIN REVERSE OSMOSIS MEMBRANE AND IN SERVICE WATER AND AUXILIARY SYSTEMS AND HEAT TRANSFER SYSTEMS A WASTEWATER SYSTEMS INCLUDING WASTEWATER SLUDGE AND HOLDING TANKS, AND IN MILLS AND PAPER MILL PROCESS WATER SYSTEMS AND WATER BASED COATINGS FOR FLOOR AND PAPERBOARD AND IN OIL WELL DRILLING, OIL FIELD PROCESSING APPLICATIONS, OIL WATER SYSTEMS, OIL AND GAS PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS GAS STORAGE FIELDS AND EQUIPMENT; SUCH AS, STEAM-INJECTION WATER HOLDING TANK FLOOD WATER, FRACTURING FLUIDS, INJECTION WATER, HOLDING POND WATER, DISPERSED WELL WATER, WATER HOLDING TANKS, FUEL STORAGE TANKS AND RELATED REFINERY AND FIELD CLOSED, INDUSTRIAL RECIRCULATING WATER HANDLING SYSTEMS AND AN INDUSTRIAL SANITIZER FOR USE IN CONTROLLING MICROBIAL CONTAMINATION IN ANIMAL PRODUCTION FACILITIES AND FARM EQUIPMENT SUCH AS POULTRY & TURKEY HOUSES, SWINE HOUSING FARMING AREAS, BARN AND LARGE ANIMAL BUILDINGS, HATCHERS, SETTERS, AND PROCESSING FACILITIES, CAGES AND TRANSPORT VEHICLES, AND HATCHING EGGS AND SANITIZING INDUSTRIAL OR NON-FOOD CONTACT SURFACES SUCH AS EQUIPMENT FOR PACKING, OR PACKAGING PRODUCTS, PRODUCT TRANSFER LINES, STORAGE TANKS, FLOORS AND WALLS AND FOR USE BY MANUFACTURERS AND FORMULATORS IN FORMULATING PRODUCTS FOR ANIMAL HOUSING AND INDUSTRIAL SANITIZING APPLICATIONS. FORMULATORS USING THIS PRODUCT ARE RESPONSIBLE FOR THE EPA REGISTRATION OF THEIR FORMULATED PRODUCTS.

- Active Ingredient: Glutaraldehyde ..... 14.0%
- Alkyl (C<sub>14</sub> 50%, C<sub>12</sub> 40%, C<sub>16</sub> 10%) dimethyl benzyl ammonium chloride ..... 2.5%
- Inert Ingredients: ..... 83.5%
- Total: ..... 100.0%

**KEEP OUT OF REACH OF CHILDREN  
DANGER  
FIRST AID**

**If swallowed:**

- Call a poison control center or a doctor immediately for treatment advice.
- DO NOT INDUCE VOMITING.
- Do not give anything to drink.

**If in eyes:**

- 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 a doctor immediately 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 a doctor for treatment advice.

**If inhaled:**

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

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

Have the MSDS and, if available, the product container or label with you when you call a poison control center or a doctor, or going for treatment.

**SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENT:**

Produced for:



**The Dow Chemical Company**  
Midland, Michigan 48674 U.S.A.  
(989)636-4400

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Made in U.S.A.

EPA Reg. No. 464-700  
EPA Est. No. 10352-WV-2 (A); 464-1  
EPA Est. No. 10352-WV-1 (C)  
(A) 5 gallon pails in pallets; all drums  
(B) Samples and 5 gallon pails less than 5 gallons  
(C) Bulk Shipments

Net Contents: 5, 55 gallons or Bulk

CONTAINER SIZE	CONTAINER SIZE	CONTAINER SIZE
TOTE	55 GALLONS	5 GALLONS
260.8 GALLONS		
2,290 POUNDS	470 POUNDS	47 POUNDS
NET WEIGHT	NET WEIGHT	NET WEIGHT

**IN CASE OF AN EMERGENCY** endangering life or property involving this product, collect, (989)636-4400.

EMENTS  
ESTIC ANIMALS

**CHILDREN**

Causes skin irritation.  
ful if absorbed through  
tact may cause allergic  
ic signs and symptoms

nitrile gloves.  
ding.  
reuse.

effluent containing this  
oceans or other waters  
of a National Pollutant  
mit and the permitting  
to discharge. Do not  
sewer systems without  
nt plant authority. For  
Regional Office of the

**PLING**

with many commonly  
steel, galvanized iron,  
microbial can be stored  
ethylene, stainless steel,  
product freezes at about  
rage tank is inside or  
required. If heating is  
d be avoided. For short  
raures of up to 100° F  
red maximum storage

ted for transfer service.  
Polymer is suitable for

irritating to the nose or  
fection (MSHA/NIOSH  
with an organic vapor

**AIMER**

ts chemical description  
for the purposes stated  
irections under normal  
ES MADE IN THIS  
ARRANTIES WITH  
ADE EXPRESSLY IN  
D WARRANTIES OF  
OR A PARTICULAR  
LESS OR IMPLIED

**THIS PRODUCT,  
READ CURRENT  
T.**

**OSAL**

e water, food or feed by  
dited. Pesticide wastes  
icide, spray mixture or  
ese wastes cannot be  
ions, contact your State  
ency, or the Hazardous  
onal Office for guidance.

ainers o r Plastic  
en offer for recycling or  
sanitary landfill, or other  
l authorities. Plastic  
wed by state and local  
out of smoke. Metal  
t cut or weld on or near

ire with Food,  
othing

# UCARCIDE™ 14 Antimicrobial

A HIGHLY EFFECTIVE MICROBIOCIDIC FOR USE IN CONTROLLING BACTERIA INCLUDING SLIME FORMING BACTERIA AND SULFATE-REDUCING BACTERIA AND FUNGI (YEAST AND MOLDS) AND ALGAE IN AIR WASHERS AND INDUSTRIAL SCRUBBING SYSTEMS, RECIRCULATING COOLING AND PROCESS WATER SYSTEMS INCLUDING THOSE THAT CONTAIN REVERSE OSMOSIS MEMBRANES AND IN SERVICE WATER AND AUXILIARY SYSTEMS AND HEAT TRANSFER SYSTEMS AND IN WASTEWATER SYSTEMS INCLUDING WASTEWATER SLUDGE AND HOLDING TANKS, AND IN PAPER MILLS AND PAPER MILL PROCESS WATER SYSTEMS AND WATER BASED COATINGS FOR PAPER AND PAPERBOARD AND IN OIL WELL DRILLING, OIL FIELD PROCESSING APPLICATIONS, OIL FIELD WATER SYSTEMS, OIL AND GAS PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS, AND GAS STORAGE FIELDS AND EQUIPMENT; SUCH AS, STEAM-INJECTION WATER HOLDING TANKS, FLOOD WATER, FRACTURING FLUIDS, INJECTION WATER, HOLDING POND WATER, DISPOSAL-WELL WATER, WATER HOLDING TANKS, FUEL STORAGE TANKS AND RELATED REFINERY AND OIL FIELD CLOSED, INDUSTRIAL RECIRCULATING WATER HANDLING SYSTEMS AND AN INDUSTRIAL SANITIZER FOR USE IN CONTROLLING MICROBIAL CONTAMINATION IN ANIMAL PRODUCTION FACILITIES AND FARM EQUIPMENT SUCH AS POULTRY & TURKEY HOUSES, SWINE HOUSING AND FARROWING AREAS, BARNS AND LARGE ANIMAL BUILDINGS, HATCHERS, SETTERS, AND CHICK PROCESSING FACILITIES, CAGES AND TRANSPORT VEHICLES, AND HATCHING EGGS AND FOR SANITIZING INDUSTRIAL OR NON-FOOD CONTACT SURFACES SUCH AS EQUIPMENT FOR MIXING, PACKING, OR PACKAGING PRODUCTS, PRODUCT TRANSFER LINES, STORAGE TANKS, FLOORS AND WALLS AND FOR USE BY MANUFACTURERS AND FORMULATORS IN FORMULATING PRODUCTS FOR ANIMAL HOUSING AND INDUSTRIAL SANITIZING APPLICATIONS. FORMULATORS USING THIS PRODUCT ARE RESPONSIBLE FOR THE EPA REGISTRATION OF THEIR FORMULATING PRODUCTS.

Active Ingredient: Glutaraldehyde ..... 14.0%  
Alkyl (C<sub>14</sub> 50%, C<sub>12</sub> 40%, C<sub>16</sub> 10%)  
dimethyl benzyl ammonium chloride ..... 2.5%  
Inert Ingredients: ..... 83.5%  
Total: ..... 100.0%

## KEEP OUT OF REACH OF CHILDREN DANGER FIRST AID

- If swallowed:**
- Call a poison control center or a doctor immediately for treatment advice.
  - DO NOT INDUCE VOMITING.
  - Do not give anything to drink.
- If in eyes:**
- 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 a doctor immediately 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 a doctor for treatment advice.
- If inhaled:**
- Move person to fresh air.
  - If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible.
  - Call a poison control center or a doctor for further treatment advice.

**NOTE TO PHYSICIAN:** Aspiration may cause lung damage. Probable mucosal damage may contraindicate the use of gastric lavage.  
Have the MSDS and, if available, the product container or label with you when calling a poison control center or a doctor, or going for treatment.

**SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS**

Produced for:

EPA Reg. No. 464-700  
EPA Est. No. 10352-WV-2 (A) ; 464-WV-1 (B)  
EPA Est. No. 10352-WV-1 (C)  
(A) 5 gallon pails in pallets; all drums; bulk  
(B) Samples and 5 gallon pails less than pallet  
(C) Bulk Shipments

**The Dow Chemical Company**  
Midland, Michigan 48674 U.S.A.  
(989)636-4400

®TM Trademark of The Dow Chemical Company  
("Dow") or an affiliated company of Dow  
Made in U.S.A.

Net Contents: 5, 55 gallons or Bulk

CONTAINER SIZE TOTE 260.8 GALLONS	CONTAINER SIZE 55 GALLONS	CONTAINER SIZE 5 GALLONS
2,290 POUNDS NET WEIGHT	470 POUNDS NET WEIGHT	44 POUNDS NET WEIGHT

**IN CASE OF AN EMERGENCY** endangering life or property involving this product, call collect. (989)636-4400.

### DIRECTIONS FOR USE:

It is a violation of Federal Law to use this product in a manner inconsistent with the directions on the label. **AIR WASHERS AND INDUSTRIAL SCRUBBING SYSTEMS FOR COOLING AND PROCESS WATER**

This product may be used only in industrial air washers and air washer components.

UCARCIDE 14 Antimicrobial should be added at the application rates system at a convenient point of uniform mixing such as the basin area (SLUG DOSE) or continuously. Badly fouled systems can be shock treated. Under these conditions, blowdown should be discontinued for up to 24 hours.

UCARCIDE 14 Antimicrobial can be used in industrial process water systems and non-medical reverse osmosis membranes (where approved manufacturer) and associated distribution systems.

#### INTERMITTENT (SLUG DOSE) METHOD

**Initial Dose:** When the system is noticeably fouled, apply 4.2 lb UCARCIDE 14 Antimicrobial per 100 gallons of water in the system. Repeat until control is achieved.

**Subsequent Dose:** When microbial control is evident, add 1.7 lb UCARCIDE 14 Antimicrobial per 100 gallons of water in the system weekly, or as needed. Badly fouled systems must be cleaned before treatment is begun.

#### CONTINUOUS FEED METHOD

**Initial Dose:** When the system is noticeably fouled, apply 4.2 lb UCARCIDE 14 Antimicrobial per 100 gallons of water in the system.

**Subsequent Dose:** Maintain this treatment level by starting a continuous feed of UCARCIDE 14 Antimicrobial per 100 gallons of water in the system per cent. Badly fouled systems must be cleaned before treatment is begun.

#### SERVICE WATER AND AUXILIARY

UCARCIDE 14 Antimicrobial should be used at the same application rate described above. It should be added to the system at a point that will allow for adequate mixing.

#### HEAT TRANSFER SYSTEM

(Evaporative Condensers, Dairy Sweetwater Systems, Hydrotreaters, and Pasteurizers and Warmers)

UCARCIDE 14 Antimicrobial should be used at the same application rate described above. It should be added to the system at a point of uniform mixing such as the digester. Add 20 to 96 fluid ounces (1.25 to 6.0 UCARCIDE 14 Antimicrobial per 1000 gallons of wastewater or sludge).

#### INDUSTRIAL WASTEWATER SYSTEMS

(Wastewater Systems, Wastewater Sludge and Wastewater Treatment Systems)

UCARCIDE 14 Antimicrobial should be added to a wastewater system at uniform mixing such as the digester. Add 20 to 96 fluid ounces (1.25 to 6.0 UCARCIDE 14 Antimicrobial per 1000 gallons of wastewater or sludge).

#### PAPER MILLS AND PAPER MILL PROCESS

UCARCIDE 14 Antimicrobial should be added to a paper making system at uniform mixing such as the thin or thick stock chest, save-all tank, process tank or white-water tank.

**Initial Treatment:** When the system is noticeably contaminated, add UCARCIDE 14 Antimicrobial per ton or 0.76 to 4.5 Kg of UCARCIDE 14 Antimicrobial (basis) as a continuous or slug dose. Repeat until control is achieved. Flush out prior to initial treatment.

**Subsequent Dose:** When microbial control is evident, add 0.9 to 6.0 lb UCARCIDE 14 Antimicrobial per 1000 gallons of water in the system to maintain control.

#### WATER BASED COATINGS, PIGMENT SLURRIES FOR PAPER AND PAPERBOARD

NOTE: For use in non-food contact coatings only.  
Add 0.3 to 1.8 lbs of UCARCIDE 14 Antimicrobial per 1,000 lbs dry weight of Antimicrobial per metric ton of dry slurry to produce a concentration of slurry solids in the mixed slurry.

#### WATER FLOODS

UCARCIDE 14 Antimicrobial should be added to a water flood system at uniform mixing such as the thin or thick stock chest, save-all tank, process tank or white-water tank.

**Initial Treatment:** When the system is noticeably contaminated, add UCARCIDE 14 Antimicrobial per 100 barrels of fluid to a freshly prepared fluid depending on the degree of contamination. Repeat until control is achieved.

**Subsequent Dose:** When microbial control is evident, add 60 to 150 (0.06 to 14.5 gallons UCARCIDE 14 Antimicrobial per 1,000 gallons fluid) needed to maintain control.

#### FRAC FLUIDS

UCARCIDE 14 Antimicrobial reduces bacterial contamination and is used in oil and gas well stimulations. Add UCARCIDE 14 Antimicrobial directly into the well head injection pipeline as the water is being pumped. Dose Range: UCARCIDE 14 Antimicrobial should be added at a rate of 10 to 100 gallons per 10,000 gallons depending on the degree of bacterial fouling.

#### DRILLING, COMPLETION, AND WORKOVER

UCARCIDE 14 Antimicrobial should be added to a drilling fluid system circulating mud tank.

**Initial Treatment:** Add 150 to 3,000 ppm UCARCIDE 14 Antimicrobial (Antimicrobial per 100 barrels of fluid) to a freshly prepared fluid depending on the degree of contamination.

**Maintenance Dosage:** Maintain a concentration of 150 to 3,000 ppm UCARCIDE 14 Antimicrobial per 100 barrels of fluid to maintain control.

#### PACKER FLUIDS

UCARCIDE 14 Antimicrobial should be added to a packer fluid at a point of uniform mixing such as the thin or thick stock chest, save-all tank, process tank or white-water tank. Add 150 to 1,800 ppm UCARCIDE 14 Antimicrobial (Antimicrobial per 100 barrels of fluid) to a freshly prepared fluid depending on the degree of contamination.

#### OIL AND GAS PRODUCTION AND TRANSMISSION

UCARCIDE 14 Antimicrobial should be added to an oil/gas production system at uniform mixing such as the thin or thick stock chest, save-all tank, process tank or white-water tank. The application should be conducted to ensure maximum antimicrobial throughout the entire internal pipeline surface by adding UCARCIDE 14 Antimicrobial at a residual concentration at the back end of the pipeline. The treatment will be a reduction in bacterial counts and/or reduced concentration of UCARCIDE 14 Antimicrobial with an increase in water use. The concentration in the solvent should not fall below an activity level of 150 ppm based on the volume of water in the pipeline. Injections to maintain control.

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## DIRECTIONS FOR USE

Application of Federal Law to use this product in a manner inconsistent with its labeling.

### AIR WASHERS AND INDUSTRIAL SCRUBBING SYSTEMS/ RECIRCULATING COOLING AND PROCESS WATER SYSTEMS

Product may be used only in industrial air washers and air washer systems which have mist-eliminating vents.

UCARCIDE 14 Antimicrobial should be added at the application rates described below to a water treatment at a convenient point of uniform mixing such as the basin area. Addition may be made intermittently (DOSE) or continuously. Badly fouled systems can be shock treated with UCARCIDE 14 Antimicrobial. These conditions, blowdown should be discontinued for up to 24 hours.

UCARCIDE 14 Antimicrobial can be used in industrial process water systems that contain ultra filtration units or membrane reverse osmosis membranes (where approved for compatibility by the membrane manufacturer) and associated distribution systems.

#### INTERMITTENT (SLUG DOSE) METHOD

**Dose:** When the system is noticeably fouled, apply 4.2 to 8.5 fluid ounces of UCARCIDE 14 Antimicrobial per 100 gallons of water in the system. Repeat until control is achieved.

**Frequency Dose:** When microbial control is evident, add 1.7 to 4.2 fluid ounces of UCARCIDE 14 Antimicrobial per 100 gallons of water in the system weekly, or as needed to maintain control.

Fouled systems must be cleaned before treatment is begun.

#### CONTINUOUS FEED METHOD

**Dose:** When the system is noticeably fouled, apply 4.2 to 8.5 fluid ounces of UCARCIDE 14 Antimicrobial per 100 gallons of water in the system.

**Frequency Dose:** Maintain this treatment level by starting a continuous feed of 0.8 to 4.2 fluid ounces of UCARCIDE 14 Antimicrobial per 100 gallons of water in the system per day.

Fouled systems must be cleaned before treatment is begun.

### SERVICE WATER AND AUXILIARY SYSTEMS

UCARCIDE 14 Antimicrobial 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)

UCARCIDE 14 Antimicrobial 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 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)

UCARCIDE 14 Antimicrobial should be added to a wastewater system or sludge at a convenient point of mixing such as the digester. Add 20 to 96 fluid ounces (1.25 pints to 3 quarts) (1,600 to 7,600 ppm) UCARCIDE 14 Antimicrobial per 1000 gallons of wastewater or sludge.

### PAPER MILLS AND PAPER MILL PROCESS WATER SYSTEMS

UCARCIDE 14 Antimicrobial should be added to a paper making system at a point of uniform mixing such as or thick stock chest, save-all tank, process tank or white-water tank.

**Treatment:** When the system is noticeably contaminated, add 1.5 to 9.0 lb of UCARCIDE 14 Antimicrobial per ton or 0.76 to 4.5 Kg of UCARCIDE 14 Antimicrobial per metric ton of pulp or paper (dry basis) as a continuous or slug dose. Repeat until control is achieved. Heavily fouled systems should be boiled or treated to initial treatment.

**Frequency Dose:** When microbial control is evident, add 0.9 to 6.0 lb of UCARCIDE 14 Antimicrobial per ton to 3.0 kg of UCARCIDE 14 Antimicrobial per metric ton of pulp or paper (dry basis) as necessary to maintain control.

### WATER BASED COATINGS, PIGMENTS AND FILLER SLURRIES FOR PAPER AND PAPERBOARD

For use in non-food contact coatings only.

3 to 1.8 lbs of UCARCIDE 14 Antimicrobial per 1,000 lbs dry powder or 0.3 to 1.8 Kg UCARCIDE 14 Antimicrobial per metric ton of dry slurry to produce a concentration of 300 to 1800 ppm as product (based on solids) in the mixed slurry.

#### WATER FLOODS

UCARCIDE 14 Antimicrobial should be added to a water flood system at a point of uniform mixing.

**Treatment:** When the system is noticeably contaminated, add 300 to 15,000 ppm UCARCIDE 14 Antimicrobial to the system (0.3 to 14.5 gallons UCARCIDE 14 Antimicrobial per 1,000 gallons flood water), until control is achieved.

**Frequency Dose:** When microbial control is evident, add 60 to 15,000 ppm UCARCIDE 14 Antimicrobial to 14.5 gallons UCARCIDE 14 Antimicrobial per 1,000 gallons flood water) to the system weekly, or as needed to maintain control.

#### FRAC FLUIDS

UCARCIDE 14 Antimicrobial reduces bacterial contamination and degradation of fracturing fluids and gels and oil and gas well stimulations. Add UCARCIDE 14 Antimicrobial to the frac water storage tanks or into the well head injection pipeline as the water is being pumped down-hole.

Range: UCARCIDE 14 Antimicrobial should be added at a rate of 360 to 17,900 ppm (3.5 - 172.5 per 10,000 gallons) depending on the degree of bacterial fouling in the source water.

### DRILLING, COMPLETION, AND WORKOVER FLUIDS

UCARCIDE 14 Antimicrobial should be added to a drilling fluid system at a point of uniform mixing such as the mud tank.

**Treatment:** Add 150 to 3,000 ppm UCARCIDE 14 Antimicrobial (0.6 to 12.2 gallons UCARCIDE 14 Antimicrobial per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination.

**Frequency Dosage:** Maintain a concentration of 150 to 3,000 ppm UCARCIDE 14 Antimicrobial by adding 2.2 gallons of UCARCIDE 14 Antimicrobial per 100 barrels of additional fluid, or as needed, depending on severity of contamination.

#### PACKER FLUIDS

UCARCIDE 14 Antimicrobial should be added to a packer fluid at a point of uniform mixing such as a circulating tank. Add 150 to 1,800 ppm UCARCIDE 14 Antimicrobial (0.6 to 7.3 gallons UCARCIDE 14 Antimicrobial per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination. Seal the packer fluid in the wall between the casing and production tube.

### OIL AND GAS PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS

UCARCIDE 14 Antimicrobial should be added to an oil/gas production or transmission line via direct injection. The application should be conducted to ensure maximum distribution of UCARCIDE 14 Antimicrobial throughout the entire internal pipeline surface by adding a sufficient amount of biocide to measure a residual concentration at the back end of the pipeline system. Criteria for success of the treatment will be a reduction in bacterial counts and/or reduced corrosion rates. To facilitate application, it is desirable to dilute the UCARCIDE 14 Antimicrobial with an appropriate solvent immediately before use. The concentration in the solvent should not fall below an active concentration range of 500 to 5000 ppm based on the volume of water in the pipeline. 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 UCARCIDE 14 Antimicrobial to produce a concentration of 1,500 to 15,000 ppm UCARCIDE 14 Antimicrobial when diluted by the water present in the formation. Injection should take place before gas is injected (during the summer). Injections should be repeated yearly, or as needed to maintain control.

Individual drips should be treated with a sufficient quantity of UCARCIDE 14 Antimicrobial to produce a concentration of 600 to 6,000 ppm UCARCIDE 14 Antimicrobial when diluted by the water present in the drip. Injections should be repeated yearly, or as needed to maintain control.

#### HYDROTESTING

Water used to hydrotest pipelines or vessels should contain 300 to 12,000 ppm UCARCIDE 14 Antimicrobial (0.3 to 11.6 gallons UCARCIDE 14 Antimicrobial per 1,000 gallons water), depending on water quality and length of time the equipment will remain idle.

### PIPELINE PIGGING AND SCRAPING OPERATIONS

Add UCARCIDE 14 Antimicrobial 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 UCARCIDE 14 Antimicrobial per slug should be added to produce a concentration of 0.3 to 3.0% (0.3 to 2.9 gallons UCARCIDE 14 Antimicrobial per 100 gallons water), depending on the length of the pipeline and the severity of biofouling.

### SANITIZING NON-FOOD CONTACT SURFACES, FARM, ANIMAL, AND POULTRY HOUSING FACILITIES AND EQUIPMENT

**\*Not for use in the state of California**

**DO NOT USE THIS PRODUCT ON FOOD OR FEED**

UCARCIDE 14 Antimicrobial is suitable for use on a wide variety of surfaces including stainless steel, aluminum, painted concrete, plastic, glazed tile.

Product Dilution:

To sanitize vegetative pathogens (including *Klebsiella pneumoniae*, *Salmonella choleraesuis*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa*) and viruses (including *Infectious bursal disease*, *Avian influenza (H6N2)* and *H5N1*), *SARS Associated Coronavirus*, *Porcine circovirus* and fungus (including *Aspergillus fumigatus*):

1. Remove filth and soil deposits from surfaces prior to treatment. Pre-clean surfaces with a suitable detergent and rinse with water.
2. Thoroughly saturate all surfaces using a mop or by spraying with a solution prepared by mixing 0.45 to 1.8 fluid ounces of UCARCIDE 14 Antimicrobial per gallon of water (3.5 to 14.1 milliliters per liter) to produce a solution containing 0.06% to 0.24% active ingredient. For application against *Porcine circovirus* mix 0.9 to 2.2 fluid ounces of UCARCIDE 14 Antimicrobial per gallon of water (6.9 to 17.3 milliliters per liter) to produce a solution containing 0.1 to 0.25% active glutaraldehyde ingredient.
3. Immerse all halters, ropes, and other types of equipment used in handling and restraining animals, as well as forks, shovels, and scraper used for removing litter and manure.
4. Allow to stand for at least 5 minutes, or until thoroughly dried.
5. Ventilate thoroughly before reuse.
6. Fresh solution should be prepared daily or more often if the solution becomes diluted or soiled.

#### Farm Equipment and Animal Housing Buildings

(poultry & turkey grow-out houses, laying houses, swine production and housing, barns and large animal buildings)

Before applying UCARCIDE 14 Antimicrobial:

1. Remove all poultry and other animals and feed from the premises. Remove all portable equipment and empty all feeders and water troughs. If not removed, all treated feeders and waterers must be thoroughly rinsed with potable water prior to re-use.
2. Remove all litter and manure from floors and other surfaces. If litter is not removed, allow to stand after treatment with UCARCIDE 14 Antimicrobial for at least ten minutes before repopulation.
3. Using suitable commercially available equipment, saturate all surfaces with diluted UCARCIDE 14 Antimicrobial (see Product Dilution, above).
4. Allow to stand for at least 5 minutes, or for longer depending on the organisms being treated (see Product Dilution, above).
5. Ventilate enclosed spaces.
6. Do not repopulate with poultry or other animals, or use equipment until treatment has been absorbed or dried.

#### Hatcheries, Setters, and Chick Processing Facilities

1. General sanitizing of environmental surfaces prior to introduction of eggs: Remove all animals from the area. Clean out feathers, fluff, or other debris. Thoroughly saturate all surfaces with a solution prepared by mixing the appropriate amount (see Product Dilution, above) of UCARCIDE 14 Antimicrobial with water. Allow to stand for at least 5 minutes, or for longer depending on the organisms being treated. (See Product Dilution, above.) Ventilate thoroughly before reuse.

2. Treatment of air and surfaces after introduction of eggs in high humidity hatcheries and setters with water spray cooling: Prepare a solution by mixing the appropriate amount of UCARCIDE 14 Antimicrobial with water. Allow to stand for at least 5 minutes, or for longer depending on the organisms being treated. (See Product Dilution, above.) Fog or atomize this solution into setters or hatcheries, using appropriate application equipment.

Treatment of air and surfaces after introduction of eggs in low humidity hatcheries with chilled coil cooling: Fog or atomize this product using appropriate application equipment.

#### Trays, Racks, Carts, Chick Boxes, Cages, and other Hard Surfaces:

Remove all filth and heavy debris from surfaces by scraping or washing. Prepare a solution by mixing the appropriate amount (see Product Dilution, above) of UCARCIDE 14 Antimicrobial with water. Apply by spraying or immersion, and allow to drain and air dry. Allow to stand for at least 5 minutes, or for longer depending on the organisms being treated. (See Product Dilution, above.)

#### Trucks and other Vehicles

Remove all filth and heavy debris from surfaces by scraping or washing. Spray surfaces with a solution prepared by mixing the appropriate amount (see Product Dilution, above) of UCARCIDE 14 Antimicrobial with water. Allow to stand for at least 5 minutes, or for longer depending on the organisms being treated.

#### Egg Sanitization

(for treating hatching eggs only)

Prepare a solution by mixing one fluid ounce of UCARCIDE 14 Antimicrobial with one gallon of water. Place in a bath at 105° to 115°F (40° to 45°C). Place freshly laid eggs in plastic trays and dip briefly (10 to 15 seconds), then allow to drain and air-dry.

### SANITIZING NON-FOOD CONTACT SURFACES, INDUSTRIAL EQUIPMENT AND BUILDINGS

**\*Not for use in the state of California**

Before applying UCARCIDE 14 Antimicrobial, remove heavy filth and soil deposits from surfaces using a suitable cleaner. Dilute UCARCIDE 14 Antimicrobial to 0.06% to 0.24% active ingredient by mixing 0.45 to 1.8 fluid ounces of UCARCIDE 14 Antimicrobial per gallon of water (3.5 to 14.1 milliliters per liter). Using suitable commercially available equipment, saturate all surfaces with diluted UCARCIDE 14 Antimicrobial. Allow to stand for at least 5 minutes, or for longer time depending on the organisms being treated. (See Product Dilution, above.) Ventilate enclosed spaces.

EPA Letter Dated:

DEC 23 2008

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide, registered under EPA Reg. No. 464-700