# TOLCIDE® PS20A
**INDUSTRIAL ANTIMICROBIAL**

## ACTIVE INGREDIENT:
Tetrakis(hydroxymethyl) phosphonium sulfate ........................................ 20%

## OTHER INGREDIENTS:
.............................................................. 60%

## TOTAL:
.............................................................. 100%

EPA Reg. No. 4564-18
EPA Est. □ 89347-TX-1 □ 81448-TX-1 □ 81448-TX-2 □ 81448-TX-3 □ 81448-WV-1

## PRECAUTIONARY STATEMENTS

### HAZARD TO HUMANS AND DOMESTIC ANIMALS

**DANGER:** Corrosive. Causes irreversible eye damage. May be fatal if swallowed. Harmful if inhaled. Harmful if absorbed through skin. Do not get in eyes, on skin or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid breathing vapor or spray. Wear long-sleeved shirt and pants or coveralls, goggles or face shield and chemical-resistant gloves when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

### ENVIRONMENTAL HAZARDS

This product 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.

## KEEP OUT OF REACH OF CHILDREN

## DANGER

### FIRST AID

**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 for further treatment advice.

**If on skin or clothing:**
- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information call the National Pesticide Information Center at 1-800-858-7378, 7:30 AM to 3:30 PM Pacific Time (PT), Mon. – Fri. During other times, call the poison control center at 1-800-222-1222.

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

In case of emergency, call CHEMTREC at 1-800-424-9300

## 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 a spill, flood the area with large quantities of water.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinseate 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 AND DISPOSAL:** Nonrefillable container [5 gallons or less]. Do not reuse or refill this container.

- **STORAGE:** Store in a cool, dry area.
- **DISPOSAL:** Refer to the specific end use instructions.

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**CONTAINER HANDLING AND DISPOSAL:** Nonrefillable container [greater than 5 gallons]. Do not reuse or refill this container.

- **STORAGE:** Store in a cool, dry area away from direct sunlight and heat to avoid deterioration. In case of a spill, flood the area with large quantities of water.
- **DISPOSAL:** Refer to the specific end use instructions.

**CONTAINER HANDLING AND DISPOSAL:** Refillable container. Refill this container with Tri-P6 only.

- **STORAGE:** Store in a cool, dry area away from direct sunlight and heat to avoid deterioration. In case of a spill, flood the area with large quantities of water.
- **DISPOSAL:** Refer to the specific end use instructions.

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DIRECTIONS FOR USE
It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Not for use in paint.

INDUSTRIAL AND/OR COMMERCIAL RECIRCULATING COOLING WATER SYSTEMS (for control of bacteria, fungi and algae) [Not for Use in California]

Note: For cooling water systems of equal to or greater than 4,000 gallons, do not apply by open pouring of liquid to cooling water systems; a metering pump delivery system is required for this use and application method.

Initial Slug Dose: Add 200-1312.5 ppm of TOLCIDE® PS20A (4-62.5 ppm THPS) for 2-6 hours based on total water volume. Repeat until control is obtained. Thereafter, add either Intermittently 131-252 ppm of TOLCIDE® PS20A (25-505 ppm THPS) or Continuously 70-245 ppm of TOLCIDE® PS20A (14-49 ppm THPS) per day. Daily systems must be divided into separate units for treatment.

HEAT TRANSFER SYSTEMS (Evaporative Condensers, Dairy Sweetwater Systems, Hydrostatic Sterilizers and Retorts, Brewery and Other Pasteurizers, and Warmers)
Add TOLCIDE® PS20A 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.

SERVICE WATER AND AUXILIARY SYSTEMS
TOLCIDE® PS20A should be added to service water and auxiliary systems at the same application rates 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.

AIR WASHER SYSTEMS (for control of bacteria and fungi) [Not for Use in California]
TOLCIDE® PS20A may be used only in air washer systems which have mist eliminators components. Pre-clean the system with detergent and rinse the air washer to run with fan on for four hours. Flush and check nozzles. Manually cleaning as necessary. Add 131-252 ppm of TOLCIDE® PS20A (25-505 ppm THPS) at a point where uniform mixing and even distribution will occur. Repeat as necessary to maintain control.

PAPER AND PAPERBOARD MANUFACTURING (for control of bacteria, fungi and algae)
Add TOLCIDE® PS20A as a slip agent in the manufacture of paper and paperboard products and adhesives that do not contact food.
Dosing: Add 70-245 ppm of TOLCIDE® PS20A (14-49 ppm THPS) based on total water volume or an equivalent based on dry weight of paper produced. Continuous Dosing: Add 70-245 ppm of TOLCIDE® PS20A (14-49 ppm THPS) based on total water volume or an equivalent based on dry weight of paper produced.
For use as a preservative to retard microbial growth in water-based coatings, starches, pigments and filler slurries.
Do not use in paper and paperboard adhesives that will contact food. [Not for Use in California]

The treatment rate necessary to retard spoilage of the adhesive will vary with the extent of contamination of make-up water and the length of storage. Dosing: Apply from 875-2500 ppm of TOLCIDE® PS20A (173-500 ppm THPS) to the adhesive to be preserved based on total weight of the adhesive water.

INDUSTRIAL FRESH WATER SYSTEMS (Not for Use in California)
Do not use in fresh water used in the manufacture of paper and paperboard products that may contact food.
TOLCIDE® PS20A is effective in controlling algae in holding ponds and in controlling bacteria and fungi in holding and processing tanks of industrial fresh water systems supplying water to pulp and paper mills, textile mills, and other manufacturing plants in pulp and paper mills. Treatment of the fresh water with TOLCIDE® PS20A can make an important contribution to slime control. The use of TOLCIDE® PS20A as described will reduce the development of slime in fresh water pipes and other equipment, and on the pulp and paper mill machine parts contacted by fresh water. For the control of algae in industrial fresh water systems, TOLCIDE® PS20A should be added to provide a concentration of 0.5-5.0 ppm of product (0.5-10 ppm THPS). Treatment should be based on the amount of water entering a point or reservoir or leaving the point or reservoir and entering the immediate processing operations. While treatment can be made continuously, regular slug dosing treatment will provide adequate control.

SOLUTIONS/EMLUTIONS
Not for use in manufacture of paper and paperboard products and adhesives that may come in contact with food. For the preservation of solutions, emulsions, solutions, adhesives and other aqueous liquid products, the addition of 0.05% to 0.075% of TOLCIDE® PS20A (0.015 to 0.0225% THPS) is effective. Add at a point in the processing system where there will be sufficient time and agitation for good mixing and dispersion. The exact amount of TOLCIDE® PS20A to be added for the preservation of given formulations will depend on the components as well as local storage time and temperature.

MACROFLOUS CONTROL [Not for Use in California]
TOLCIDE® PS20A should be added continuously to maintain a level of 20 ppm active ingredient (THPS) in the system for a period of at least 96 hours. Initial Dose: When macrofouling is present in the system, apply 100 ppm of TOLCIDE® PS20A (20 ppm THPS) based on total water volume. Continue to add TOLCIDE® PS20A as needed to maintain the 20 ppm active ingredient (THPS) level for a period of at least 96 hours.

INDUSTRIAL WASTEWATER SYSTEMS (Wastewater Systems, Wastewater Sludge and Wastewater Holding Tanks) [Not for Use in California]
TOLCIDE® PS20A should be added to a wastewater system or sludge at a convenient point of uniform mixing such as digester.
Sludge Dosing: Add 200-1312.5 ppm of TOLCIDE® PS20A (4-62.5 ppm THPS) per 1,000 gallons of wastewater or sludge. Continuous Dosing: Add 5-100 ppm of TOLCIDE® PS20A (1-20 ppm THPS) per 1,000 gallons of wastewater or sludge.

FIRE PROTECTION SYSTEMS
TOLCIDE® PS20A is effective at controlling microbial growth in water and on pipe surfaces in fire protection systems. Such microbial growth when combined with other forms of corrosion can lead to accelerated corrosion rates and pit corrosion.
TOLCIDE® PS20A is also microbiologically inhibited. TOLCIDE® PS20A also helps to remove free calcium from the water, thus eliminating an important nutrient for bacteria and an important reactant in many corrosion reactions.
TOLCIDE® PS20A should be added to a fire protection system using a chemical metering pump capable of variable pump rate. TOLCIDE® PS20A should be injected at a point, such as a riser, manifold or makeup feed water line, with uniform mixing and distribution will occur. Add 375-1500 ppm of TOLCIDE® PS20A (75-300 ppm THPS) depending on severity of microbial contamination in the system. Repeat as needed.

OIL FIELD AND PETROCHEMICAL OPERATIONS
TOLCIDE® PS20A is effective in controlling the bacterial growth in sludge reducing bacteria, general aerobic bacteria, including microorganisms that contribute to bioburden formation in oil field recovery, processing and distribution applications and supporting systems; such as injection water, water holding tanks, disposal well water, reconditioning water handling systems, and pipelines. TOLCIDE® PS20A has been shown to dissipate iron sulfide and sewer gas iron when used under these conditions, leading to improved filter life and well injectivity, and reduction of water clarification. TOLCIDE® PS20A is also effective for use in controlling microbial growth in fluids used for drilling and stimulation of oil wells.

Water Floods [Not for Use in California]
TOLCIDE® PS20A should be added to a water flooding system at a point where uniform mixing will occur.
Initial Treatment: For a noticeably loaded system, add 350-1312.5 ppm TOLCIDE® PS20A (70-262.5 ppm THPS). When added to a flowing system, slug dose for 2-6 hours based on water rates. Repeat as necessary until control is achieved. Subsequent Treatment: Once control has been achieved, add 25-367.5 ppm TOLCIDE® PS20A (5-75 ppm THPS) weekly or as needed. When added to a flowing system, slug dose for 2-6 hours based on water rates. Continuous Treatment: TOLCIDE® PS20A can be dosed continuously at a level of 52.5-376 ppm (10.5-75 ppm THPS).

Oil and Gas Production and Transmission Pipelines and Systems
TOLCIDE® PS20A should be added at a point in the pipeline where uniform mixing will occur. The application should be done to ensure maximum distribution of TOLCIDE® PS20A through the entire internal surface of the pipeline by adding an amount of biocide which eventually comes out the other end of the pipeline. Criteria for success of the treatment will be reduction in bacterial count and/or corrosion rates. Slug Dosing: Follow instructions for water flood treatment. Continuous Dosing: TOLCIDE® PS20A can be dosed continuously at a level of 52.5-376 ppm (10.5-75 ppm THPS).

Hydraulic Fracturing [Not for Use in California]
TOLCIDE® PS20A should be added to the frac water storage tanks or directly into the well head injection pipeline as the water is being pumped down-hole. Add 250-1312.5 ppm of TOLCIDE® PS20A (50-262.5 ppm THPS), depending on the degree of bacterial fouling.

Drilling Muds, Packer Fluids, Completion and Workover Fluids
TOLCIDE® PS20A should be added to these fluids at a point where uniform mixing will occur. Add 122.5-5250 ppm of TOLCIDE® PS20A (25-1050 ppm THPS) to a freshly prepared fluid depending on severity of contamination.

Gas Storage Well and Systems [Not for Use in California]
Individual injection wells should be treated with TOLCIDE® PS20A at the same application rates, and in the same manner as described under Water Floods. Injections should be repeated as needed to maintain control. Individual dikes should be treated with a sufficient quantity of TOLCIDE® PS20A to produce a concentration of 125-500 ppm of TOLCIDE® PS20A (25-100 ppm THPS) when diluted by the water present in the dike. Injections should be repeated as needed to maintain control.

Well Remediation Operations [Not for Use in California]
Individual production or injection wells may be backflushed with TOLCIDE® PS20A to control bacteria and simultaneously decrease iron sulfide deposits. TOLCIDE® PS20A will be pumped into the well as a solution in water containing from 50 to 100% TOLCIDE® PS20A (10-30% THPS). The well is shut-in for a period of time (at least 6 hours) then put back into operation.

Hydrofiltering
Water used to hydrofilter pipelines or reservoirs should contain 250-2500 ppm TOLCIDE® PS20A (50-500 ppm THPS), depending on water quality and length of time the equipment will remain idle.

Pipe Line Pigging and Scraper Operation
Add TOLCIDE® PS20A 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 product should be added to produce a concentration of 0.025% to 0.25% (0.5-25 ppm THPS) in the water at the discharge point or pig trap, depending on the length of the pipeline and the severity of the biofouling.