TOLCIDE® 4FRAC 20A
INDUSTRIAL ANTIMICROBIAL

ACTIVE INGREDIENT:
Hydromethyldimethyl phosphonium sulfide ........................................ 20%
OTHER INGREDIENTS: ................................................................. 80%

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

EPA Reg. No. 4564-18
EPA Est. 85447-TX-1 81448-TX-1 81448-TX-2 81448-TX-3 81448-TV-1

KEEP OUT OF REACH OF CHILDREN

DANGER

If in eye: .......................................................... Hold eye open and rinse slowly with water for 15-20 minutes.
• Remove contact lenses, if present, after the last 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 quart 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: .......................................................... Remove person from breathing irritant if possible.
• 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.

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 Poison Information Center at 1-800-658-1001 or 711 (TTY).

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

Manufactured for:
SOLVAY USA INC.
8 Cedar Brook Drive • CN 7500
Cranbury, NJ 08512-7500 • 609-899-4000
Active ingredients produced in the United Kingdom and/or China

NET CONTENTS: 210 Gallons

Note: To the extent consistent with applicable law, seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. To the extent consistent with applicable law, buyer assumes all risk of use and handling of this material, when such use and handling is contrary to label directions.

TOLCIDE® is a registered trademark of Solvay Solutions UK Limited.

PRECAUTIONARY STATEMENTS

HAZARD TO HUMANS AND DOMESTIC ANIMALS

DANGER: Corrosive. Causes irreversible eye damage. May be fatal if inhaled. Harmful if absorbed through skin. Do not get in eyes, on skin, or clothing. Prolonged or frequent repeated skin contact may cause allergic reactions in some individuals. Avoid breathing vapor or spray. Wear long sleeved shirt and pants or coverall, 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.

ENVIROLONAL HAZARDS

This product is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, seacoves, oceans or other waters unless in accordance with the requirements of a National Pollution 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 waste 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 DISPOSAL

Do not contain water, load or lead 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, syrup mixture, or insecticide is a violation of Federal Law. 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 (2 gallons or less). Do not re-use or refill this container. Offer for recycling or reconditioning if appropriate. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour into application equipment or a mix tank or store rinsale for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank or collect rinsale for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

CONTAINER HANDLING AND DISPOSAL: Nonrefillable container (greater than 5 gallons). Do not re-use or refill this container. Offer for recycling or reconditioning if appropriate. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten the cap. Use 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 it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the residue into application equipment or a mix tank or store rinsale for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsale for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

CONTAINER HANDLING AND DISPOSAL: Refillable container. Refill the container with TIPS only. Do not re-use this container for any other purpose. Pressure rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. Pressure rinse the container for disposal as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsale for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.
**DIRECTIONS FOR USE**

**INDUSTRIAL AND COMMERCIAL, RECYCLING COOLING WATER SYSTEMS** (for control of bacteria, fungi and algae)

For: Cooling water systems 0f equivalents to 450 gallons, do not apply by open spraying of liquid to cooling water systems; a recirculating [tilly [system is required for this use and application method.

Initial Dosing: Add 200-1,012.5 ppm of TOLCIDE® 4FRAC 20A (0.02-5 ppm THPS) for 24 hours based on total water volume. Repeat until control is obtained. Thereafter, add either intermittently 150-250 ppm of TOLCIDE® 4FRAC 20A (0.07-0.49 ppm THPS) or Continuously 24-72 ppm TOLCIDE® 4FRAC 20A (0.02 ppm THPS). Dry systems shall be treated prior to treatment.

**HEAT TRANSFER SYSTEMS** (Cooperative Conditions, Daily Temperature Systems, Hydrocarbon Systems and Sulfites, Dyeing and Other Processes, and Scottish)**

Add TOLCIDE® 4FRAC 20A 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, spiral area, or other reservoir or collecting area from which the treated water will be circulated uniformly throughout the system.

**SERVICED AND AUXILIARY SYSTEMS** (for use in California)

TOLCIDE® 4FRAC 20A should be added to service water and auxiliary systems of 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, spiral area, or other reservoir or collecting area from which the treated water will be circulated uniformly throughout the system.

**AIR WASHING SYSTEMS** (for control of bacteria, fungi and algae)

For: Air as a stimulus in the manufacture of paper and paperboard products and adhesives that do not contact food.

Dosing: Add TOLCIDE® 4FRAC 20A to be made at a point in the system where mixing water is good, e.g. a swirl flow, downflow, or a point where other water is added. Add intermittently or continuously depending on need conditions. Initial Dosing: Add 150-1,150 ppm of TOLCIDE® 4FRAC 20A (0.05-7.6 ppm THPS) at a point where uniform mixing and even distribution will occur. Repeat as needed to maintain control.

**PAPER AND PAPERBOARD MANUFACTURING** (for control of bacteria, fungi and algae)

For: As an aeration stimulant in the manufacture of paper and paperboard products and adhesives that do not contact food.

Dosing: Add TOLCIDE® 4FRAC 20A 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, spiral area, or other reservoir or collecting area from which the treated water will be circulated uniformly throughout the system.

**INDUSTRIAL WATER SYSTEMS** (for use in California)

TOLCIDE® 4FRAC 20A should be added to a water treatment section or skid at a convenient point of uniform mixing such as a digester. Initial Dosing: Add 200-1,012.5 ppm of TOLCIDE® 4FRAC 20A (0.02-5 ppm THPS) per 1,000 gallons of treated water to the digester. Continuous Dosing: Add 20-250 ppm of TOLCIDE® 4FRAC 20A (0.01-0.49 ppm THPS) per 1,000 gallons of wastewater or digester.

**FIRE PROTECTION SYSTEMS**

TOLCIDE® 4FRAC 20A is effective in controlling microbial growth in waters and pipe surfaces in fire protection systems. Such microbial growth when combined with other forms of corrosion can lead to accelerated corrosion and pipe failure, consequently is referred to as microbiologically influenced corrosion. TOLCIDE® 4FRAC 20A also helps to remove free iron from the water, thus alleviating an important nutrient for bacteria and as reported results in many corrosion problems.

TOLCIDE® 4FRAC 20A should be added to a fire protection system using a chemical metering pump capable of retaining pump rate. TOLCIDE® 4FRAC 20A should be injected at a point, such as a meter, manifold, or makeup water well, where uniform mixing and dilution will occur. Add 375-1,500 ppm of TOLCIDE® 4FRAC 20A (25-100 ppm THPS), depending on severity of chemical control in the system. Repeat as needed.

**OIL, FIELD AND PetroCHEMICAL OPERATIONS**

TOLCIDE® 4FRAC 20A is effective in controlling sulfide bacteria, general anaerobic bacteria, including microorganisms that contribute to bacterial formation in oil field systems, processing and distribution applications and supporting system, such as injection water, oil field testing, disposal well water, recirculating water systems, and pipelines. TOLCIDE® 4FRAC 20A has been shown to alleviate iron sulfide and acetic acid iron when used under these conditions, leading to improved life and well integrity, and reduction of hydrogen sulfide. TOLCIDE® 4FRAC 20A is also effective in controlling microbial growth in fluids used for drilling and injection of oil wells.

**Water Fails** (For use in California)

TOLCIDE® 4FRAC 20A should be added to a water flood system at a point where uniform mixing will occur.

Initial Dosing: For a turbidity limited system, add 200-1,012.5 ppm of TOLCIDE® 4FRAC 20A (0.02-5 ppm THPS) per 1,000 gallons of water. When added to a sloughing system, add 200-1,012.5 ppm of TOLCIDE® 4FRAC 20A (0.02-5 ppm THPS) per 1,000 gallons of water. Repeat as necessary until control is obtained. Subsequent Dosing: Once control has been achieved, add 25-375 ppm of TOLCIDE® 4FRAC 20A (0.01-0.75 ppm THPS) weekly or as needed to maintain control. When added to a sloughing system, add 25-375 ppm of TOLCIDE® 4FRAC 20A (0.01-0.75 ppm THPS) per 1,000 gallons of water. Repeat as necessary until control is obtained.

**Oils and Gas Production and Transportation**

TOLCIDE® 4FRAC 20A should be added to a point in the pipeline where uniform mixing will occur. The application should be conducted in serious maximum distribution of TOLCIDE® 4FRAC 20A through the entire internal surface of the pipeline by adding an amount of blend water which evenly mines the entire internal surface of the pipeline. Control for success of the treatment will be reduction in bacterial and hydrogen sulfide content. Dosing: Follow procedures for water treatment. Control Dosing: TOLCIDE® 4FRAC 20A can be dosed continuously at a rate of 25-100 ppm (0.5-2 ppm THPS).

**Hydrosulfite Freezing (For use in California)**

TOLCIDE® 4FRAC 20A should be added to the free zone storage tanks or directly into the well as a stimulus in the water being pumped down hole. Add 150-1,150 ppm of TOLCIDE® 4FRAC 20A (0.05-7.6 ppm THPS) per 1,000 gallons at the beginning of hydraulic treatment in the source water.

**Well Remediation Operations** (For use in California)

Individual injection wells should be treated with TOLCIDE® 4FRAC 20A at the same application rates, and in the same manner as described under Water Fails. Treatment should be repeated as needed to maintain control.

**Production Operations** (For use in California)

Individual production or tie-in water wells may be treated with TOLCIDE® 4FRAC 20A to control bacteria and biofouling and maintain sulfate deposits. TOLCIDE® 4FRAC 20A will be pumped into the well as a stimulus in water containing 25 ppm of THPS. The well will be shut down for a period of time (at least 4 hours) then put back into operation.

**Hydrosulfite Water used to hydrate paper or paperboard should contain 25-100 ppm of TOLCIDE® 4FRAC 20A (0.05-0.19 ppm THPS) depending on water quality and length of time the equipment will remain idle.**

Add TOLCIDE® 4FRAC 20A to strip out any remaining following the stripper (ideally this water can be left in contact with the paper and pig iron, pig iron and preferably not removed. Sulfinol product should be added to produce a concentration of 20-250 ppm 0.05-0.19 ppm THPS) in the water at the discharge point and pig iron, depending on the length of the pipeline and the severity of the treating.**