PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER
CONSUMER CAUSES IRREVERSIBLE EYE DAMAGE
MAY BE FATAL IF SWALLOWED
HARMFUL IF INHALED OR ABSORBED THROUGH SKIN
CAUSES SKIN BURNS
PROLONGED OR FREQUENTLY REPEATED SKIN CONTACT MAY CAUSE ALLERGIC
REACTIONS IN SOME INDIVIDUALS
Do not get in eyes, on skin or on clothing. In case of contact immediately rinse skin with plenty
of water. Get medical attention if irritation persists. Use with adequate ventilation. 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.

PERSONAL PROTECTION EQUIPMENT (PPE):
- Goggles or face shield.
- Chemical-resistant gloves (such as butyl nitrile, butyl rubber, neoprene rubber, nitrile
rubber, polyvinyl chloride (PVC and Vinyl).
- For mixing/loading: Wear a chemical resistant apron.
- For cleaning equipment: Wear a chemical resistant apron.

Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions
exist for washables, use detergent and hot water. Keep and wash PPE separately from
other laundry.

ENVIRONMENTAL HAZARDS
This product is toxic to fish and aquatic organisms. Do not contaminate water by cleaning
equipment or disposal of waste. 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.

CHEMICAL AND PHYSICAL HAZARDS
Reaction with strong reducing agents may be explosive. Avoid mixing

STORAGE AND DISPOSAL
Do not contaminate water bodies with water or storage of disposal.

STORAGE
Store in a dark, cool, dry, well-ventilated area, not above 104°F (40°C). In well-closed
original containers, away from energy sources, combustible organic materials, oxidizers
and moisture.

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 AND DISPOSAL
(For containers 50 pounds or less)
Container Handling: Nonrefillable container. Do not reuse or refill this container. Triple
rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty remaining
contents into application 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 rinse into
application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10
seconds after the flow begins to drip. Repeat this procedure two more times.
Then offer for recycling, if available or reconditioning if appropriate, or puncture and
dispose of in a sanitary landfill or by incineration, or, if allowed by state and local
authorities, by burning. If burned, stay out of smoke.
(For containers greater than 50 pounds)
Container Handling: Nonrefillable container. Do not reuse or refill this container. Triple
rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty remaining
contents into application or a mix tank. Fill the container 1/4 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 it back and forth
several times. Empty rinsate into application equipment or a mix tank or store rinsate for
later use or disposal. Repeat this procedure two more times. Then offer for recycling, if available or reconditioning if appropriate, or puncture and
dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local
authorities, by burning. If burned, stay out of smoke.

SPILLS
When handling or dealing with spills, use impact-resistant gloves with side shields, or face
shield; wear body-covering clothes, including improvised rubber gloves and boots; use a
respirator if misting occurs. Cover wet spills with 10% sodium bicarbonate solution, water
and then an inert absorbent before sweeping up and disposing as described for pesticide
disposal. If drum contents are contaminated or decomposing, isolate unsealed drum in the
open or in a well-ventilated area flood with 10% sodium bicarbonate solution and large
volumes of water if necessary.

KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE TO MAINTAIN PRODUCT QUALITY. STORE IN THE DARK AT TEMPERATURES BELOW 104°F (40°C).
DO NOT SHIP WITH FOOD, FEEDS, DRUGS, OR CLOTHING. DO NOT SMOKE, DRINK, OR EAT WHEN HANDLING.

DIRECTIONS FOR USE
As a violation of Federal Law to use this product in a manner inconsistent with its labeling.
Read entire label and use strictly in accordance with precautionary statements and
directions.

DIRECTIONS FOR TREATING INDUSTRIAL RECIRCULATING COOLING WATER IN
INDUSTRIAL COOLING SYSTEMS
NOTE: Add K - BAC 1020 separately to the system. Do not mix it with other additives, so as
to avoid decompensation of K - BAC 1020 due to the high pH of many additive
formulations. Add K - BAC 1020 to the basin (or any other point of uniform mixing). Addition should be made via a metering pump. It may be continuous or intermittent, depending on the
severity of the contamination when treatment is begun, and the in-system retention time. Optimum performance with this product is achieved by continuous or
intermittent treatment. If "shock" treatment is used, the blow down should be discontinued for 24-48 hours.

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.

Contact a poison center or doctor for treatment advice. If inhaled:
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. Contact a poison control center or doctor for treatment advice.

If on skin or clothing:
Take off contaminated clothing.
Rinse skin immediately with plenty of water for 15-20 minutes. Contact a poison control center or doctor for treatment advice. If swallowed:
Contact 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

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

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

See side panels for additional precautionary statements and first aid.

MANUFACTURED FOR:
WATER SCIENCE TECHNOLOGIES LLC
5520 PARKWOOD CIRCLE
BESSMEER, AL 36022
PHONE: 866-284-8244

Transportation Emergency (Spill) Tel: 800-255-3924 ChemTel
FOR CONTROL OF BACTERIA
Add 0.00095-0.00095 gallon of K - BAC 1020 / 1000 gal. of water in the system depending on the severity of contamination.

INTERMITTENT OR SLUG METHOD
Initial Dosage: When the system is noticeably fouled, add 0.0048-0.0095 gal. of K - BAC 1020 / 1000 gal. of water until control is achieved.

Subsequent Dosages: When microbial control is evident, add 0.0024-0.0065 gal. of K - BAC 1020 / 1000 gal. of water in the system every 4 days, or as needed to maintain control. Bleary fouled systems must be cleaned before treatment is begun.

CONTINUOUS FEED METHOD
Initial Dosage: When the system is noticeably fouled, add 0.0048-0.0095 gal. of K - BAC 1020 / 1000 gal. of water in the system. Maintain this level by pumping a continuous feed of 0.00065-0.0048 gal. of K - BAC 1020 / 1000 gal. of water in the system until control is achieved.

Subsequent Dosages: When microbial control is evident, add 0.0029-0.0095 gal. of K - BAC 1020 / 1000 gal. of water in the system daily, or as needed to maintain control. Bleary fouled systems must be cleaned before treatment is begun.

DIRECTIONS FOR TREATING PULP AND PAPER MILL SYSTEMS
NOTE: Add K - BAC 1020 separately to the system. Do not mix it with other additives, so as to avoid decomposition of K - BAC 1020 due to the high pH of many additive formulations. For the control of slime-forming bacterial, fungal, and yeast growth in pulp, paper and paperboard mills add K - BAC 1020 at levels of 0.15-0.50 lb./ton (dry) of pulp or paper produced. Addition can be continuous or intermittent, depending upon the type of system and the severity of contamination. Addition is via a metering pump at a point in the system that allows uniform distribution of K - BAC 1020. In the mass of fiber and water, such as the beater, Jordan inlet or discharge, broke chests, furnish chests, coater rolls and white water lines. Hydrostatic pressure in the systems must first be bled out, then treated with 0.36 lb. of K - BAC 1020/ton (dry) of paper or pulp as necessary for control. Moderately fouled systems should be treated continuously with 0.35-0.5 lb. of K - BAC 1020 / ton (dry) of paper or pulp. Highly fouled systems should be treated continuously with 0.50-0.8 lb. of K - BAC 1020 / ton (dry) of paper or pulp. Treatment is continued as needed to maintain control. However, contact time at 100°F can be reduced to 0.15-0.25 min. of K - BAC 1020 / ton (dry) of paper on a continuous or intermittent basis depending on the system, in order to prevent breakdown of the system or the paper. Contact times may be increased in the paper machine or be reduced in the case of a paper machine or a clean-up of the paper machine may be achievable.

Slightly fouled systems should be treated continuously with 0.15-0.35 lb. of K - BAC 1020 / ton (dry) of paper or pulp, until the slime is controlled, then added on an intermittent basis to maintain control.

DIRECTIONS FOR TREATING NON-POTABLE REVERSE OSMOSIS SYSTEMS
For controlling bacteria, fungi and algae in non-potable Reverse Osmosis systems and portable equipment, add K - BAC 1020 to the system inlet water or before any other contamination area ahead of the Reverse Osmosis unit. K - BAC 1020 should be added with a metering pump on an intermittent basis depending on the severity of contamination and the guidelines specified by the membrane manufacturer for K - BAC 1020.

Add K - BAC 1020 at rates of 0.05 to 1.0 lb. (1 to 240 ppm) per 1000 gal. of feed water. During use of K - BAC 1020 both permeate and reject waters should be directed to the drain. Once treatment is completed, cleaning with feed water should continue until conductivity values in the permeate are at or below values before treatment with K - BAC 1020. Bleary fouled systems must be cleaned before treatment is begun.

FOR CONTROL OF BACTERIA
Initial Dosage: When the system is noticeably fouled, add K - BAC 1020 at the rate of 0.05 to 0.1 lb. (0.06 to 12 ppm) per 1000 gal. of feed water. Minimum treatment intervals should be 15 minutes. Repeat until control is achieved or as specified by guidelines recommended by the membrane manufacturer.

Subsequent Dosages: When microbial control is evident, add K - BAC 1020 at the rate of 0.055 to 0.1 lb. (0.065 to 12 ppm) per 1000 gal. of feed water as needed to maintain control or as specified by guidelines recommended by the membrane manufacturer.

FOR CONTROL OF Fungi AND ALGAE
Initial Dosage: When the system is noticeably fouled, add K - BAC 1020 at the rate of 0.5 to 1.0 lb. (0.60 to 120 pp) per 1000 gal. of feed water. Minimum treatment intervals should be 15 minutes. Repeat until control is achieved or as specified by guidelines recommended by the membrane manufacturer.

Subsequent Dosages: When microbial control is evident, add K - BAC 1020 at the rate of 0.5 to 1.0 lb. (0.60 to 120 pp) per 1000 gal. of feed water as needed to maintain control or as specified by guidelines recommended by the membrane manufacturer.

DIRECTIONS FOR TREATING METALWORKING FLUIDS CONTAINING WATER
K - BAC 1020 is effective in metalworking fluid concentrations which have been diluted in water at ratios of 1:100 to 1:1. For controlling (or inhibiting) the growth of bacteria, fungi and yeasts that may deteriorate metalworking fluids containing water, add this product to the fluid in the collection tank. Additions should be made with a metering pump.

Initial or Slug Dosage: When the system is noticeably fouled, add K - BAC 1020 at the rate of 0.25 to 1.0 lb. (0.26 to 1040 pp) per 1000 gal. of feed water as needed to maintain control or as specified by guidelines recommended by the membrane manufacturer.

DIRECTIONS FOR TREATING BREWERIES PASTEURIZER WATER
For controlling (or inhibiting) the growth of bacteria, fungi and yeasts in brewhouse pasteurizing water systems, add K - BAC 1020 at a point in the system to ensure uniform mixing.

Initial or Slug Dosage: When the system is noticeably fouled, add K - BAC 1020 at the rate of 0.25 to 1.0 lb. (0.26 to 1040 pp) per 1000 gal. of water in the system. Repeat until control is achieved.

Subsequent Dosages: When microbial control is evident, add K - BAC 1020 at the rate of 0.1 to 0.5 lb. (0.106 to 2 lbs.) per 1000 gal. of metalworking fluid per day, or as needed to maintain control. Additions of K - BAC 1020 product can be made continuously or intermittently. Slug the system as required.

DIRECTIONS FOR TREATING OIL RECOVERY SYSTEMS
FOR THE CONTROL AND INHIBITION OF BACTERIA
Add K - BAC 1020 to the emulsified or produced at a concentration of 25 to 20,000 ppm by weight. The concentration is equivalent to 2.9 to 254.0 fluid ounces K - BAC 1020 per 1000 gal. of water, or 0.14 to 1.72 liters K - BAC 1020 per 1000 liters. The required concentration will depend on the material being treated and the level of contamination present.

DIRECTIONS FOR TREATING PUBLICLY-OWNED TREATMENT WORKS TO CONTROL COLIFORM AND OTHER BACTERIA
Add K - BAC 1020 at a concentration of 1.0 to 1.5 lb./1000 gal. of water being treated, depending on the severity and contamination in the system. Additions should be continuous and should be made with a metering pump at a point in the system where mixing will be rapid and uniform. Sludge from the system in a location where contact time will be 30 minutes or greater before reaching the outlet.

TO USE AS A CO-TREATMENT WITH CHLORINE
K - BAC 1020 should be added 5 to 15 minutes prior to the weight of water treated. Chlorination should result in a maximum detectable residual (i.e., greater than zero but less than the NPDOS permit level) Amounts of K - BAC 1020 used should be limited to a point just after initial chlorine mixing. Rapid mixing is necessary for maximum effectiveness. K - BAC 1020 should be added at a location where a contact time of 10 minutes or longer will be provided before reaching the outlet.

DIRECTIONS FOR TREATING OILFIELD AND PETROCHEMICAL SYSTEMS
K - BAC 1020 may be used either in slug treatment or in continuous application. Dosages may vary from 29.4 ppm of K - BAC 1020 in slug application to 10 to 60 ppm of K - BAC 1020 in continuous treatment (1/4 pint K - BAC 1020 per 1,000 gal. of water equals approximately 30 ppm).

A typical slug treatment is to add 1 pint of K - BAC 1020 per 1,000 gal. of water, at intervals as needed to prevent growth of microbial slime. Bleary fouled systems may be slug treated to establish control, followed by continuous treatment to maintain control.