CHEMICATOR®

REFILL TUBE

A-8

BRIQUETTES

FOR USE WITH THE

CHEMICATOR® FEEDER

TO PREVENT SCALE DEPOSITS, INHIBIT CORROSION AND ALGAE

ACTIVE INGREDIENTS:

Sodium salt of pentachlorophenol.....29.2%

Sodium salts of other chlorophenols.....4.1%

INERT INGREDIENTS:.....66.7%

APPLICATION: Chemical Refill Tube A-8 is used to control algae in recirculating commercial and industrial water cooling towers. Badly fouled systems must be cleaned before treatment is begun. Begin treatment when the system is in jeopardy of becoming affected or after cleaning systems whose efficiency is already impaired.

For installation procedures of the Chemicator Feeder for which A-8 is intended for use, see the "Chemicator Installation and Operation Manual".

FEEDING INSTRUCTIONS: To start treatment, it is necessary to bring the algaecide content of the A-8 up to the recommended treatment level. Set bleedoff rate to one gallon per hour per ton of equipment rating. Adjust Chemicator feed rate to twice the equipment rating for a period of one day. This will provide 10.75-15.36 oz.Av. of A-8 per 1000 gallons of bleedoff.

Subsequent(treatment level) dose: Maintaining the previously recommended bleedoff rate, decrease Chemicator feed rate to the tonnage rating of the equipment. This will provide 5.38-7.68 oz.Av. of A-8 per 1000 gallons of bleedoff.

NOTE: Do not use this product in air humidifiers or air washers.

NOTE: This product can be inactivated in the presence of residual chlorine i water solutions.

CAUTION: KEEP OUT OF REACH OF CHILDREN

See side panel for precautionary, container disposal, first aid and environmental instructions.

MFG. BY

Water Services DIVISION
UNIVERSAL OIL PRODUCTS COMPANY
700 S. FLOWER ST. • BURBANK, CALIF. 91502

UOP®

ACCEPTED

AUG 20 1973

UNDER THE FEDERAL INSECTICIDE FUNGICIDE AND RODENTICIDE ACT FOR ECONOMIC PURPOSES REGISTERED UNDER NO. 5135-12 SUBJECT TO ATTACHED COMMENTS

CAUTION:

Do not get in eyes, on skin or on clothing. Wash thoroughly after handling. Causes skin irritation. Harmful if swallowed. Do not breathe dust.
First Aid: If A-8 comes in contact with skin, wash with soap and water. Do not continue to wear clothing contaminated by A-8. If eye irritation persists, get medical attention.

Do not re-use empty container. Wash with water and detergent. Discard in a safe place.

This product is toxic to fish and wildlife. Treated effluent should not be discharged where it will drain into lakes, streams, ponds or public water. Apply this product only as specified on this label.

EPA Reg.No. 5135-12

CONTENTS: 30 4.6 oz. Av. Briquettes

ADJUSTMENT GAUGE
(ALSO SEE INSTALLATION SHEET)

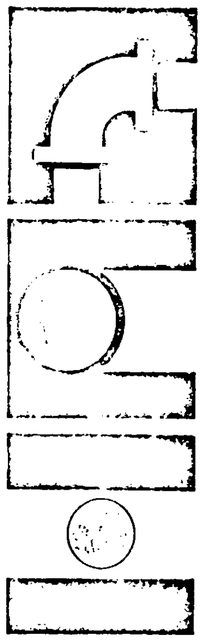
APPROX. TONNAGE		GAUGE NO.
200	•	9
150	•	8
125	•	7
100	•	6
80	•	5
60	•	4
40	•	3
20	•	2
5-10	•	1
	•	0

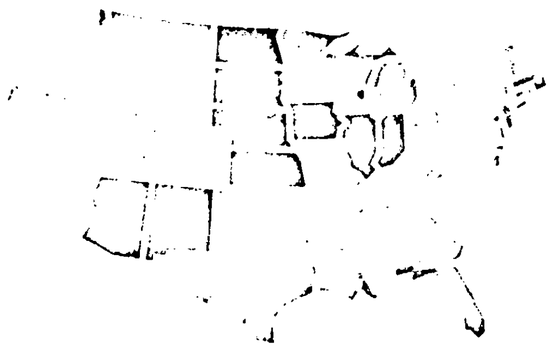
NOTE:
USUALLY 3 GPM CIRC. EQUALS 1 TON CAP.

BLEED-OFF SHOULD BE PROVIDED ON ALL TOWERS AND EVAP. CONDENSERS. SEE LOCAL DISTRIBUTOR FOR RECOMMENDED RATE.

- NOTE -

REMOVE THIS METAL CAP PRIOR TO INSERTING TUBE IN CHEMICATOR. DO NOT REMOVE WATER SOLUBLE FILM BENEATH CAP.





WHY WATER NEEDS TREATMENT

Pure water is a laboratory curiosity.

Surface waters—lakes, rivers, streams—contain dissolved minerals and organic matter. Well waters seldom contain organic matter, though they may be extremely high in mineral content.

A few cities have naturally "soft" water, although this term is relative. Water may be "soft" for domestic use, but still cause problems when used industrially or in commercial equipment. Many "soft" waters are corrosive, and without proper chemical control, may result in equipment failure and replacement expense.

Recirculating water in air conditioning and refrigeration systems often creates these problems:

SCALE FORMATION: When natural waters are concentrated by evaporation and heat exchange, the chemical equilibrium of the water is upset and scale (usually calcium carbonate) forms on vital surfaces. Proper chemical treatment keeps the troublesome deposits in solution and prevents the formation of scale.

CORROSION: Untreated waters may corrode metals and form oxides. When water is concentrated by evaporation, its corrosive qualities often increase and rapid deterioration of equipment is frequently the result. Proper chemical treatment can inhibit the corrosive qualities of water.

ALGAE, SLIME, ROT: Algae and slime cause clogging of valves, piping and controls in cooling systems. Fungus (wood rot) may deteriorate the slats and wooden columns of cooling towers, placing the entire system in jeopardy. The application of correct chemical treatments can kill algae, slime and fungus growths, and save the life of your cooling system.

SEE WHAT THE WATER'S LIKE IN YOUR AREA

Average Water Hardness by States, in Parts per million

- 1 to 60
- 61 to 120
- 121 to 180
- Over 180

THIS IS CHEMICATOR

Now—the cooling-system life saver. Chemicator.

When used with the recommended UOP chemicals (USDA registered, where required), Chemicator chemical feeder is your most effective weapon against scale, corrosion and ALGAE—the three-headed dragon that lurks in recirculating waters of cooling towers and evaporative condensors, threatening to kill the entire air conditioning or refrigeration system.

You'll discover Chemicator is . . .

All that you could ever want a chemical feeder to be. All you do is mount it on a cooling tower or evaporative condenser in minutes with simple tools, set the feed rate, slip in a tube of chemical briquettes . . . and in minutes a system-saving treatment of chemical solution will be at work in your equipment—preventing scale, corrosion and ALGAE.

It *really* works . . with no electricity, no watching over. Turns on and off when the recirculating pump turns on and off. Saves labor, chemical costs, equipment, power, water, shutdowns.

HOW CHEMICATOR HELPS YOU

1 Chemicator dispenser's savings in labor enable the service contractor to handle more accounts with less manpower, overhead and investment in equipment. The initial cost of the Chemicator is negligible. Installation is simple.

2 Equipment manufacturers and distributors find that by installing Chemicator dispensers on new units the system stays clean, requires less servicing and gives the customer better satisfaction.

3 Chemicator chemical feeder releases your maintenance manpower from the time involved in measuring and feeding chemicals by hand, and treatment is continuous despite illnesses, forgetfulness or neglect.

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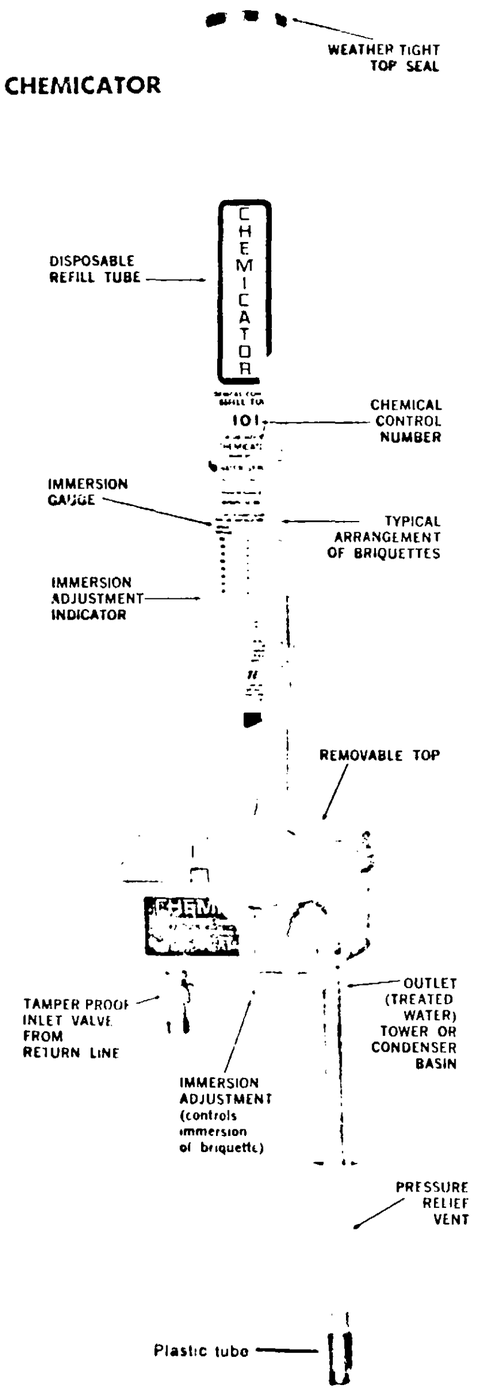
CHEMICATOR

CHEMICAL CONTROL
REFILL TUBE

101

FOR USE WITH THE
CHEMICATOR®
MADE BY
WATER SERVICES

MODEL 'D' CHEMICATOR



HOW CHEMICATOR WORKS

Water feeds into the inlet connection from the recirculating pump, filling the main chamber of the Chemicator chemical feeder. The chemical briquette seated on the immersion assembly plate dissolves at the adjusted rate, and the resulting solution feeds gravimetrically through the outlet and into the cooling tower or evaporative condenser. The briquettes are fed in sequence as the bottom briquette is dissolved.

Chemicator chemical feeder operates only when your equipment is in operation—shuts off when the recirculating pump shuts off. This prevents hit-or-miss feeding of chemical treatments which is ineffective, wasteful and expensive in labor cost.

CHEMICATOR HAS THE FEATURES YOU WANT MOST IN A CHEMICAL FEEDER

SIMPLE IN DESIGN - No moving parts to wear out . . . no motors, solenoids, float valves, proportioning pumps, venturis or other complex components that may fail when needed most. Once properly installed and adjusted, a Chemicator chemical feeder should last longer than the equipment it serves.

VERSATILE - Chemicator is designed for use on either cooling towers or evaporative condensers . . . adjustable for units from 5 to 200 or more tons. A series of Chemicator units is recommended for the larger units. Frequency of refilling may be spaced conveniently by the use of two or more Chemicator feeders on systems of 100 tons or more.

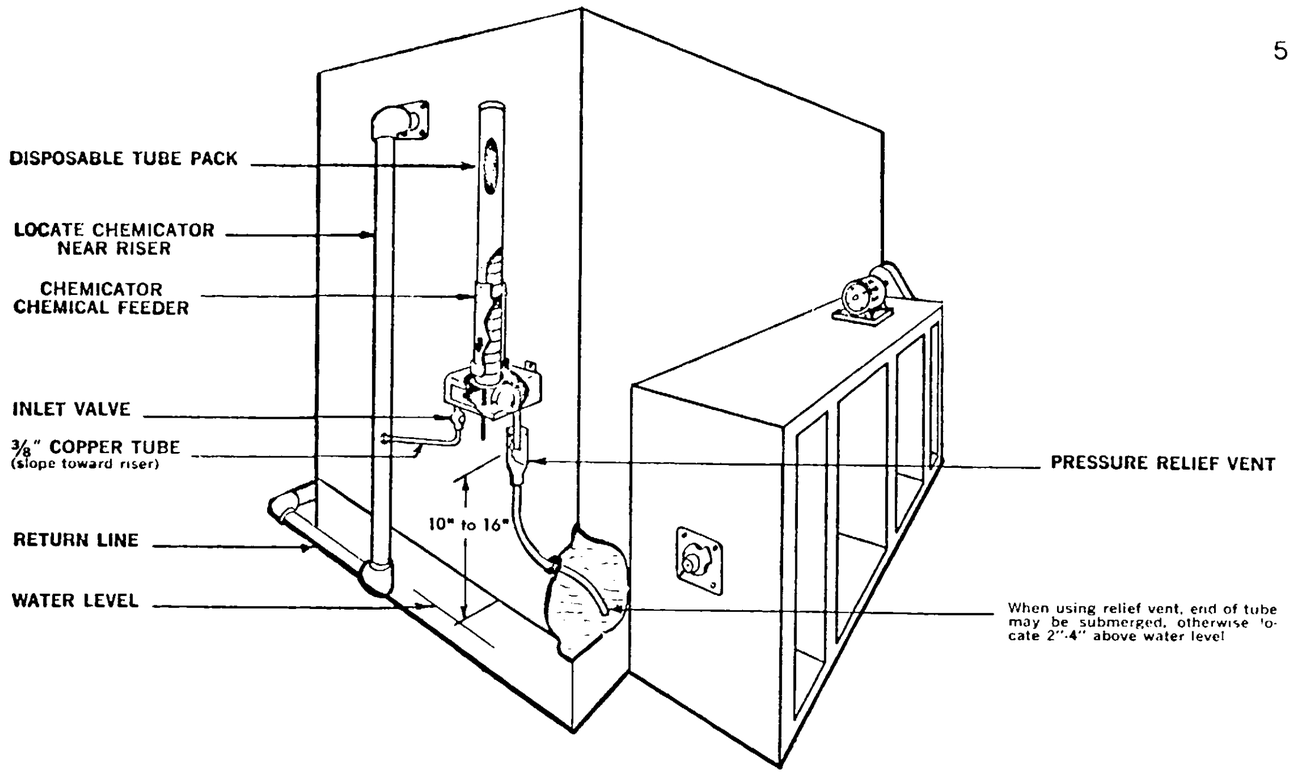
INEXPENSIVE - The initial cost of the Chemicator dispenser is low—approximately 25% of the cost of ineffective pot-type feeders, and only about 5% of the cost of electrical metering devices. Monthly chemical costs are also low. Consult your Chemicator field engineer for the exact cost of Chemicator and the chemical treatments it dispenses.

EASILY INSTALLED - Chemicator may be installed in minutes with simple tools. Mount the unit on the tower or condenser with two screws, and connect to recirculating line with standard copper tubing and fittings. Adjust the water flow and depth of immersion. *Complete installation instructions are packed with each Chemicator dispenser.*

SIMPLE TO REFILL - Just lift out plastic tube, discard it, and replace with a new refill tube . . . takes less than one minute.

BUILT TO LAST - Chemicator chemical feeder is molded from strong, inert plastic. It is weather-proof, chemical-resistant, and engineered to withstand stresses far in excess of any anticipated need. The immersion adjustment assembly and perforated holding plate are machined from stainless steel.

TYPICAL TOWER INSTALLATION



CHEMICATOR USAGE CHART

This chart lists the average usage of Chemicator refill tubes on various size systems. You may wish to make feed adjustments to suit special operating conditions at your installation.

Tower Size	No. of Chemicator Units	Approx. Cycle Time	Immersion Gauge Setting	Approx. Time Each Refill Tube Lasts 8 Hr. Day	12 Hr. Day	24 Hr. Day
10-15-20 Tons	1	1 min.	1 to 2	120 days	80 days	40 days
30-40-50 Tons	1	1 min.	2 to 3	62-90 days	42-60 days	21-30 days
60 to 80 Tons	1	1 min.	4 to 5	42-50 days	28-34 days	14-17 days
100 to 150 Tons	1	1 min.	6 to 8	21-30 days	14-20 days	7-10 days
200 Tons	1	1 min.	8 to 9	18 days	12 days	6 days
300 Tons	2	1 min.	6 to 8	21-30 days	14-20 days	7-10 days
300 Tons	4	1 min.	4 to 5	42-50 days	28-34 days	14-17 days

UOP COOLING WATER TREATMENTS

K-81*
A non-chromate, powdered blend of polyphosphate and organic dispersing and crystal distorting agents for scale and corrosion control. (Bulletin: PD-168)

K-87
A powdered scale and corrosion-control formulation featuring the chromate-phosphate combination for corrosion control and complex polyphosphate for scale prevention. (Bulletin: PD-150)

K-89
is the same as K-87 with an added organic crystal distortion agent for protection in those areas where scale formation is a special problem. (Bulletin: PD-133)

K-90
A non-polluting organic corrosion and scale inhibitor containing a highly dilutable dye: for use in conjunction with electronic feeding and monitoring system. (Bulletin: PD-188)

KP-40*
A liquid, non-phosphate, non-chromate polyelectrolytic compound which completely inhibits dirt, scale and silt formation. Provides corrosion protection. A single feed compound which *does not require the use of* acid for pH control. (Bulletin: PD-173)

KP-20
A liquid non-polluting polyelectrolytic compound for scale and silt control. Similar to KP-40, but for smaller systems. (Bulletin: PD-182)

KP-50
A special non-polluting liquid compound composed of polyelectrolytes for scale control and organic inhibitors for corrosion control. For use in and near refineries or other sites where corrosion is a special problem. (Bulletin: PD-183)

K-24*, K-25*, K-26*
Slowly soluble complex phosphate "pearls" for scale and corrosion control. May be fed through mesh bags or UOP Pot Feeders. (Bulletin: PD-171)
Pearl Feeder (Bulletin: PD-169)

UOP BOILER WATER TREATMENTS

A-90V
A liquid, balanced complete boiler water treatment for protection against scale, sludge and corrosion. For use with soft or low hardness feedwater. (Bulletin: PD-107)

A-91*
A briquetted form of A-90V. Contains 90% active ingredients. Conveniently packaged 24 briquettes to a tube, 12 tubes to a case. (Bulletin: PD-109)

A-91G
A complete boiler water treatment in powder form, for use in large steam boilers. (Bulletin: PD-157)

B-85P
A liquid, balanced complete treatment that eliminates the need for phosphates and chelates for scale control. Containing a blend of polyelectrolytes, its use is indicated with soft or low hardness feed water. (Bulletin: PD-180)

B-85V
A liquid high-strength complete boiler water treatment for protection against scale, sludge and corrosion. For use with high hardness makeup. (Bulletin: PD-111)

B-86*
A briquetted form of B-85V. Packaged 24 briquettes to a tube, 12 tubes to a case. Contains 99% active ingredients. (Bulletin: PD-113)

B-86G
A balanced powdered blend of scale, corrosion and sludge inhibitors. Generally used in large boiler plants. (Bulletin: PD-156)

G-30* Steam Line Treatment
A liquid concentrate of volatile neutralizing amines for the protection of steam and condensate return lines from corrosion. (Bulletin: PD-130)

CLT-150*
A new type liquid neutralizing amine that allows longer runs in steam lines and requires a lower feed rate in addition to other advantages over the other neutralizing amines in common use today. (Bulletin: PD-130)

DB-31
A dry alkaline blend of cleaning agents for cleaning newly installed or contaminated boilers, hot and chilled closed systems, heat exchangers and piping of oily residue and dirt. (Bulletin: PD-121)

DR-20
A special blend of rust removing chemicals for use in boilers, hot and cold closed systems, cooling jackets, tanks, valves, machinery parts, etc. (Bulletin: PD-185)

*TM of UOP. Also, all above letter-number combinations are trademarks of UOP.

UOP CLOSED SYSTEM AND POTABLE WATER TREATMENTS

F-45
A concentrated liquid corrosion preventive for use in hot and chilled closed systems or potable water systems. Completely non-toxic. Is effective in sealing pin hole leaks and protecting the metal from further corrosive attack by "plating out." (Bulletin: PD-127)

F-91*
A powdered form of F-45. To be used where large volumes of water are used. (Bulletin: PD-128)

L-92
A borate-nitrite, non-chromate liquid compound for use in hot and chilled closed systems. Buffered for maximum corrosion protection. (Bulletin: PD-151)

F-91G
A powdered blend similar to L-92. (Bulletin: PD-164)

L-70
A concentrated chromate based liquid corrosion control. May be used in closed systems, hot water boilers, absorption boilers, evaporative condensers, cooling towers, etc. (Bulletin: PD-135)

L-71*
is a briquetted form of L-70. Packed 12 to a tube, 12 tubes to a case. (Bulletin: PD-136)

L-72
A highly concentrated chromate-based liquid corrosion control for closed hot and chilled water, brine, and other non-potable water. (Bulletin: PD-137)

K-72
A non-chromate, non-toxic corrosion control for brine tanks. For use in poultry and food plants. (Bulletin: PD-152)

UOP ALGAECIDES

Deep Purple*
A convenient briquetted algaecide for destroying algae and slime in cooling systems. Not to be used in systems where purple color is objectionable. (Bulletin: PD-102)

K-70*
A chlorine based powder for killing algae, slime and bacterial growths in cooling systems, reflecting pools and fountains. (Bulletin: PD-100)

M-40
A very wide-spectrum microbiocide. Especially useful against sulfur and iron reducing bacteria. (Bulletin: PD-186)

M-60*
A highly potent biocide consisting of the sodium salts of chlorinated phenols in liquid form. (Bulletin: PD-162)

M-80
A highly active liquid algaecide, slimicide and fungicide for use in cooling systems, spray and decorative ponds and fountains, and swimming pools. (Bulletin: PD-177)

M-80T
A wide-spectrum microbiocide effective in very low treatment level. (Bulletin: PD-159)

M-90
A liquid slimicide, algaecide and fungicide for use in cooling systems where biological fouling is a potential or real problem. (Bulletin PD-139)

UOP SPECIAL TREATMENTS

Organifloc PX*, Oxyfloc
Organic, polymeric flocculating and dispersing agents for removal of suspended and settled solids from cooling water, waste water, etc. Oxyfloc is specific toward removal of suspended iron. (Bulletin: PD-167)

Waste-Aid #1
A liquid combination of polyelectrolytes for the removal of suspended solids from waste water. Lends itself naturally to the cold lime softening process. (Bulletin: PD-189)

Rescue
An aerosol all metal protector. Prevents rust and corrosion caused by moisture, acid and salt water. Use on tools, bearings, industrial and production equipment. Lubricant. Demoisturizer. (Bulletin: PD-176)

UOP Softener Treatment 386
A powdered blend of selected chemicals to clean, rejuvenate and restore zeolite softener beds to their original capacity (Bulletin: PD-170)

D-81 Deposit Control
A liquid penetrating and dispersing compound for deposits of mud, oil, pitch and other suspended matter found in cooling water systems. (Bulletin: PD-187)

UOP Ice Machine Cleaner
A liquid acid for removing scale from the surfaces of ice-making equipment. (Bulletin: PD-172)

All Met* Descaler
A powdered descaler inhibited to protect all metals. Contains powdered acids, corrosion inhibitors, organic dispersing agents, antifoaming agents and an acid strength indicator for use in removing scale in boilers, shell and tube condensers, evaporative condensers, cooling towers, etc. (Bulletin: All-Met)

140* Descaler
A blend of powdered acids, corrosion inhibitors, organic dispersing agents, and a pH indicator for use in descaling boilers, heat exchangers, cooling towers, compressors and refrigeration systems. (Bulletin: PD-105)