Best copy available 1258-853 09/19/1984 1/8

Olin Corporation
275 South Winchester Ave.
P.O. Box 30-275
New Haven, CT 06511

SEP 19 1984

Gentlemen:

Subject: Pace Concentrate Pool Chlorinating Sticks
EPA Registration No. 1258-853
Amendment Applicating of August 16, 1984
(Added Uses)

The amendment referred to above, submitted in connection with registration under FIFRA sec. 3(c)(7)(A), is acceptable provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data.

2. Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to concellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely yours,

A. E. Castillo
Product Manager (32)
Disinfectants Branch
Registration Division (TS-767C)

Enclosure

RD/DIS:P.M.Jenkins:DCR-04993:WANG-0552K:bgt:Raven:479-2013:9/12/84:Del 9/28/84

CONCURRENCES								
SYMBOL ▶								
SURNAME ▶								
DATE ▶								

EPA Form 1320-1 (4-81) OFFICIAL FILE COPY

PACE® Concentrated Pool Chlorinating Tablets — EPA REG. No. 1258-[illegible]
PACE® Concentrated Pool Chlorinating Giant Tablets — EPA REG. No. 1258-[illegible]
PACE® Concentrated Pool Chlorinating Sticks — EPA REG. No. 1258-[illegible]

For Use in Sewage Treatment

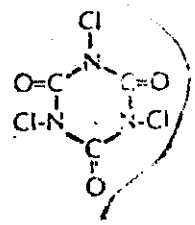
Active Ingredient: Trichloro-s-Triazinetrione.	99%
Inert Ingredient:	1%
Available Chlorine:	89%

Physical Properties

Molecular Weight	232.47
pH (1% solution)	3
Available Chlorine (%)	
Typical	90
Minimum	89
Bulk Density (lbft^3)	
Coarse Granular	58-62
Medium Granular	58-60
Solubility @ 25°C (g/100 ml H_2O)	1.2

Trichloro-s-triazinetrione. (Also known as trichloroisocyanuric acid)
Empirical formular: $(ClNCO)_3$

Structure:



ACCEPTED
with COMMENTS
In EPA Letter Dated:

SEP 19 1984

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended for the pesticide registered under EPA Reg. No. 1258-853

Directions for use

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

1. Disinfection of Effluents

Disinfection by chlorination or hypochlorination does not occur instantaneously. A suitable detention basin must be provided to expose the sewage effluent to the effects of PACE® tablets or sticks for a sufficient period of time (usually a minimum of 15 minutes). Where mechanical stirring or other agitation is not present, chlorination for disinfection should be [illegible] primary or secondary sedimentation treatments, if [illegible]

The amount of PACE® solution required will vary, depending on the concentration and conditions of the final effluent. The sewage should be treated before it has reached a septic state. Experiments indicate that about 30% of the chlorine demand of raw sewage is attributed to settle solids; 40% to suspended and colloidal solids; and 30% to dissolve solids.

Whenever possible, disinfection should be controlled by laboratory checks. Disinfection can be achieved when the chlorine residual (after 15 - 30 minutes contact time) is between 0.6 and 1.0 ppm. Experience with different types of treated sewage will generally establish a relationship between the residual chlorine content of the final effluent and the contact time necessary to insure the desired bacteriological results, after which the residual chlorine and time of contact may be made the controlling factors for operation. Occasional bacteriological checks should be practiced as a safeguard.

Hypochlorinators used to treat sewage in small communities should always be located near the influent of the detention basin. To conform with the requirements mentioned above, the feed rate must be adjusted to the higher dosages usually required for sewage practices. In cases where sewage is to be temporarily disinfected before being diluted in a body of water, the following conditions will usually provide satisfactory protection against pollution of receiving waters: (a) Raw sewage, 10 - 30 ppm available chlorine. (b) Primary treated sewage, 5 - 20 ppm available chlorine. (c) Sewage which has undergone primary and secondary treatment, or secondary alone, 2 - 5 ppm. Bacteriological tests should be made frequently as a safeguard. The available chlorine level in the discharge effluent should be between 0.6 and 1.0 ppm or in accordance with an NPDES permit. For guidance, contact the regional office of EPA.

2. Slime Control

When ponding of the filters is excessive, stoppage of the distributing filter can occur. The continual feeding of a hypochlorite solution into the effluent at a point above the filter nozzles will clean the filter satisfactorily. Dosages will depend on the amount of excess slime accumulated on the nozzles and filter stone. Extreme cases may require dosages as high as 10 ppm available chlorine.

Once the desired cleaning has been achieved, an intermittent application of hypochlorite solution to the dosing tanks, just ahead of the filter, is usually successful. The amount and frequency of the dosage needed to give satisfactory continuous operation of the trickling filters depends on the severity of the microbiological problem.

In activated sludge plants, "bulking sludge" can be caused by the presence of slime which interrupts proper settling. A solution of hypochlorite introduced at some point on the return sludge line can be an effective control measure. Normal dosage rates are 2 - 8 ppm available chlorine.

3. B.C.D. Reduction

The condition can usually be avoided by applying a solution of hypochlorite to the effluent until a substantial residual is obtained. Application should be made at a point which will permit a 10 - 20 minute contact time prior to the discharge of the effluent into the stream. A dosage which leaves a residual available chlorine of about 0.2 ppm after a contact time of at least 10 minutes, will afford a reduction of about 1/3 of the effluents B.O.D. Where more permanent or greater B.O.D. reduction is necessary, dosing to higher available chlorine residuals is recommended.

4. Coagulation and Sedimentation

A great deal of the finer divided suspended matter and most of the colloidal matter in sewage does not readily respond to plain sedimentation. The job of removing substantial portions of this kind of matter is usually accomplished either by chemical precipitation, by filtration, or by the use of both processes. Research has proven that pre-hypochlorination will improve sedimentation and coagulation in sewage treatment operations.

5. Treating Effluent from Mobile Sewage Treatment Units

Only human waste, toilet paper and water should enter the mobile sewage treatment unit. Solids are retained in the unit for later removal, while the liquid portion is filtered, disinfected and discharged. Hypochlorite tablets are placed in a flow-thru container where the liquid effluent passes over them before being discharged.

Disinfection by chlorination or hypochlorination does not occur instantly and a suitable detention basin must be provided to expose the sewage effluent to the effects of PACE® tablets or sticks for a sufficient period of time (usually a minimum of 15 minutes). Tests should be made frequently as a safeguard. The available chlorine level in the discharge effluent should be between 0.6 and 1.0 ppm or in accordance with an NPDES permit. For guidance, contact the regional office of EPA.

KEEP OUT OF REACH OF CHILDREN

DANGER!

SEE PRINCIPAL LABEL FOR COMPLETE PRECAUTIONARY INFORMATION

AND STORAGE AND HANDLING INSTRUCTIONS

All applicable directions, restrictions, and precautions on the EPA principal registered label are to be followed.

OLIN CHEMICALS

Consumer Products.Olin Corporation
120 Long Ridge Road
Stamford, Connecticut 06904

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PACE® Concentrated Pool Chlorinating Tablets — EPA Reg. No. 1258-[illegible]
PACE® Concentrated Pool Chlorinating Giant Tablets — EPA Reg. No. 1258-822
PACE® Concentrated Pool Chlorinating Sticks — EPA Reg. No. 1258-[illegible]

For Controlling the Growth of Bacteria and Algae in Industrial Recirculating Water Cooling Towers, Air Washers and Evaporative Condensers

Active Ingredient: Trichloro-s-Triazinetrione.	99%
Inert Ingredient:	1%
Available Chlorine:	89%

Physical Properties

Molecular Weight	232.47
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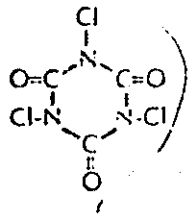

ACCEPTED
with COMMENTS
In EPA Letter Dated:

SEP 19 1984

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 1258-853

Directions for use

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

1. Badly fouled systems should be cleaned prior to initiating treatment.

2. Initial Dosage - When the system is just noticeably fouled, add 6 - 8 oz. of PACE® tablets or sticks per 10,000 gallons of water contained in the system. Repeat this dosage if necessary until a free available chlorine level (FAC) of 0.5 - 1.0 ppm is obtained (as determined by use of a reliable test kit).

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3. Maintenance Dosage - To obtain a FAC of 0.5 - 1.0 ppm add 0.8 - 1.6 oz. of PACE® tablets or sticks per 10,000 gallons of water daily or as needed.

4. PACE® tablets or sticks should be added to the system at a point where adequate flow is maintained. Variations in water temperature, chlorine demand and flow rate will affect the dissolution rate. Warmer seasons may require an upward adjustment of the FAC.

AIR WASHERS:

For use only in industrial air washer systems that maintain effective mist eliminating components. Hypochlorite controls slime forming bacteria and fungi in air washer systems. This product may be added to the system either continuously or intermittently or as needed. The frequency of feeding and duration of the treatment will depend on the severity of the problem.

BADLY FOULED SYSTEMS should be cleaned prior to initiating treatment.

1. Initial Dosage - When the system is just noticeably fouled, add 0.4 - 0.5 lbs. of PACE® tablets or sticks per 10,000 gallons of water contained in the system. Repeat this dosage if necessary until a free available chlorine level (FAC) of 0.5 - 1.0 ppm is obtained (as determined by use of a reliable test kit).

2. Maintenance Dosage - To maintain a FAC of 0.5 - 1.0 ppm add 0.8 - 1.6 oz. of PACE® tablets or sticks per 10,000 gallons of water, daily or as needed.

3. PACE® tablets or sticks should be added to the system at a point where adequate flow is maintained. Variations in water temperature, chlorine demand and flow rate will affect the dissolution rate. Warmer seasons may require an upward adjustment of the FAC.

OTHER USES:

Write to Olin Corporation for specific literature on other accepted uses.

KEEP OUT OF REACH OF CHILDREN
DANGER!

See Principal Label for Complete Precautionary Information, Storage and Handling Instructions.

Olin Chemicals
Consumer Products : Olin Corporation
120 Long Ridge Road
Stamford, Connecticut 06904

REFERENCES TO PUBLISHED ARTICLES TO SUBSTANTIATE BACTERIOLOGICAL ALGICIDAL EFFICACY OF HYPOCHLORITES AND THE CHLORINATED DERIVATIVES OF 2,4,6-TRIHYDROXY-1,3,5-TRIAZINE (sym. TRIAZINETRIOL, OR CYANURIC ACID)

1. Disinfection, Sterilization, and Preservation, by Carl A. Lawrence and Seymour S. Black. Lea & Feibiger, Pa., 1968. Hypochlorites, pg. 291, Chlorine Dioxide, pg. 294.

2. The Capacity of Chlorine Type Germicides, by L. S. Stuart, J. Bogusky, L. P. Ortenzio, and J. L. Freiedl, Insecticide Division, USDA, Wash., D. C. Soap and Sanitary Chemicals, Official Proceedings, 37th Annual Meeting, Chemical Specialties Manufacturers' Association, Dec. 1950.

3. Available Chlorine Germicidal Equivalent Concentration Test. J. Assoc. Offic. Agr. Chemists, Vol. 40, pp. 755-758.

4. Disinfectants. J. Assoc. Offic. Agr. Chemists, Vol. 44, pp. 137 - 138. Association of Official Agricultural Chemists, 1961.

5. Swimming Pool Chlorine Stabilizers, by L. S. Stuart and L. F. Ortenzio. Presented at the 5th Midyear Meeting of the Chemical Specialties and Manufacturers Association, Chicago, May 19. Soap and Chemical Specialties, August, 1964.

6. A Standard Test for Efficacy of Germicides and Acceptability of Residual Disinfecting Activity in Swimming Pool Water, by L. F. Ortenzio and L. S. Stuart. Journal of the Association of Official Agricultural Chemists, Vol. 47, No. 3, pp. 540 - 547.

7. Ortenzio, L. F. and Stuart, L. S. The Behavior of Chlorine Bearing Organic Compounds in the A.O.A.C. Available Chlorine Germicidal Equivalent Concentration Test. Journal of the Association of Official Agricultural Chemists, Vol. 42, No. 3, pp. 630-633, August 1959.

8. Anderson, John R. A Study of the Influence of Cyanuric Acid on the Bactericidal Effectiveness of Chlorine, Paper presented at the National Swimming Pool Institute, Chicago, Ill., Jan. 1964.

9. Hofris, J. Carrell. The Chemistry of the pH Factor in Pools and Its Relation to Reactions with Nitrogenous Substances. Presented at the National Swimming Pool Institute Meeting, Chicago, Ill., January 1964.

10. Bell, Floyd C. Maintain Perfect Balance. Don't Let Your pH See-Saw. Swimming Pool Age, April 1962.

11. Resistance of Pseudomonas to Various Chemical Germicides, by A. Beloian and T. Koski, Pesticides Regulation Division, ARS, USDA, Beltsville, Md. J. Assoc. Off. Agr. Chemists, Vol. 47, October 1964.

12. Comparison of Chlorine, Bromine, and Iodine as Disinfectants for Swimming Pool Water, by T. A. Koski, L. S. Stuart, and L. F. Ortenzio. Applied Microbiology, Vol. 14, No. 2, pp. 276 - 279, March 1966.

13. Effect of Algicidal Quaternaries on the Germicidal Activity of Chlorine on Swimming Pool Water, by T. A. Koski, L. F. Ortenzio, and L. S. Stuart. Applied Microbiology, Vol. 15, No.6, pp. 1291-1295, Nov. 1967.