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Drug Administration
Drug listed under
FDA Reg. No.

HTH^(®) DRY CHLORINATOR FOR USE IN SEWAGE DISPOSAL PLANTS

intermittent application of HTH solution to the dosing tanks. The necessary dosage and frequency of application depend on the severity of the problem.

In activated sludge plants, slime can interfere with proper settling, causing "bulking sludge." HTH solutions containing 2 to 8 ppm available chlorine, introduced into the return sludge line, will effectively control this problem.

B.O.D. Reduction

The discharge of sewage with a high biochemical oxygen demand (B.O.D.) into lakes and streams can cause odors, visual pollution and death to aquatic life.

This condition can usually be avoided by applying HTH* solution to the effluent until a substantial residual is obtained. Application should be made at a point which will permit a 10-20 minute contact period before the discharge of the effluent into the stream. Minimum dosage to a residual of about 0.2 ppm after a contact time of at least 10 minutes will reduce the effluent's B.O.D. 10-30%. Where longer-lasting or greater B.O.D. reductions are necessary, dosage to higher chlorine residuals is recommended.

How to Prepare Solutions of HTH* Dry Chlorinator*

Each of the applications listed above requires a specific concentration of solution, measured in parts per million (ppm) of available chlorine. To prepare the proper strength solution follow these simple steps:

1. Determine the volume^a of the holding tank (in cubic feet or cubic inches).
2. Find the capacity of the tank in gallons. If the volume has been determined in cubic inches, use Formula (2).
(1) Gallons = $7.48 \times \text{Volume in cubic feet}$
(2) Gallons = $.0043 \times \text{Volume in cubic inches}$
3. Use Table 1 to determine how many ounces of HTH dry chlorinator must be added to the number of gallons of water to obtain the required ppm of available chlorine. (Never add HTH dry chlorinator to anything but water.) For a volume of water that does not appear in Table 1, simply calculate between values.

Storage and Handling

Store in a cool, dry, well ventilated place away from combustible materials, and avoid contamination with any foreign material. Protect against physical damage. Drums may rupture if exposed to heat.

Toxicological Properties

The acute oral LD₅₀ (rat) is 850 mg/kg. The acute dermal LD₅₀ (rabbit) is greater than 2 g/kg. The acute inhalation LC₅₀ is less than 20 mg/l and greater than 2 mg/l in inspired air for one hour (rat). HTH* dry chlorinator is corrosive to the skin and eyes. It was not found to be a mutagen in the Ames assay and is not known to be a carcinogen.

Table 1
Required Amounts of HTH* Dry Chlorinator*
(Pounds - Ounces)

Available Chlorine (ppm)	Water (Gallons)				
	10	50	100	500	1,000
1	—	—	—	0-1/10	0-1/2
15	—	0-1/4	0-1/10	0-1 1/2	0-3
25	—	0-1/4	0-1/2	0-3	0-6
50	0-1/10	0-1/2	0-1	0-6	0-12
100	0-1/2	0-1	0-2	0-11	1-5
200	0-1	0-2	0-4	1-5	2-10
300	0-1 1/2	0-3	0-6	2-0	4-0
400	0-1 3/4	0-4	0-8	2-10	5-4
500	0-1	0-6	0-11	3-4	6-8
1,000	0-2	0-12	1-6	6-8	13-0

*For convenience in measuring small quantities, 2 teaspoons of granular HTH equals approximately 1 ounce.

Personnel Protection

HTH* dry chlorinator is easy to handle and use. As with any chemical, however, certain precautions should be taken. Do not get in eyes, on skin or on clothing. Avoid breathing dust. Do not take internally. Wear goggles, coveralls and neoprene, rubber or PVC gloves and boots. Read label instructions before using product.

First Aid

Ingestion: Give bread soaked in milk, followed by large amounts of water. If person is conscious and vomiting, place face down with head lower than hips. Get immediate medical attention.

Skin Contact: Flush with water for 15 minutes. Call a physician.

Eye Contact: Flush with water for 15 minutes. Call a physician.

Inhalation: Remove victim to fresh air. Call a physician.

Spill and Leak Procedures

Remove all sources of ignition. Wear a NIOSH/MSHA approved dust and chlorine respirator. Follow OSHA regulations for respirator use (see Title 29, Section 1910.134, Code of Federal Regulations). Wear goggles, coveralls and rubber, neoprene or PVC gloves and boots. Clean up in a manner to minimize contamination with organic material. Do not return spilled material to original container. Place in a fresh container and isolate outside or in a well ventilated area. Do not

*Stock solutions should be freshly prepared and kept in properly labeled containers to protect against contamination. Unused stock solutions should be discarded.

^aVolume of a rectangular tank:

$V = \text{Length} \times \text{Width} \times \text{Height}$

Volume of a circular tank:

$V = 3.142 \times \text{Radius} \times \text{Radius} \times \text{Height}$

or

$V = 0.785 \times \text{Diameter} \times \text{Diameter} \times \text{Height}$

seal the container. Flush any residual material with large quantities of water. Wash all contaminated clothing before reuse. In the event of a large spill call 203-356-2345.

Disposal

Dispose of unused product in a manner approved for this material. Consult appropriate Federal, state and local regulatory agencies to ascertain proper disposal procedures.

Shipping Information

HTH® dry chlorinator is available in granular or tablet form in 100 lb. fiber drums.

Technical Assistance

Technical assistance is available to facilitate further investigation of HTH® dry chlorinator. If you have a question or need more information, please call or write your nearest Olin sales office.

Keep HTH® out of reach of children. Danger. See principal label for complete precautionary information and storage and handling.

The use of HTH® dry chlorinator for the purposes described in this bulletin has been registered with the United States Environmental Protection Agency, but may not have been approved or registered for use or sale for such purposes in other countries. Olin Corporation assumes no responsibility for compliance with the laws of any country except the United States.

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