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TECHNICAL SUPPORT SECTION EFFICACY REVIEW - I

Disinfectants Branch

IN 08/03/84 OUT 9/12/84

Reviewed by William E. Campbell, Jr. Date 09/12/84

EPA Reg. No. or File Symbol 38906-RL

EPA Petition or EUP No. None

Date Division Received 07/16/84

Type Product(s): Swimming Pool Water Disinfectant

Data Accession No(s) NONE

Product Mgr. No. 32 (astillo)

Product Name (s) Danta Brom

Company Name(s) Glyco, Inc.

Submission Purpose New Product Registration

Chemical & Formulation Briquette

Active Ingredient (s): %

1-Bromo-3-chloro-5,5-dimethylhydantoin 60.0

1,3-dichloro-5,5-dimethylhydantoin 27.4

1,3-dichlore-5-ethlyl-5-methylhydantoin 10.6

Available bromine .....44.4%..
Available chlorine 39.2%

200.0 Introduction

200.1 Uses: A disinfectant for swimming pool water.

200.2 Background Information: The ingredients in this formulation are compacted into 10g briquettes. Related products are Danta Brom (38906-RU), BantaBrom RW (38906-RE) and DantaBrom (38906-RG). The products are for manufacturing use recirculating cooling water and spas respectively.

201.0 Data Summary

201.1 Brief Description of Tests: Efficacy test were performed by Hazleton Raltech, Inc. Madison Wisconsin.

A) Samples Tested

bromochlorodimethylhydantoin manufactured by Gylco (764:30-A;
bromochlorodimethylhydantoin available commercially as a spa and swimming pool disinfectant, (764:30-B) and DantoBrom^{tm} P (764:30-C)
Each product was tested at 0.5 1.0 and 3.0 ppm of available chlorine.

B) Method

Water Disinfectants for Swimming Pools, Official Methods of Analysis of the AOAC, Method 4.036-4.044, 13th Ed. (1980).

Test temperature: 20°C
Chlorine demand of test water: 0.075 ppm.
Test cultures:
Escherichia coli #11229
Test suspension count: 210, 000,000/mL.
Calculated inoculum: 1,000,000/mL test water.

Streptococcus faecalis # 6569
Test suspension count: 240,000,000/mL.
Calculated inoculum: 1,200,000/mL test water.

The halogen content of the bromochlorohydantoins was calculated and expressed as available chlorine equivalents.

201.2 Data Summaries: The lowest concentration of test sample providing results equivalent to those obtained with sodium hypochlorite is considered the lowest concentration which could be expected to provide acceptable disinfecting activity in swimming pool water.

All samples at 0.5 ppm were equivalent to sodium hypochlorite at 0.6 ppm in antibacterial activity.