UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Full Registration of XD-5700, a new chemical; non-food use. (34292-R). Submitted 3-27-74.

DATE: 1 JUL 1974

FROM:

TO: Coordination Branch

Introduction

This is a silicone-quaternary amine. It has claims as bacteriostat, fungistat, and algistat on textiles. The chemical name is given as 3-(trimethoxysilyl)propyldimethyloctadecyl ammonium chloride. The name appears to be correct.

Manufacturing process

Manufacturing process information not included.

[redacted]

Storage Stability (Formulations)

The 50% solution in methanol has a shelf life of 2-3 years based on anti-bacterial activity (S. aureus FDA 209). We should have chemical analyses before and after storage (6 months to a year).

Percentage Composition (technical)

No data are submitted. However, we can waive this requirement for this non-food use.

Methods of analysis for impurities (technical)

Nothing was submitted.

Methods of analysis for formulation

A non-aqueous perchloric acid titration is presented. This measures the amount of $C_{18}H_{37}N(CH_3)$ present. There is also an NMR method. Copies of these methods have been sent to TSD methods Coordinator.

Properties (50% in methanol)

Amber liquid
molecular weight: 496.3
Specific Gravity at 25°C 0.84 - .86
Refractive Index (26°C) 1.39
Miscible in all proportions with water and most solvents.
Flash Point 52°F

There are no data on the technical chemical, apparently because the methanol, used in the manufacturing process, is not removed.

Use Pattern

"All types of fibers, fabrics, and threads." This will include clothing, home furnishings, etc. This is a non-food use.

Conclusion

We have sufficient information to register this on a non-food basis. The shelf-life data, based on bioassay are acceptable, but we need chemical analyses also.

Recommendation

It is recommended that this new chemical be registered with 2 RL comments:

1. Submit shelf life data based on chemical analyses, before and after storage.

2. Submit analytical standards.

4-24-75

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EB6 11/74