



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Analytical Chemistry Section
Building 306, BARC-East
Beltsville, Maryland 20705

JUN 10 1993

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Product Chemistry method validation of the analytical procedure for the determination of the Active Ingredient Sumilarv™ content in a Technical material sample. Other names for Sumilarv™ are pyriproxyfen (BSI proposed) and S-31183. The chemical name is 4-phenoxyphenyl (RS)-2-(2-pyridyloxy)propyl ether, 2-[1-methyl-2-(4-phenoxyphenoxy)ethoxy]pyridine.

Registrant: Sumitomo Chemical
ACS Project No. 1992-AI-07

FROM: Gpv Gregory P. Verdin, Physical Science Technician
WAB Adrian W. Burns, Chemist
Analytical Chemistry Section

THRU: Harvey K. Hundley, Head
Analytical Chemistry Section

THRU: Donald A. Marlow, Chief
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TO: Alfred Smith, Chemist
Product Chemistry Review Branch
Registration Support Branch
Registration Division (H7505C)

As required by §62-3 and §64-1 of the Pesticide Assessment Guidelines, Subdivision D, Product Chemistry, regarding submission of analytical methods and samples for analysis, the Registrant, in compliance with the above requirements, has submitted the following:

- 1) "Method for the Determination of Sumilarv", from the Study: Analytical Methods to Verify Certified Limits of Sumilarv Technical Grade, Ken-ichi Takahashi, June 14, 1988, Laboratory Project ID NO. NNA-90-0011, Sumitomo Chemical Co., Ltd., Environmental Health Science Laboratory, Osaka, Japan
- 2) Analytical Standard:Purity: 100.0 %
"SUMILARV ANALYTICAL STANDARD" Lot No. 910827
Net 1g (2 vials, 1gm each)



Recycled/Recyclable
Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

3) Technical Material:.....Purity: 98.4 %
"SUMILARV TECHNICAL GRADE" Lot No. 01201 Net. 200 g

ACL reviewed and used the method submitted to assay the sample provided. A summary and any variations made will be noted under a Comments Section.

Five portions of the sample were analyzed by the method provided by the Registrant. The results are below.

<u>Material</u>	<u>Assay Values(%)</u>	<u>Avg(%)</u>	<u>SD</u>	<u>Precision</u>
Technical Sumilarv™	98.4, 98.6, 99.0, 99.1, 98.7	98.8	0.29	0.29

Comments:

The method utilizes HPLC analysis with a reverse-phase, C-18 column and an ultra-violet detector wavelength set at 254 nm. 4-Benzyldiphenyl is the internal standard. Active Ingredient quantitation is determined from response ratios between the compound of interest (active ingredient) and the internal standard. All data acquisition was by electronic integration.

ACL determined that the response ratios of the analytical standard to a constant weight of the internal standard are linear over a concentration range of 2.60 - 8.13 mg/ml, which the method recommended. All analyses above are within this range.

Acceptable results with good precision are achieved by ACL using a Zorbax-ODS C-18 column, which is equivalent to the Lichrosorb RP-18 column suggested in the method. An isocratic system of 2:1 acetonitrile/water mobile phase is used for analysis. The flow rate, injection volume, and other instrument parameters are adjusted to achieve reproducible retention times and separations.

Precision and results for the technical materials assayed by this method are within limits suggested by the Pesticide Assessment Guidelines, Subdivision D, Product Chemistry and the Protocol for the Active Ingredient Program.

This method appears to produce acceptable results for the assay of technical materials of Sumilarv™.

ACL will dispose of the standards and samples used for this method validation in safe and appropriate manner thirty (30) days from the date of this report unless we receive other specific instructions from you.

Contact the analyst or Adrian W. Burns at (301)504-8133 if there are any questions concerning this method validation.

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