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

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

JAN 3 1992

SUBJECT: Results of the Method Trials for the Active Ingredient Prodiamine

FROM: Alfred Smith, Chemist
Product Chemistry Review Section
Registration Support Branch
Registration Division (H7505C)

TO: Joanne Miller, PM 23
Herbicide-Fungicide Branch
Registration Division (H7505C)

The Analytical Chemistry Section (ACB/BEAD) has performed method trials for the determination of the active ingredient (ai) prodiamine, [N ,N -Di-n-Propyl-2,4-dinitro-6-(trifluoromethyl)-m-phenylenediamine], in the products Barricade T Herbicide, (Technical Prodiamine, EPA File Symbol 55947-UR), and Barricade 65 WG Herbicide (End-Use Product, EP, EPA File Symbol 55947-UG).

Enclosed are copies of the results of the method trials.

PCRS/RSB concludes that the analytical method is adequate for the determination of the ai in the products tested.

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Analytical Chemistry Section
Building 306, BARC-East
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OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

October 10, 1991

MEMORANDUM

SUBJECT: Proposed Analytical Procedure for Determination of Prodiamine(Barricade T Herbicide)in Prodiamine Technical and in Prodiamine Formulation.
Registrant: Sandoz Crop Protection Corporation
ACS No. 1991-AI-09

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

THRU: Harvey K. Hundley, Head
Analytical Chemistry Section

THRU: Donald A. Marlow, Chief
Analytical Chemistry Branch

TO: Alfred Smith, Chemist
Product Chemistry Review Section
Registration Support Branch
Registration Division (H7505C)

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

Validation of AM-0798-1090-2, Assay for Prodiamine in Technical and Formulated Material(GC), Sandoz Report No. 6, 10/10/90; and samples labeled and identified as follows:

1) Barricade T Herbicide, ANAL. REF. STD., (EPA File Symbol 55947-UR), RS-PRO-101590, SP 197-91, Reassay Date: 10-95, (Prodiamine) ..... 100.0% (GC)
2) BARRICADE T HERBICIDE, EPA FILE SYMBOL 55947-UR, Batch # 51014711, SP 197-91, Reassay 11/95, (TECHNICAL PRODIAMINE), 200.0 gms. 94.1%
3) BARRICADE 65 WG HERBICIDE, EPA FILE SYMBOL 55947-UG, Batch # 5176-71, Reassay 3/94, 100 gms. ..... ASSAY 65.7%.

ACL reviewed and validated the method submitted, and assayed the samples by same. The method will be summarized in the Comments Section.

Three portions of the Technical Prodiamine and Prodiamine Formulation were analyzed producing the following results:

Material	Assay Values (%)	Avg. (%)	SD	Precision
Technical Prodiamine	92.74, 94.72, 92.07	93.18	1.38	1.48
Barricade 65 WG (Formulation)	64.40, 64.14, 63.85	64.13	0.27	0.42

Comments:

The method supplied utilizes GC analysis with flame ionization detection, and di-n-hexyl phthlate for the internal standard. ACL substituted a 4 ft. 3% OV-225 on 100/200 Suplecort glass column and substituted dipropyl phthlate as an internal standard. NOTE: The injection port temperature called for in the Method, 150°C, is critical because there is evidence of thermal decomposition of prodiamine at higher temperatures. Quantitation was by internal standard techniques. All data acquisition was by electronic integration.

A response ratio linearity study between the prodiamine analytical standard and the internal standard, dipropyl phthalate, was made for the concentration range specified in the Method (0.48-4.52 mg/ml). All sample analyses were made within this range.

Reproducible results were obtained for all samples analyzed. Precision data for the Method is within the recommended levels outlined in the Product Chemistry Section of the Pesticide Assessment Guildlines Subdivision D.

This GC Method appears to produce acceptable results for the assay of samples of Technical and Formulation products containing Prodiamine.

ACL will dispose of the subject standards and samples in an appropriate and safe manner thirty (30) days from the date of this memo unless we receive otherwise specific instructions from you before that date.

Should you have any questions concerning the above analysis, please advise the analyst at 301/344-2833.