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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, *Alfred Smith* Chemist  
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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  
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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*  
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Analytical Chemistry Section

THRU: Harvey K. Hundley, Head *HK*  
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THRU: Donald A. Marlow, Chief *DM*  
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:

<u>Material</u>	<u>Assay Values (%)</u>	<u>Avg. (%)</u>	<u>SD</u>	<u>Precision</u>
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 Guidelines 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.