



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

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

JAN 22 1991

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Proposed Analytical Procedure for the Determination
of RE-45601 in Clethodim Technical and Select 2 EC

FROM: Gregory Verdin, Physical Science Technician *SPV*
Analytical Chemistry Section

THRU: Harvey K. Hundley, Head *Harvey Hundley*
Analytical Chemistry Section

THRU: Donald A. Marlow, Chief *DM*
Analytical Chemistry Branch

TO: JoAnne Miller, Acting Product Manager 23
Registration Division

As per § 62-3 of the Pesticide Assessment Guidelines, Subdivision Product Chemistry requiring submission of analytical methods for analysis and verification of certified limits for MUPs and/or EUPs and § 64-1 concerning submittal of samples for analysis, the applicant has submitted the following two methods titled: "Determination of RE-45601 in Clethodim Technical by High Performance Liquid Chromatography", and "Determination of RE-45601 in Select 2 EC by High Performance Liquid Chromatography" supplied by the applicant. The applicant also supplied ACS with the following materials labeled with purity as follows:

- 1 - Clethodim, RE-45601, analytical standard
Labeled 98.3% as 506K
Sli-v-21a Weight: 5g
- 2 - Clethodim Technical
SX-1845 Weight: 216.71g
- 3 - Select 2 EC Labeled 25.5% Clethodim
SX-1852 Weight: 213.97g

1/22/91

The above mentioned product was assayed using a 4.6 x 250 mm Regis 5 microns ODS column in a Waters HPLC using ultraviolet detector at 254 nm. The mobile phase of 70/29/1 acetonitrile/water/acetic acid was pumped at 1.5 ml/min.

No deviations from the method were made, and no problems were encountered.

Linearity studies were accomplished on the analytical grade Clethodim. Each was shown to be linear over the range of concentration specified in the method. All data acquisition was made by electronic integration.

The submitted samples of the technical and formulation materials were analyzed in triplicate yielding the following results:

<u>Material</u>	<u>% Assay</u>	<u>Average</u>	<u>Std. Dev.</u>
Clethodim Technical	88.83, 90.48, 82.22	87.18	4.371
Select 2 EC Herbicide	24.97, 25.76, 24.64	25.12	0.5755

This method appears to produce acceptable results for technicals and formulations containing Select 2 EC. The standard deviation for the assay values are within the limits of Subdivision D of the Product Chemistry Guidelines and the Protocol for the Active Ingredients Program.

Two copies of this memo are attached so that one may be initialed, dated, and returned to ACS. When this memo is returned it will enable ACS to dispose of the subject standards and samples in an appropriate and safe manner.

Should you have any questions concerning the above analysis, please advise the writer at 344-2232.

M/V
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