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

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

May 14, 1991

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

SUBJECT: Analytical Procedure for the Determination of Pyridate (Tough®), O-(6-chloro-3-phenyl-4-pyridazinyl) S-octyl carbothionate, content in samples of a Technical material, liquid end-use product, and a wettable powder.

Registrant: Agrolinz, Inc.
ACS No. 1990-AI-13

FROM: Diane M. Rains, Chemist DMR
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 of the Pesticide Assessment Guidelines, Subdivision D Product Chemistry Section, requiring submission of analytical methods for analysis and verification of certified limits for MUPs and EUPs, and §64-1 concerning submittal of samples for analysis, the Registrant, in compliance with the above requirements, has submitted the following method titled:

1) Pyridate - Determination of Pyridate Technical Material (HPLC using external std), Method number 10907. Agrolinz Inc., 1755 N. Kirby Pkwy, Suite 300, Memphis, TN 38119-4393.

Samples of the respective materials submitted to the Analytical Chemistry Laboratory for review and analysis were identified and labeled as follows:

1) Anal. Ref Std., Pyridate, Lot not given..... 97.6%
2) TECH. REF. STD. Pyridate, Lot 11344/Ar22.... 90.2%
3) Tough® 45 WP, Batch 11344/MA477..... 45.5%
4) Tough® 3.75 EC, Batch 11344/MA504..... 448g/l

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

Three portions of each sample were analyzed by each method producing the following results:

Material	Assay Values (%)	Average (%)	SD
HPLC Results			
Tech. Pyridate	92.0; 92.5; 92.7	92.4	0.36
Tough® 45WP	45.2; 44.7; 46.4	45.4	0.87
Tough® 3.75 EC (443.9)	99.1;(443.1) 98.9	(443.4)	0.46
(443.1)	98.9*	99.0	

* Product labeled as g/l and not wt. per cent.

Comments:

The HPLC Method utilizes a reverse phase, C-18, 5 micron column and variable wavelength detector set at 245 nm. The mobile phase was 85% methanol in water (pH4) isocratic. The content of the active ingredient is calculated by using an external standard.

1) ACL determined that the analytical standard peak areas were linear over the concentration range (0.62 - 2.03 mg/ml).

2) All data acquisition was by electronic integration. The analyst obtained reproducible results with good precision.

The standard deviations for the assay values found for the samples analyzed were within the limits of Subdivision D of the Product Chemistry Assessment Guidelines and the Active Ingredient Program's Protocol.

The HPLC method appears to produce acceptable results for the assay of samples of Technical and end-use products containing Pyridate (Tough®).

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

Should you have any questions concerning the above analysis please advise the analyst at 344-2834.

Kn. 251

MAY 22 1991

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

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

TO: Cynthia Giles-Parker, PM Team No. 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

The Analytical Chemistry Section (ACB/BEAD) has performed method trials for the determination of the active ingredient (ai) Pyridate in the products Tough 3.75EC, Tough 45 WP, and pyridate technical. Enclosed is a copy 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.