7-6-88 RF

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

JUL 6 1988

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: PP#8F3607: Glufosinate-Ammonium: Results of Laboratory Screen of Proposed Enforcement Methodology by Analytical Chemistry Section, COB.

FROM: Joel Garbus, PhD., Chemist
Permanent Tolerance Section III
Residue Chemistry Branch (TS-769)

THRU: C. L. Trichilo, PhD., Chief
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

TO: R. Mountfort, PM 23
Registration Division

Hoechst-Celanese has petitioned for permanent tolerances for the herbicide glufosinate-ammonium, (Ignite), and its metabolite, 3-methylphosphinicopropionic acid, in or on soybean seed, apples, grapes, field corn (grain, forage, fodder, and silage), and nuts at 0.05 ppm and in or on almond hulls at 0.50 ppm.

RCB requested that a method validation be initiated for glufosinate-ammonium and its metabolite on the above r.a.c.'s. (RCB memo of 3/21/88)

The Analytical Chemistry Section has responded to this request by stating that before ACS can initiate their laboratory work deficiencies in the description of the proposed enforcement methodology must be addressed or resolved. (Warren Bontoyan, memo, 6/23/88)

The unsatisfactory items as follows are restated as they appear in the ACS memo:

1. Page 7 - Para. 1.5. "Indicates" the need for control sample extract.

2. Page 18 What is a "slow speed" - should specify RPM if this step is so critical.

Also p. 19-20.

3. Page 21 - Par. 7.3 What are "under very mild conditions?"

   Para. 7.4 "smell to tell if reagent is all gone. Poor!

4. Page 29 - 8.3 Again points out the need for control sample extract.

5. Page 32 - 12.0 Reflux conditions seem to be "super critical".

6. Page 41 - Chromatograms are marginal.

7. Page 47 - Chromatograms are not acceptable.

8. Page 48 - 0.05 peak hardly makes 2.5 /S/N ratio.

9. Page 55 - Chromatogram is not acceptable.

10. Page 56 - Chromatograms - poor

Ron Thomas of ACS elaborated on these points in a conversation with RCB 7/1/88.

Points 1 and 4:

As written the directions for conditioning the GC columns are ambiguous in that sample extracts may refer to control samples and the use of control samples of matrices is not acceptable. The petitioner should specify that "samples" refer to samples of treated commodities.

Points 2, 3, and 5:

The petitioner should specify the conditions, such as RPM's, nature of heating equipment, recommended glassware, suggested temperatures, etc.

Point 3:

Smelling a reaction mixture for the absence of a derivitizing reagent with a strong, pungent odor may be hazardous or at least discomforting. The petitioner should propose an alternative method to ascertain the absence of the reagent.

Points 6 thru 10:

The petitioner should provide better chromatograms, if they are available, for grapes, soybean seed, pecan meat, and walnut meat. The submitted chromatograms indicate that it may be difficult to detect and quantify the analyte of concern in these particular matrices.

These comments should be brought to the attention of the petitioner for resolution. ACS can not proceed with the method validation until it has received adequate responses to these concerns.

cc: D. Marlow, R.F., Circ., MTO F, Garbus, PM-23, W.Bontoyan, PP#8F3607, PMSD/ISB (Eldredge)

RDI:PE:7/5/88:RDS:7/6/
TS-769:RCB:JG:jg:7/7/88:CM#2:803a:557-1439