MEMORANDUM

Subject: Metalaxyl Registration Standard
       Product Chemistry Chapter

From: Charles L. Trichilo, Chief
      Residue Chemistry Branch
      Hazard Evaluation Division (TS-769)

To:    Henry M. Jacoby, Product Manager No. 21
       Herbicide-Fungicide Branch
       Registration Division (TS-769)

The Agricultural Division of the Ciba-Geigy Corporation in its
letter of March 17, 1982 to Mr. Henry M. Jacoby, has submitted
information to satisfy the data gaps of the Product Chemistry
Chapter of the subject standard.

1. This information included the octanol/water partition
   coefficient which is given as log P = 1.65, and the pH
   which is reported for a 10% suspension as 2-4, and for
   a 1% suspension as 3-5. These data satisfy data gaps
   under their respective citations of Table 1 (pp. 19-20).
   The footnote to Table 2 (p. 34) states that the technical
   material and its manufacturing-use product are one and the
   same. Thus data on the technical material in Table 1 apply
   to the manufacturing-use product in Table 2, and the newly
   submitted information on pH satisfies the data gap in
   Table 2 (p. 32) as well.

2. A confidential statement giving information on other ingredients
   in the technical material was also submitted. Impurities formed
   and remaining in the material after purification at levels of
   0.1% or higher are listed (see CSF, Reg. No. 100-601).

Furthermore, we see no
discussion of the possibility of nitrosamine formation from
either metalaxyl or its impurities. The manufacturer should
discuss this possibility. Thus the data gap under guidelines
citation 163.61-5, Discussion of Formation of Unintentional
Ingredients (Table 2, p. 32) is not satisfied.

QUALITY CONTROL PROCEDURE INFORMATION IS NOT INCLUDED
3. We note some ambiguity on the subject of Guidelines citation 163.61, Declaration and Certification of Ingredient Limits (Table 2, p. 32; cf. p. 40). A declaration and certification of ingredient limits will eventually be needed.

4. Information on additional physical chemical properties of the manufacturing-use product were submitted:

   **Storage stability:** The material has been found to be stable for a minimum of three years at room temperature.

   **Flammability:** Based on the National Fire Protection Association System, the material has a flammability hazard of 1 (the material must be preheated before ignition can occur). The reactivity hazard is zero (the material is normally stable even under fire explosion conditions and is not reactive with water).

   **Oxidizing or Reducing Action:** The material has no oxidizing or reducing action.

   **Explosiveness:** The material is not shock sensitive. The product presents a possible dust explosion hazard. Grinding should be done in equipment that has a vent ratio of at least one square foot of vent area per 100 cu. ft. of equipment volume. Drying can be done at temperatures up to 200°C.

   **Corrosion Characteristics:** The material is mildly corrosive to steel and severely corrosive to tin plate.

This information satisfies the data gaps under citations 163.61-8 (12, 13, 14, 15 and 18) of Table 2 (pp. 32-33).

5. We note ambiguity on the subject of guidelines citation 163.61-7, Product Analytical Methods (Table 2, p. 32; cf. p. 40). Validation data have not yet been supplied us to establish the reliability of the product analytical method.

6. In addition to the two manufacturing-use products, the registrant has given us the ingredient statements and data for Ridomil 2E, Subdue 2E and Apron 2E. The product chemistry of these three end-use products is now the responsibility of the Registration Division.

TS-769:RCB:C.Trichilo:mch:CM#2:RM810:X77324
cc: Reading File, Circu., C. Trichilo, Metalaxyl S.F.
    G. Makhijani, G. Beusch