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

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

June 5, 1991

MEMORANDUM

SUBJECT: Proposed Ground-Water Advisory for Dacthal [EPA REG. NO. 50534-17]

FROM: Henry Jacoby, Chief
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

TO: Frank Sanders, Chief
Herbicide-Fungicide Branch
Registration Division (H7506C)

ISK-BIOTECH has submitted a proposed labeling statement for Dacthal G-2.5 Herbicide intended to reduce the potential of the degradate, tetrachloroterephthalate acid (TTA) to contaminate ground water.

BACKGROUND: The National Pesticide Survey [NPS], (USEPA, 1990) found TTA in 6.4% of the 1347 community water supplies (CWS) and rural water wells (RDW) sampled. Maximum values were 7.2 ppb in CWS wells and 2.4 ppb in RDW wells. Median values were 0.34 ppb and 0.38 ppb for the CWS and RDW wells, respectively. A ground-water monitoring study conducted by the California Department of Food and Agriculture (CDFA, 1990) confirmed 18 TTA detections (30%) in 60 wells in 5 of 7 counties in Southern California; TTA values range from 0.18 ppb to 15.00 ppb. Several of these counties were identified by the Registrant as high dacthal use counties. The parent compound DCPA was identified at levels between 0.01 and 0.03 ppb by the Iowa Department of Natural Resources in 0.4 % of 686 rural water wells sampled in Iowa (Iowa DNR, 1990). DCPA metabolites were not determined.[1]

PROPOSED GROUND-WATER ADVISORY: **Ground Water Advisory:** In very sandy (porous) soils a breakdown metabolite of DCPA, known as tetrachloroterephthalic acid, may leach downward through the soil into underlying ground water. Low levels of this metabolite, well below the lifetime Health Advisory Level, have been found in ground water underlying very permeable soils. The likelihood of movement

[1] Memorandum dated May 21, 1991, Henry Jacoby to Lois Rossi

of tetrachloroterephthalic acid to ground water is greatest in coarse to very coarse sandy soils which receive heavy rainfall and/or high amounts of irrigation water. Users are advised not to apply DACTHAL G-2.5 HERBICIDE to coarse to very coarse textured sandy soils (greater than 85% sand) in high rainfall areas if ground water, which may be used for drinking water, is known to exist very close to the surface. Your local agricultural agencies can provide information on the type of soil in your area and the location of ground water.

CONCLUSIONS:

1. It is not appropriate to comment on the magnitude of the concentration of pesticide detection. Given the fate characteristics of the compound, in particular its persistence, residues are likely to accumulate in ground water as the compound continues to be used.

2. No data exist to support this claim of greater mobility in "coarse to very coarse sandy soils."

3. The proposed advisory identifies environmental extremes where leaching would be expected. Leaching is also likely, and has in fact occurred in much less vulnerable environments. Specific criteria that would promote leaching have not yet been established for this compound. Thus, soil texture, rainfall requirements, and irrigation requirements are inappropriate.

4. Concern over contamination of water resources in not just limited to those presently being used for drinking water.

RECOMMENDATION:

1. The available data are not sufficient to support the very specific language that ISK*BIOTECH is proposing for DACTHAL G-25 HERBICIDE. If ISK*BIOTECH has data, other than that already submitted to the Agency, to support their proposed language it should be submitted for review.

2. In lieu of sufficient data, EFGWB suggests more generic language. The following ground-water advisory would be more acceptable to the Branch:

> "Tetrachloroterephthalic acid, a breakdown product of dacthal, is known to leach through soil, and has been found in ground water as a result of agricultural use. Users are advised not to apply in areas where soils are permeable, particularly where ground water is used for drinking water. Consult with the pesticide state lead agency for information regarding soil permeability and aquifer vulnerability in your area."