

# **Exhibit 77**



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

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

February 7, 2017

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**MEMORANDUM**

**SUBJECT:** (1) Transmittal of Data Evaluation Records (DER) for DCPA and TPA,  
(2) Response to Registrant's Data Waiver Requests for Environmental Fate  
Studies for TPA

**FROM:** James Lin, Environmental Engineer  
Environmental Risk Branch 2  
Environmental Fate and Effects Division (EFED)  
Office of Pesticide Programs (7507P)

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by Lin, James  
Date: 2017.02.07  
10:20:29 -05'00'

**THRU:** Brian Anderson, Branch Chief  
Elyssa Arnold, Risk Assessment Process Leader (RAPL)  
Environmental Risk Branch 2  
Environmental Fate and Effects Division (EFED)  
Office of Pesticide Programs (7507P)



Date: 2017.02.08 11:36:24  
-05'00'

 Digitally signed by Arnold, Elyssa  
Date: 2017.02.07 10:48:44 -05'00'

**TO:** Marquee King, Chemical Review Manager  
Jill Bloom, Team Leader  
Linda Arrington, Branch Chief  
Risk Management and Implementation Branch 5  
Pesticide Re-evaluation Division (PRD)  
Office of Pesticide Programs (7508P)

The Environmental Fate and Effects Division (EFED) has completed the subject actions regarding the registration review of DCPA. Please contact James Lin at 703-308-9591 with any comments or questions.

*Submissions:*

49307515. Nelson, T.R. 1984. *An Aerobic Aquatic Soil Metabolism Study with 14C-Dacthal (Revised per PRN 11-03 and 86-5)*. Unpublished study performed by SDA Biotech Corporation, Painesville, Ohio; sponsor unknown; submitted by AMVAC Chemical Company, Newport Beach, California. AMVAC ID: 100-MET-010a. 44p.

49307516. Wales, S. 2014. (14C)-TPA, A Metabolite of DCPA: Degradation in Three Soils (Revised per PRN 11-03 and 86-5). Unpublished study performed by Covance Laboratories Ltd., North Yorkshire, England; sponsored and submitted by the AMVAC Chemical Company, Newport Beach, California. AMVAC ID.: 100-MET-011a. 65p.

49307517. Swales, S. 2014. (14C)-TPA, A Metabolite of DCPA: Adsorption/Desorption in Soil (Revised per PRN 11-03 and 86-5). Unpublished study performed, sponsored and submitted by AMVAC Chemical Company, Newport Beach, CA. AMVAC ID: 100-MET-012a. 56p.

The study types, MRIDs, DER file names, and classifications are listed in Table 1.

**Table 1. DER for Environmental Fate Studies of DCPA and the degradate TPA**

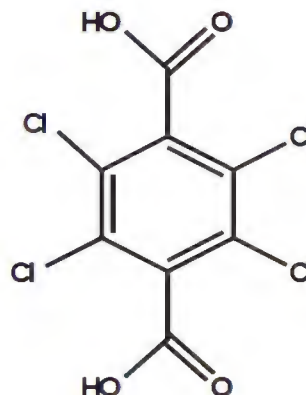
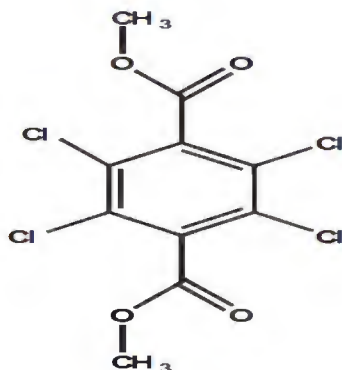
| MRID        | Study Type                                  | DER Electronic File Name                       | Study Classification |
|-------------|---|--|----------------------|
| <b>DCPA</b> |   |  |                      |
| 49307515    | DCPA: Aerobic Aquatic Metabolism (835.4300) | 078701_49307515_DER-Fate_835.4300_01-19-17.doc | supplemental         |
| <b>TPA</b>  |   |  |                      |
| 49307516    | TPA: Aerobic Soil Metabolism (835.4100)     | 078701_49307516_DER-Fate_835.4100_01-13-17.doc | supplemental         |
| 49307517    | TPA: Adsorption/Desorption (850.1230)       | 078701_49307517_DER-Fate_835.1230_01-10-17.doc | supplemental         |

AMVAC has also requested the waivers on the hydrolysis and anaerobic soil metabolism studies for the degradate TPA in MRID 49115401. The registrant's rational and the EFED's responses are provided below.

**TPA Environmental Fate Study Requirements:**

**835.2120: Hydrolysis Study of TPA**

*AMVAC Comment: For hydrolysis, the DCPA hydrolysis study demonstrates that the ester functionality of the parent molecule is not very susceptible to chemical hydrolysis. As the degradate TPA has the ester functionality removed, there are no new chemical features associated with the molecule that would make it susceptible to chemical hydrolysis in a manner different than the parent compound.*



## DCPA

## TPA

EFED Response: EFED concurs with AMVAC that the molecular structures of DCPA and TPA are similar, also other laboratory studies have identified TPA as the terminal degradate, so the assumption of stability to hydrolysis is accepted in the absence of a study.

### **835.4200: Anaerobic Soil Metabolism Study of TPA**

*AMVAC Comment: In terms of microbial degradation, there is clear evidence within the parent aerobic soil and anaerobic soil metabolism studies that TPA is quite stable over the duration of the guideline studies. Although there is evidence in the literature that microorganism induced reductive dechlorination and decarboxylation reactions can occur, these reactions seem to require an induction period that is longer than that observed in the laboratory tests. Within EPA's February 19, 2009 document, "Risks of DCPA Use to Federally Threatened California Red-legged Frog (*Rana aurora draytonii*) Pesticide Effects Determination", the Agency designated TPA as stable to both aerobic and anaerobic soil metabolism studies. Amvac intends to provide new study data to verify this finding for the aerobic soil metabolism of TPA; but proposes to utilize the findings of the DCPA anaerobic soil metabolism study for fulfilling the requirement for TPA.*

EFED Response: Since EFED has designated TPA as stable for both aerobic and anaerobic soil metabolism studies, EFED accepts AMVAC's proposal to provide a new study data to verify this finding for the aerobic soil metabolism of TPA. Previously, the DCPA anaerobic soil metabolism study has been classified as supplemental due to the limited data with only three data points, EFED does not believe that the results can be applied to TPA; therefore, EFED believes that a reliable anaerobic soil metabolism study for TPA is still needed for risk assessment, but will assume stability in the absence of a study.