Petitioner AMVAC Exhibit 7

EPA OALJ Docket No. FIFRA-HQ-2022-0002

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December 10, 2019

Mr. Jordan Page
Risk Management and Implementation Branch III
Pesticide Re-evaluation Division (7508P)
Office of Pesticide Programs
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460-0001

Subject: **Submission in Support of Registration Review: DCPA – (GDCI ID# 078701)**
SS Guideline Requirement -- Comparative Thyroid Assay (CTA)
Study Plan Review for a Range-finding and CTA
Response to EPA Memorandum dated 17-Sep-2019

Dear Mr. Page,

Many thanks for reviewing the range-finding draft protocol for the comparative thyroid assay for dimethyl tetrachloroterephthalate (DCPA). We appreciate the Agency comments on the protocol, and in accordance with the recommendations, the following actions have been performed:

- The draft study protocol (PM86YP, attachment A) has been updated to include reference to the "Guidance for Thyroid Assays in Pregnant Animals, Fetuses and Postnatal Animals, and Adult Animals".

- The draft study protocol (PM86YP, attachment A) has been amended to allow a tiered approach to conducting the studies. The draft study protocol attached details Phase I, with the DCPA measurements in milk/plasma and thyroid hormone measurements (T4, T3 and TSH) in serum. This information will help determine:

    - If the offspring are exposed to DCPA via consumption of maternal milk

    - If the methods used are suitable to detect thyroid hormone levels (T4, T3 and TSH) in serum at all the required life stages

- This information will be used to design Phase II of the study (i.e. to determine whether there is sufficient lactation transfer of DCPA to the offspring, or whether direct dosing with DCPA to the offspring is required to ensure adequate exposure). The Phase I study data will also be used to optimize dose levels.

- Sampling time of 2 h after dosing was determined as optimal from data collected during a pre-natal DRF study (Study number BDG0204, MRID:50663603), DCPA (Chlorthal Dimethyl): Dose Range Finding Pre-Natal Developmental Thyroid Study in Sprague-Dawley Rats by Oral Administration).

- After Phase 1 had been completed, a detailed proposed protocol for Phase II will be submitted for Agency review, along with the data from Phase I.

- The draft study protocol (PM86YP, attachment A) has been updated to detail inclusion of the internal standards and calibration curves in the HPLC-MS/MS final reports for T4, T3 analysis and DCPA analysis in milk and plasma.

- The validation data for the TSH immunoassay has been reviewed, in line with the comments from the Agency.

    - The validated method is based on a commercially available kit (Millipore, RPTMAG-86K).

    - Within the HLS0980 method validation (method validation report attachment B) the standard curve range 10,000 pg./mL – 4.57 pg./mL was assessed in 17 assay runs and the curve variability was acceptable. However, matrix QCs prepared at the lower concentrations did not pass acceptance criteria, therefore the calibration range was truncated to 10,000 pg/mL – 16.4 pg/mL. The truncated curve range performed consistently, was validated and has been used for all sample analysis. This truncated calibration range was used in the SL13SG method validation (analysis of TSH levels in serum, method validation report attachment C).

    - The validated lower limit of quantification (LLOQ) for TSH in serum using the Millipore, RPTMAG-86K kit at Covance is 123 pg./mL (after 1 in 3 dilution, SL13SG method validation report attachment C). Attempts were made to decrease the LLOQ in HLS0980 (method validation report attachment B), however these were unsuccessful and data did not meet acceptance criteria. Therefore, the LLOQ was increased to the level now stated in the validation report (123 pg./mL (after 1 in 3 dilution). Using the current methodology, Covance does not believe they can improve the LLOQ level for the TSH kit.

    - Chemicals that perturb thyroid homeostasis and result in hypothyroidism are known to be associated with neurological disorders and alterations in neurological development. The CTA is a mechanistic approach to generate specific data on the thyroid to protect the developing nervous system from thyroid hormone disrupting chemicals. As part of the negative feedback mechanism in hypothyroidism, TSH levels are expected to increase. Therefore vehicle control animals, within the CTA, are expected to have the lowest circulating TSH levels.

    - Covance has prepared a historical vehicle control database of the ranges of thyroid hormone levels measured in serum, over the life stages assessed in the CTA (attachment D). TSH levels in all animals were above the validated LLOQ (123 pg./mL).

- Therefore, it is considered that the current validated immunoassay methodology for assessment of TSH levels in serum is suitable for use in the CTA.

As recommended, please can the Agency review and provide comments on the attached updated proposed study protocol for Phase I of the DCPA range-finding comparative thyroid assay (CTA) and accompanying documents. We confirm that in-life study work will not be started before we have received comments on the updated proposed Phase I study protocol from the Agency.

Kind regards,

Ann Jonynas
Director of Toxicology
AMVAC Chemical Corporation

Transmittal Document

Name and Address of Submitter:

AMVAC Chemical Corporation
4695 MacArthur Court, Suite 1200
Newport Beach, CA 92660-1868

Company No. 5481

Contact Person: Jon C. Wood
Sr. Regulatory Manager
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Regulatory Actions:

Submission of report in support of Registration Review of DCPA (chlorthal dimethyl).

Transmittal Date: December 13, 2019

List of Submitted Studies:

Vol.#	Contents	Guideline No.	Study Report Title	MRID No.
1	Validation of Method for DCPA in Rat Plasma	SS-comparative thyroid toxicity	100-TOX-062- DCPA: T3, T4 and TSH: The Validation of an Immunoassay Method for the Measurement of Triiodothyronine (T3), Thyroxine (T4) and Thyroid-Stimulating Hormone (TSH) in Rat EDTA Plasma-- [Interim Report ID HLS0980].	51022401

Study Plan

DCPA (Chlorthal Dimethyl): Dose Range Finding Comparative Thyroid Assay Investigating Milk Transfer and Thyroid Hormone Levels in Dams and Pups (Including a PTU Positive Control Group) in Sprague-Dawley Rats by Oral Administration

Covance Study Number:	PM86YP
Sponsor Name:	AMVAC Chemical Corporation
Version ID:	Draft 1
Issue Date:	03 December2019
Study Director:	
Test Facility:	Covance CRS Limited Eye Suffolk IP23 7PX UK

REPORT

T3, T4 and TSH: The Validation of an Immunoassay Method for the Measurement of Triiodothyronine (T3), Thyroxine (T4) and Thyroid-Stimulating Hormone (TSH) in Rat EDTA Plasma

Interim Report

On 21 September 2015 the legal entity Huntingdon Life Sciences Limited was renamed as Envigo CRS Limited. No other changes to the legal entity have occurred.

Test Guidelines	Supporting OCSPP 870.3700SS
Envigo Study Number	HLS0980
Version ID	Final
Issue Date	03 May 2016
Study Director	Lisa Seavers BSc (Hons)

Test Facility

Envigo CRS Ltd
Woolley Road
Alconbury
Huntingdon
Cambridgeshire
PE28 4HS
UK

Study Data Summary

The Validation of a Immunoassay Method for the Measurement of Thyroid- Stimulating Hormone (TSH) in Rat Serum

Test Guidelines	Original Study performed to GLP
Envigo Study Number:	Data taken from study SL13SG
Sponsor Name:	Envigo
Version ID:	Final
Issue Date:	08 June 2018
Author:	Lisa Seavers
Testing Facility:	Envigo CRS Limited Woolley Road Alconbury Huntingdon Cambridgeshire PE28 4HS UK

TABLE: Summary of Thyroid Hormone Methods and Control Ranges – Sprague Dawley Rats, Charles River UK

Data collected from 2016 – to present

Analyte	**TSH:** Serum	**T3:** Serum	**T4:** Serum
Methodology	Immunoassay	LC-MS/MS	LC-MS/MS
Method number	BBC017	BM/2016/0632	BM/2016/0632
Validation Study	SL13SG	FF58YR	FF58YR
Minimum Required Dilution	3	Neat	Neat
Limit of Quantitation	123 pg/mL	5 pg/mL	70 pg/mL

Age	**Study**	**Control Ranges (pg/mL)**		
		TSH: Serum	**T3: Serum**	**T4: Serum**
Dams				
Gestational Day 20	BDG0204	NT	381 – 560 (5)	12300 – 17400 (5)
Gestational Day 20	OECD 414 study 1 (2019)	448-2480 (20)	269-697 (20)	5010-21100 (20)
Gestational Day 20	OECD 414 study 2 (2019)	218-1970 (20)		
Lactation Day 13	XJ05HV	323 – 890 (4)	360 – 498 (5)	31300 – 39000 (5)
Lactation Day 13	XJ05HV	1750 (1)*	NT	NT
Lactation Day 28	Extended One Gen Repro-tox Study 1	NT	NT	23400 – 50500 (10)
Lactation Day 28	Extended One Gen Repro-tox Study 3	135-539 (10)	NT	22800-42500

Fetuses/Pups				
Male foetus Gestational Day 20	BDG0204	NT	9.9 – 14.3 (5)	2650 – 3940 (5)
Female foetus Gestational Day 20	BDG0204	NT	14.2 – 16.6 (5)	3150 – 3630 (5)
Male Lactation Day 13	XJ05HV	1020 – 3950 (21)	600 – 1020 (22)	32900 – 55000 (22)
Male Lactation Day 13	XJ05HV	561 (1)*	NT	NT
Female Lactation Day 13	XJ05HV	1040/1440 (1)*	NT	NT
Male Lactation Day 22	Extended one generation Study 2	289-3680 (10)	NT	17500-44400 (10)
Female Lactation Day 22	Extended one generation Study 2	270--819 (10)	NT	28000-51100 (10)
Male Lactation Day 22	Extended one generation Study 3	NT	NT	37900 – 68700 (10)
Female Lactation Day 22	Extended one generation Study 3	NT	NT	39700 – 56900 (10)

(n) = number of animals analysed

NT = not tested

*Contemporaneous samples analysed from the same animal(s)

1 November 2019

References

Study Number	Year Performed	Study title
BDG0204	2016-17	DCPA (Chlorthal Dimethyl): Dose Range Finding Pre Natal Thyroid Study in Sprague-Dawley Rats by Oral Administration
XJ05HV	2016	PTU (Propylthiouracil): Positive Control Pre and Post Natal Developmental Thyroid Study in Sprague-Dawley or Han Wistar Rats by Oral Administration or When Untreated
Study 1	2016-17	Extended One Generation Reproductive toxicology study
Study 2	2017	Extended One Generation Reproductive toxicology study
Study 3	2018-19	Extended one generation Reproductive toxicology study

Data Submission

DCI Number: GDCI-078701-1140

Data Call-In Information	
Company Name	**AMVAC CHEMICAL CORPORATION**
Company Address	**4695 MACARTHUR COURT, SUITE 1200 NEWPORT BEACH, CA 926601706**
DCI Type	**Generic**
Issued Date	**01/31/2013**
90-Day Response Deadline	**05/11/2013**
CRM Information	**King, Marquea**
Chemical Name	**DCPA (or chlorthal-dimethyl?)**
Chemical Number	**078701**

Data Submission Information	
Tracking Number	**CDX_DCI_2019_000959**

DCI Level Documents

File Name	File Type	MRID	CBI	Submitted Date
20191210 DCPA DCI Response to EPA CTA Protocol Review_AJ signed cover.pdf	**Submission Cover Letter**	**N.A.**	**N**	**12/13/2019**
20191213 DCPA Reg Review_CTA Validation report_Transmittal doc.pdf	**Transmittal Document**	**N.A.**	**N.A.**	**12/13/2019**

EPA Product Registration Number(s)

5481-495	

EPA Product Registration Documents: 5481-495

File Name	File Type	MRID	CBI	Submitted Date
20180222 DCPA GDCI Waivers_Transmittal_DRAFT.pdf	**General Correspondences**	**N.A.**	**N**	**02/23/2018**
20180222 DCPA GDCI Waivers_870-1_signed.pdf	**General Correspondences**	**N.A.**	**N**	**02/23/2018**

Guideline Requirement Number(s)

Guideline Requirement Number - 835.1230	
Study Title	**Sediment and soil absorption/desorption for parent and degradates**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**DEGR**
Time Frame	**12 month(s)**
Footnote(s)	**3. Test to be conducted with TPA degradate only.**
Registrant Response	**N.A.**

Guideline Requirement Number - 835.1240	
Study Title	**Soil column leaching**
Protocol	**N**

Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**DEGR**
Time Frame	**12 month(s)**
Footnote(s)	**3. Test to be conducted with TPA degradate only.**
Registrant Response	**N.A.**
Guideline Requirement Number - 835.2120	
Study Title	**Hydrolysis of parent and degradates as a function of pH at 25 C**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**DEGR**
Time Frame	**12 month(s)**
Footnote(s)	**3. Test to be conducted with TPA degradate only.**
Registrant Response	**N.A.**
Guideline Requirement Number - 835.4100	
Study Title	**Aerobic soil metabolism**
Protocol	**N**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**DEGR**
Time Frame	**24 month(s)**
Footnote(s)	**3. Test to be conducted with TPA degradate only.**
Registrant Response	**N.A.**
Guideline Requirement Number - 835.4200	
Study Title	**Anaerobic soil metabolism**
Protocol	**N**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**DEGR**
Time Frame	**24 month(s)**
Footnote(s)	**3. Test to be conducted with TPA degradate only.**
Registrant Response	**N.A.**
Guideline Requirement Number - 835.4300	
Study Title	**Aerobic aquatic metabolism**
Protocol	**N**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**COMMENT**
Time Frame	**24 month(s)**

Footnote(s)	**2. Tests to be conducted with DCPA parent and TPA degradate.**
Registrant Response	**N.A.**

Uploaded Documents				
File Name	**File Type**	**MRID**	**CBI**	**Submitted Date**
20180222 DCPA GDCI_Waiver 835.4300 Aerobic Aquatic Metabolism.pdf	**Data Waiver Request**	**50533511**	**No CBI**	**02/23/2018**

Guideline Requirement Number - 835.4400	
Study Title	**Anaerobic aquatic metabolism**
Protocol	**N**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**DEGR**
Time Frame	**24 month(s)**
Footnote(s)	**3. Test to be conducted with TPA degradate only.**
Registrant Response	**N.A.**

Uploaded Documents				
File Name	**File Type**	**MRID**	**CBI**	**Submitted Date**
20180222 DCPA GDCI_Waiver 835.4400 Anaerobic Aquatic Metabolism.pdf	**Data Waiver Request**	**50533512**	**No CBI**	**02/23/2018**

Guideline Requirement Number - 835.6100	
Study Title	**Terrestrial field dissipation**
Protocol	**N**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**COMMENT**
Time Frame	**24 month(s)**
Footnote(s)	**2. Tests to be conducted with DCPA parent and TPA degradate.**
Registrant Response	**N.A.**

Uploaded Documents				
File Name	**File Type**	**MRID**	**CBI**	**Submitted Date**
20180222 DCPA GDCI_Waiver 835.6100 Terrestrial Field Dissipation.pdf	**Data Waiver Request**	**50533513**	**No CBI**	**02/23/2018**

Guideline Requirement Number - 850.1010	
Study Title	**Aquatic invertebrate acute toxicity, test, freshwater daphnids**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**COMMENT**
Time Frame	**12 month(s)**

Footnote(s)	**2. Tests to be conducted with DCPA parent and TPA degradate.**
Registrant Response	**N.A.**
Guideline Requirement Number - 850.1025	
Study Title	**Oyster acute toxicity test (shell deposition)**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**COMMENT**
Time Frame	**12 month(s)**
Footnote(s)	**2. Tests to be conducted with DCPA parent and TPA degradate.** **15. Preferred test species is Crassostrea virginica, Eastern oyster.**
Registrant Response	**N.A.**

Uploaded Documents

File Name	File Type	MRID	CBI	Submitted Date
20180222 DCPA GDCI_Waiver 850.1025 Oyster Acute Toxicity Test (shell deposition).pdf	**Data Waiver Request**	**50533502**	**No CBI**	**02/23/2018**

Guideline Requirement Number - 850.1035	
Study Title	**Mysid acute toxicity test**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**COMMENT**
Time Frame	**12 month(s)**
Footnote(s)	**2. Tests to be conducted with DCPA parent and TPA degradate.** **13. Preferred test species is Mysidopsis bahia, mysid shrimp.**
Registrant Response	**N.A.**

Uploaded Documents

File Name	File Type	MRID	CBI	Submitted Date
20180222 DCPA GDCI_Waiver 850.1035 Mysid Acute Toxicity Test.pdf	**Data Waiver Request**	**50533503**	**No CBI**	**02/23/2018**

Guideline Requirement Number - 850.1075	
Study Title	**Fish acute toxicity test, freshwater and marine**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**COMMENT**
Time Frame	**12 month(s)**
Footnote(s)	**2. Tests to be conducted with DCPA parent and TPA degradate.** **16. Preferred test species are rainbow trout, Oncorhynchus mykiss and bluegill sunfish, Lepomis macrochirus (freshwater); and sheepshead minnow, Cyprinodon variegatus (estuarine/marine).**
Registrant Response	**N.A.**

Uploaded Documents

File Name	File Type	MRID	CBI	Submitted Date
20180222 DCPA GDCI_Waiver 850.1075 Fish Acute Toxicity Test, Freshwater and Marine.pdf	Data Waiver Request	50533504	No CBI	02/23/2018

Guideline Requirement Number - 850.1300	
Study Title	Daphnid chronic toxicity test
Protocol	N
Target Submission Date	01/31/2014
Use Pattern	A; B; C; II; K; U
Test Substance	COMMENT
Time Frame	12 month(s)
Footnote(s)	2. Tests to be conducted with DCPA parent and TPA degradate. 14. Preferred test species is Daphnia magna.
Registrant Response	N.A.

Uploaded Documents

File Name	File Type	MRID	CBI	Submitted Date
20180222 DCPA GDCI_Waiver 850.1300 Daphnid Chronic Toxicity Test.pdf	Data Waiver Request	50533505	No CBI	02/23/2018

Guideline Requirement Number - 850.1350	
Study Title	Mysid chronic toxicity test
Protocol	N
Target Submission Date	01/31/2014
Use Pattern	A; B; C; II; K; U
Test Substance	COMMENT
Time Frame	12 month(s)
Footnote(s)	2. Tests to be conducted with DCPA parent and TPA degradate. 13. Preferred test species is Mysidopsis bahia, mysid shrimp.
Registrant Response	N.A.

Uploaded Documents

File Name	File Type	MRID	CBI	Submitted Date
20180222 DCPA GDCI_Waiver 850.1350 Mysid Chronic Toxicity Test.pdf	Data Waiver Request	50533506	No CBI	02/23/2018

Guideline Requirement Number - 850.1400	
Study Title	Fish early-life stage toxicity test
Protocol	N
Target Submission Date	01/31/2014
Use Pattern	A; B; C; II; K; U
Test Substance	COMMENT
Time Frame	12 month(s)
Footnote(s)	2. Tests to be conducted with DCPA parent and TPA degradate. 16. Preferred test species are rainbow trout, Oncorhynchus mykiss and bluegill sunfish, Lepomis macrochirus (freshwater); and sheepshead minnow, Cyprinodon variegatus (estuarine/marine).

Registrant Response	**N.A.**

Uploaded Documents				
File Name	**File Type**	**MRID**	**CBI**	**Submitted Date**
20180222 DCPA GDCI_Waiver 850.1400 Fish Early Life-Stage Toxicity Test.pdf	**Data Waiver Request**	**50533507**	**No CBI**	**02/23/2018**

Guideline Requirement Number - 850.1730	
Study Title	**Fish BCF**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**DEGR**
Time Frame	**12 month(s)**
Footnote(s)	**3. Test to be conducted with TPA degradate only.**
Registrant Response	**N.A.**

Guideline Requirement Number - 850.2100	
Study Title	**Avian acute oral toxicity test**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TGAI**
Time Frame	**12 month(s)**
Footnote(s)	**12. Preferred test species is redwing blackbird, Agelaius phoneiceus.**
Registrant Response	**N.A.**

Guideline Requirement Number - 850.2300	
Study Title	**Avian reproduction test**
Protocol	**N**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TGAI**
Time Frame	**24 month(s)**
Footnote(s)	**17. Preferred test species are mallard duck and Northern bobwhite quail.**
Registrant Response	**N.A.**

Guideline Requirement Number - 850.4100	
Study Title	**Terrestrial Plant Toxicity (Seedling Emergence)**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TEP**
Time Frame	**12 month(s)**

Footnote(s)	**20. Data are required for six species of dicots from at least four families, one species of which is soybean (Glycine max). Data are required for four species of monocots from at least two families, one species of which is corn (Zea mays). At least one of either the monocot or dicot species must be a root crop. 25. A Tier II study is required. A Tier I plant study may be conducted in lieu of a Tier II study with the understanding that any adverse effects observed by the Tier I study would necessitate conduct and submission of a Tier II study as well. The purpose of a Tier II study is to establish both a definitive No Observed Adverse Effect Concentration (NOAEC), or alternatively, a concentration at which there is a 5% observed inhibition effect (IC05), to be used in a risk assessment and effects determination for endangered or threatened species (listed species), and a definitive IC25 (concentration at which there is a 25% observed inhibition effect) for assessing risk to non-listed nontarget plants. If any adverse effects are observed in a Tier I study and neither a definitive NOAEC nor a definitive IC05 value is available, then the Agency may have to presume in its effects determination, that DCPA "may affect" and is "likely to adversely affect" listed plant species.**
Registrant Response	**N.A.**

Uploaded Documents

File Name	File Type	MRID	CBI	Submitted Date
20180222 DCPA GDCI_Waiver 850.4100 Terrestrial Plant Toxicity Tier 1 (Seedling Emergence).pdf	**Data Waiver Request**	**50533510**	**No CBI**	**02/23/2018**

Guideline Requirement Number - 850.4150

Study Title	**Terrestrial plant toxicity, Tier 1 (vegetative vigor)**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**COMMENT**
Time Frame	**12 month(s)**
Footnote(s)	**2. Tests to be conducted with DCPA parent and TPA degradate. 20. Data are required for six species of dicots from at least four families, one species of which is soybean (Glycine max). Data are required for four species of monocots from at least two families, one species of which is corn (Zea mays). At least one of either the monocot or dicot species must be a root crop. 25. A Tier II study is required. A Tier I plant study may be conducted in lieu of a Tier II study with the understanding that any adverse effects observed by the Tier I study would necessitate conduct and submission of a Tier II study as well. The purpose of a Tier II study is to establish both a definitive No Observed Adverse Effect Concentration (NOAEC), or alternatively, a concentration at which there is a 5% observed inhibition effect (IC05), to be used in a risk assessment and effects determination for endangered or threatened species (listed species), and a definitive IC25 (concentration at which there is a 25% observed inhibition effect) for assessing risk to non-listed nontarget plants. If any adverse effects are observed in a Tier I study and neither a definitive NOAEC nor a definitive IC05 value is available, then the Agency may have to presume in its effects determination, that DCPA "may affect" and is "likely to adversely affect" listed plant species.**
Registrant Response	**N.A.**

Guideline Requirement Number - 850.4400

Study Title	**Aquatic plant toxicity test using Lemna spp. Tiers I and II**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**COMMENT**
Time Frame	**12 month(s)**
Footnote(s)	**2. Tests to be conducted with DCPA parent and TPA degradate. 22. Data are required for a duckweed species. 24. A Tier II study is required. A Tier I plant study may be conducted in lieu of a Tier II study with the understanding that any adverse effects observed by the Tier I study would necessitate conduct and submission of a Tier II study as well. The purpose of a Tier II study is to establish both a definitive No Observed Adverse Effect Concentration (NOAEC), or alternatively, a concentration at which there is a 5% observed inhibition effect (IC05), to be used in a risk assessment and effects determination for endangered or threatened species (listed species), and a definitive IC50 (concentration at which there is a 50% observed inhibition effect) for assessing risk to non-listed nontarget plants. If any adverse effects are observed in a Tier I study and neither a definitive NOAEC nor a definitive IC05 value is available, then the Agency may have to presume in its effects determination, that DCPA "may affect" and is "likely to adversely affect" listed plant species.**

Registrant Response	**N.A.**

Uploaded Documents				
File Name	**File Type**	**MRID**	**CBI**	**Submitted Date**
20180222 DCPA GDCI_Waiver 850.4400 Aquatic Vascular Plant Toxicity Test, Tiers I_II (Lemna spp.).pdf	**Data Waiver Request**	**50533508**	**No CBI**	**02/23/2018**

Guideline Requirement Number - 850.5400	
Study Title	**Algal toxicity, Tiers 1 and II**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**COMMENT**
Time Frame	**12 month(s)**
Footnote(s)	**2. Tests to be conducted with DCPA parent and TPA degradate. 21. Data are required for a freshwater green alga species, a freshwater diatom species, a marine diatom species, and a cyanobacterium (formerly known as blue-green algae). 24. A Tier II study is required. A Tier I plant study may be conducted in lieu of a Tier II study with the understanding that any adverse effects observed by the Tier I study would necessitate conduct and submission of a Tier II study as well. The purpose of a Tier II study is to establish both a definitive No Observed Adverse Effect Concentration (NOAEC), or alternatively, a concentration at which there is a 5%observed inhibition effect (IC05), to be used in a risk assessment and effects determination for endangered or threatened species (listed species), and a definitive IC50 (concentration at which there is a 50%observed inhibition effect) for assessing risk to non-listed nontarget plants. If any adverse effects are observed in a Tier I study and neither a definitive NOAEC nor a definitive IC05 value is available, then the Agency may have to presume in its effects determination, that DCPA "may affect" and is "likely to adversely affect" listed plant species.**
Registrant Response	**N.A.**

Uploaded Documents				
File Name	**File Type**	**MRID**	**CBI**	**Submitted Date**
20180222 DCPA GDCI_Waiver 850.5400 Aquatic Non-Vascular Plant Toxicity Test, Tiers I_II (Algal species).pdf	**Data Waiver Request**	**50533509**	**No CBI**	**02/23/2018**

Guideline Requirement Number - 860.1300	
Study Title	**Nature of the residue - plants, livestock**
Protocol	**N**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**PAIRA**
Time Frame	**24 month(s)**
Footnote(s)	**18. Nature of the residue for poultry only. The required poultry nature of the residue study will need supporting storage stability data for all DCPA residues of concern, unless the samples from the feeding study are analyzed within six months of collection.**
Registrant Response	**N.A.**

Guideline Requirement Number - 860.1340	
Study Title	**Residue analytical method**
Protocol	**N**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**

Test Substance	**Residue of Concern**
Time Frame	**24 month(s)**
Footnote(s)	**7. Residue analytical method for livestock commodities only. The registrant has submitted a method for determining residues of DCPA and its metabolites that may be suitable but must be tested by an independent laboratory to ensure that it is useful.**
Registrant Response	**N.A.**
Guideline Requirement Number - 860.1380	
Study Title	**Storage stability data**
Protocol	**N**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TEP; res of concrn**
Time Frame	**24 month(s)**
Footnote(s)	**11. Previously submitted data from several field trials did not include necessary information about storage intervals and conditions. This information is required to allow the Agency to evaluate data from the studies with MRID #s 00017975, 00018299, 00033087, 00038919, 00058377, 00058378, 00072099, 00090259, 00114643, 00114678, 00114679, 00114680, 00114681, 00121864, and 00130562.**
Registrant Response	**N.A.**
Guideline Requirement Number - 860.1480	
Study Title	**Meat/milk/poultry/eggs**
Protocol	**N**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TGAI; plant metab**
Time Frame	**24 month(s)**
Footnote(s)	**23. Cattle feeding study. The required study will need supporting storage stability data for all DCPA residues of concern, unless the samples from the feeding study are analyzed within 30 days of collection.**
Registrant Response	**N.A.**
Guideline Requirement Number - 860.1900	
Study Title	**Field accumulation in rotational crops**
Protocol	**N**
Target Submission Date	**01/31/2016**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TEP**
Time Frame	**36 month(s)**
Footnote(s)	**1. The scope of this requirement is dependent upon the registrant's intent to support the rotation of particular crops into areas previously treated with DCPA and the desired plantback interval(s) for these crops. Any crop without a registered use and for which the registrant wishes rotation to be allowed requires field trial data to determine a suitable tolerance level. A crop group approach, requiring data on representative commodities, may be appropriate if several crops within a group are to be rotated. For individual crops, testing must include the standard number of trials that would be needed to support tolerances for direct crop treatment, e.g., 20 trials for wheat. In its data submission, the registrant must indicate the crops it wishes to support for rotation and the corresponding proposed plant-back intervals.**
Registrant Response	**N.A.**
Guideline Requirement Number - 870.3465	
Study Title	**90-day inhalation toxicity**
Protocol	**N**

Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TGAI**
Time Frame	**24 month(s)**
Footnote(s)	
Registrant Response	**N.A.**
Guideline Requirement Number - 870.6200	
Study Title	**Neurotoxicity screening battery**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TGAI**
Time Frame	**12 month(s)**
Footnote(s)	
Registrant Response	**N.A.**
Guideline Requirement Number - 870.7800	
Study Title	**Immunotoxicity**
Protocol	**N**
Target Submission Date	**01/31/2014**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TGAI**
Time Frame	**12 month(s)**
Footnote(s)	
Registrant Response	**N.A.**
Guideline Requirement Number - SS-1066	
Study Title	**Chronic Sediment - Hyalella Azteca**
Protocol	**Y**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TGAI**
Time Frame	**24 month(s)**
Footnote(s)	**6. Test Method 100.4: Hyalella azteca 42-d Test for Measuring the Effects of Sediment-associated Contaminants on Survival, Growth, and Reproduction in USEPA 2000 Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates EPA 600/R-99/064** **8. Protocol must be submitted to the Agency for review and approval prior to study inception. The draft protocol must be submitted to the Agency within 90 days of receipt of this DCI.**
Registrant Response	**N.A.**
Guideline Requirement Number - SS-1069	
Study Title	**Chronic Sediment - Chironomus dilutus**
Protocol	**Y**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**

Test Substance	**TGAI**
Time Frame	**24 month(s)**
Footnote(s)	**5. Test Method 100.5: Life-cycle Test for Measuring the Effects of Sediment-associated Contaminants on Chironomus dilutus (formerly known as C. tentans) in USEPA 2000 Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates EPA 600/R-99/064** **9. Protocol must be submitted to the Agency for review and approval prior to study inception. The draft protocol must be submitted to the Agency within 90 days of receipt of this DCI**
Registrant Response	**N.A.**
Guideline Requirement Number - SS-1072	
Study Title	**Chronic Sediment - Leptocheirus plumulosus**
Protocol	**Y**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TGAI**
Time Frame	**24 month(s)**
Footnote(s)	**9. Protocol must be submitted to the Agency for review and approval prior to study inception. The draft protocol must be submitted to the Agency within 90 days of receipt of this DCI** **19. Leptocheirus plumulosus in USEPA 2001 Method for Assessing the Chronic Toxicity of Marine and Estuarine Sediment-associated Contaminants with the Amphipod Leptocheirus plumulosus EPA 600/R-0I/020**
Registrant Response	**N.A.**

Uploaded Documents

File Name	File Type	MRID	CBI	Submitted Date
20180222 DCPA GDCI_Waiver SS-1072 [Chronic Sediment - Leptocheirus plumulosus].pdf	**Data Waiver Request**	**50533501**	**No CBI**	**02/23/2018**

Guideline Requirement Number - SS-1075	
Study Title	**Avian Acute Inhalation**
Protocol	**Y**
Target Submission Date	**10/31/2013**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TGAI**
Time Frame	**9 month(s)**
Footnote(s)	**4. Test organism must be most sensitive avian species as shown in acute oral toxicity testing. Registrant must submit a protocol that includes an explanation of the choice of test species.**
Registrant Response	**N.A.**
Guideline Requirement Number - SS-thyroid tox.	
Study Title	**comparative thyroid toxicity study**
Protocol	**Y**
Target Submission Date	**01/31/2015**
Use Pattern	**A; B; C; II; K; U**
Test Substance	**TGAI**
Time Frame	**24 month(s)**
Footnote(s)	**10. Protocol must be submitted to the Agency for review and approval prior to study inception. The draft protocol must be submitted to the Agency within 90 days of receipt of this DCI.**
Registrant Response	**N.A.**

Uploaded Documents				
File Name	File Type	MRID	CBI	Submitted Date
20170817 DCPA Thyroid - PTU-Positive Control Report XJ05HV_cover memo signed.pdf	General Correspondences	N.A.	Y	08/17/2017
100-TOX-063_XJ05HV Toxicology Report.pdf	Supplemental Study Data	50357301	No CBI	08/17/2017
Amvac DCPA update 24 August 2018.pdf	General Correspondences	N.A.	Y	08/28/2018
20180824 DCPA Thyroid Study Qtrly Update and Reports.pdf	General Correspondences	N.A.	Y	08/28/2018
100-TOX-072 DCPA Draft DRF Study Design.pdf	General Correspondences	N.A.	Y	08/28/2018
100-TOX-070 Study Plan DCPA Dose range finding pre and post-natal developmental thyroid study (including a PTU positive control group and milk investigation) in.pdf	General Correspondences	N.A.	Y	08/28/2018
100-TOX-066 Validation of a Bioanalytical Method for the Determination of 3,3,5'-Triiodo-Thyronine (T3) and Thyroxine (T4).pdf	Study	50663601	Confidential Attachment and Supplemental Claim	08/28/2018
100-TOX-067 The Validation of a Immunoassay Method for the Measurement of Throid-Stimulating Hormone (TSH) in Rat Serum.pdf	Study	50663602	Confidential Attachments	08/28/2018
100-TOX-068 DCPA (Chlorthal Dimethyl) Dose Range Finding.pdf	Study	50663603	Confidential Attachments	08/28/2018
100-ANM-044 Validation of a Bioanalytical Method for the Determination of Chlorthal Dimethyl.pdf	Study	50827701	No CBI	04/05/2019
100-ANM-045 Validation of Bioanalytical Method for the Determination of Chlorthal Dimethyl.pdf	Study	50827702	No CBI	04/05/2019
A- PM86YP prelim SP v1 03 Dec 2019.pdf	General Correspondences	N.A.	N	12/13/2019
C- SL13SG Summary Data.pdf	General Correspondences	N.A.	N	12/13/2019
D-Database of Ranges of Thyroid Homone Levels.pdf	General Correspondences	N.A.	N	12/13/2019
B-100-TOX-062_T3, T4 and TSH-The Validation of and Immunoassay Method for the Measurement of T3, T4 and TSH in Rat EDTA Plasma.pdf	Study	51022401	No CBI	12/13/2019

Submitter Information	
Submitter	Jon Wood
Submitted Date	12/13/2019
Additional Contact(s)	carolb@amvac.com

I certify, under penalty of law that the information provided in this document is, to the best of my knowledge and belief, true, accurate,

and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Baumgartner, Carol

From: helpdesk@epacdx.net
Sent: Friday, December 13, 2019 11:52 AM
To: Wood, Jon
Cc: Baumgartner, Carol
Subject: CDX DCI Data Submission Transmitted to OPP

Your Data Submission (GDCI-078701-1140) has been successfully transmitted to OPP and is awaiting processing. Your tracking number is CDX_DCI_2019_000959.

Company Name: AMVAC CHEMICAL CORPORATION
Company Number: 5481

If you have questions concerning this message, you may contact the CDX Help Desk by email at helpdesk@epacdx.net or by calling the CDX Technical Support Staff through our toll free telephone support on (888) 890-1995 between Monday through Friday from 8:00 am to 6:00 pm EST/EDT. For International callers, the CDX Help Desk can also be reached at (970) 494-5500.

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