August 7, 2024

Consent Order PFAS Toxicology Studies – Status Update

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Consent Order Toxicity Studies

Status Updates

1. Aquatic Toxicology studies
2. Rodent Toxicology studies

~~Results Summaries~~

~~1. Aquatic Toxicology studies~~

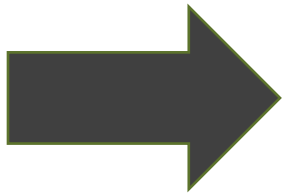
~~1. Algae~~

~~2. Daphnia~~

~~3. Fish~~

PFAS in North Carolina

Consent Order Paragraph 14 Study PFAS



- PFMOAA
- PMPA
- PFO2HxA
- PEPA
- Nafion BP2

Chemours Consent Order: Toxicity Study Details

"The following studies, which shall be conducted following applicable USEPA, OECD protocols as defined in the USEPA TSCA, OPPT or other appropriate programs as determined by DEQ."

Rodent Toxicity Studies:

- 28-day oral immunotoxicity study in rats
- 28-day oral immunotoxicity study in mice
- 90-day repeated dose oral toxicity study in rats
- 90-day repeated dose oral toxicity study in mice

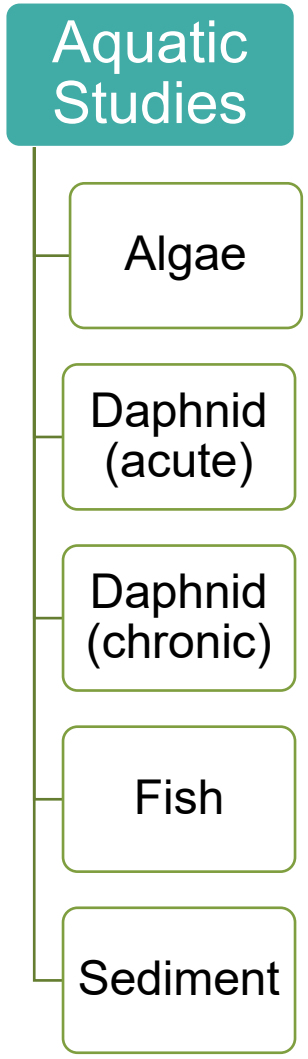
***Rodent Studies**: mouse and rat; classic tox and immunotox*

Ecological Toxicity Studies:

- Algal acute (72-hour growth) toxicity study
- Daphnid acute toxicity study
- Daphnid chronic (reproduction) toxicity study
- Fish acute toxicity study
- Sediment 10-day freshwater invertebrates toxicity test

***Aquatic Tox Studies**: algae, zooplankton, fish, and sediment worms*

Current Status of Consent Order Aquatic Toxicity Studies



Approval Steps:

- Protocols Approved – April & Dec 2022
- Range Finding Tests and Dose Approval – Jan – July 2023
- Definitive Tests Conducted – April – Nov 2023
- Final Report to DEQ – Algae Jan 2024; Acute Daphnia and Fish July 2024
  - others throughout 2024

Current Status of Consent Order Aquatic Toxicity Studies

Aquatic Studies

- Algae
- Daphnid (acute)
- Daphnid (chronic)
- Fish
- Sediment

Approval Step	Algae	Daphia (acute)	Daphnia (chronic)	Fish	Sediment
Final Protocol Approval	April 2022	Dec 2022	Dec 2022	April 2022	Dec 2022
Range Finding Reports	Jan/Feb 2023	March-May 2023	May 2023	April/May 2023	*July 2024*
Analytical Method for Dose Validation	Feb 2023	May 2023	May 2023	May 2023	May 2023
Dose Approval for Definitive Tests	March 2023	June 2023	June 2023	Aug 2023	**Aug 2024**
Definitive Tests Conducted	May/July 2023	Sept 2023	Sept/Oct 2023	Aug-Oct 2023	
Final Reports to DEQ	**January 2024**	**July 2024**	*Underway*	**July 2024**	

Current Status of Consent Order Rodent Toxicity Studies

Rodent Studies

- *Mouse 28-day Immune Tox*
- *Rat 28-day Immune Tox*
- *Mouse 90-day Classic Tox*
- *Rat 90-day Classic Tox*

Approval Steps:

- Range Finding Tests and Analytical Method Validation
- Definitive Dose Approval
- Final Protocol Approved
- Definitive Tests Conducted
- Final Report to DEQ

Current Status of Consent Order Rodent Toxicity Studies

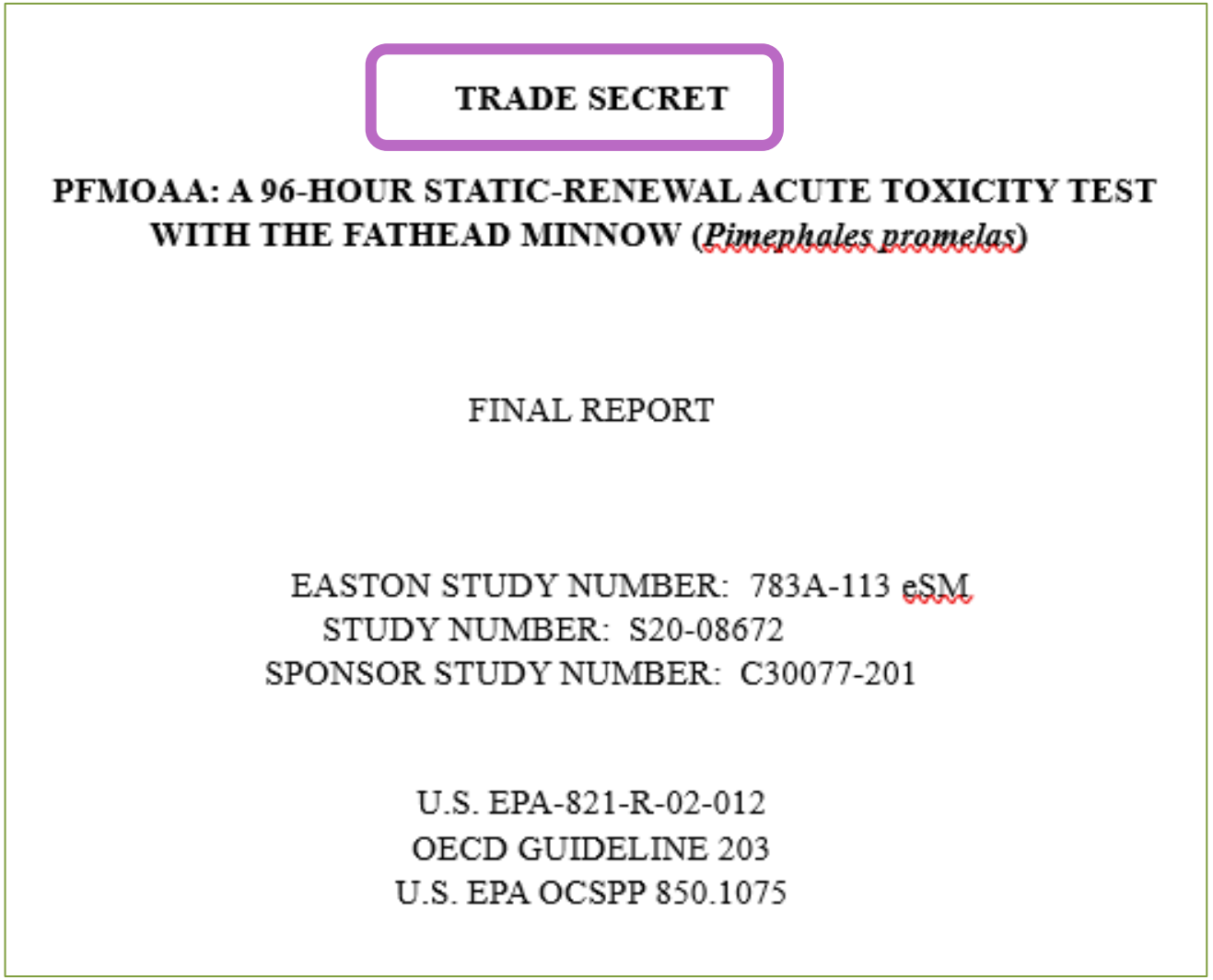
Rodent Studies

- *Mouse 28-day Immune Tox*
- *Rat 28-day Immune Tox*
- *Mouse 90-day Classic Tox*
- *Rat 90-day Classic Tox*

Step	Nafion BP2	PFMOAA	PMPA	PEPA	PFHO2xA
Analytical Method for Dose Validation	DEQ received July 2023; Approved HPLC-CAD Method				
Range Finding Reports	DEQ received July 28, 2023	DEQ received Oct 6, 2023			
Dose Approval for Definitive Tests	Meeting/Approval October 27, 2023	*Meeting with Chemours and 3rd party Lab;* ***August 8, 2024***			
Final Protocol Approval	Nov/Dec 2024	***Next step after meeting***			
Definitive Tests Conducted	June 2024	*28-day tests first; 90-day tests will be informed by the 28-day dose-response*			
Final Reports to DEQ	*Expected Fall 2024*				

Toxicity Results Received as of Aug 7, 2024

- Algae – 96-hour toxicity test
  - all 5 PFAS compounds
- Daphnia – 48-hour toxicity test
  - all 5 PFAS compounds
- Fish – 96-hour toxicity test
  - all 5 PFAS compounds



TRADE SECRET

PFMOAA: A 96-HOUR STATIC-RENEWAL ACUTE TOXICITY TEST WITH THE FATHEAD MINNOW (*Pimephales promelas*)

FINAL REPORT

EASTON STUDY NUMBER: 783A-113 eSM
STUDY NUMBER: S20-08672
SPONSOR STUDY NUMBER: C30077-201

U.S. EPA-821-R-02-012
OECD GUIDELINE 203
U.S. EPA OCSPP 850.1075