INHANCE SNUN PFAS CBI ISSUES

Presentation of Public Employees for Environmental Responsibility and Center for Environmental Health to EPA

November 21, 2023

Background On Inhance EPA Issues

- Inhance is engaged in the "fluorination" of plastic containers a process that forms per- and polyfluoroalkyl substances (PFAS)
- Over 200 million containers are fluorinated by Inhance each year and used to package many products across the economy
- The PFAS formed during fluorination include PFOA and 8 other longchain perfluoroalkyl carboxylate (LCPFAC) substances subject to EPA's July 2020 Significant New Use Rule (SNUR)
- EPA began investigating Inhance's compliance with the SNUR in early 2021 after conducting testing confirming the presence of LCPFACs

Inhance SNUR Violations and SNUNs

- EPA issued a notice of violation (NOV) to Inhance in March 2022 demanding that it cease producing LCPFACs in violation of the SNUR
- Inhance ignored the NOV and continued producing LCPFACs but filed
 9 Significant New Use Notices (SNUNs) with EPA in late 2022
 - Each notice was for a different LCPFAC formed during fluorination
 - The SNUNs remain under review
- Meanwhile suits to enjoin Inhance from continuing to violate the SNUR were filed in December 2022 by DOJ and PEER/CEH and ultimately combined in the Eastern District of PA
 - The suits are still pending

Inhance Information Submissions to EPA

• Two EPA TSCA subpoenas

- Initial subpoena issued on January 14, 2021 -- Inhance responded on February 1 and 8, 2021
- Second subpoena issued on November 22, 2022 Inhance responded on December 8 and 13, 2022.

• Multiple SNUN submissions

- SNUNs initially submitted on November 19, 2022 but rejected because of excessive CBI claims
- SNUNs resubmitted on December 30, 2022 with somewhat fewer redactions
- Supplemental SNUNs submitted on March 7-8, 2023 and consolidated with earlier submissions
- EPA 2023 information request and response
 - EPA asked for more information on Inhance process changes and customer uses on August 1, 2023
 - Inhance made responsive submissions on September 29 and November 1, 2023
 - These submissions were treated as SNUN amendments and posted on ChemView on 10/27 and 11/17.

Inhance Consolidated SNUNs

Species #	Compound Abbreviation	CAS Number	SNUN Case Numbers		
1	PFOA	335-67-1	SN-23-0002		
2	PFNA	375-95-1	SN-23-0003		
3	PFDA	335-76-2	SN-23-0004		
4	PFuDA	2058-94-8	SN-23-0005		
5	PFDoA	307-55-1	SN-23-0006		
6	PFtrDA	72629-94-8	SN-23-0008		
7	PFteDA	376-06-7	SN-23-0009		
8	PFHxDA	67905-19-5	SN-23-0010		
9	PFODA	16517-11-6	SN-23-0011		

PEER/CEH FOIA REQUEST AND CURRENT STATUS

- PEER/CEH filed a FOIA request on January 5, 2023 for a wide range of documents, including:
 - Inhance's information submissions and other communications with EPA
 - All test data
 - All SNUNs and attachments
 - Subpoena responses
 - All risk assessments or analyses
- PEER/CEH request seeks unredacted versions of the SNUNs and attachments not available on ChemView
- Three interim FOIA responses to date
 - Latest response on October 26, 2023 includes extensive, highly redacted test data

Only a small fraction of requested documents has been disclosed

Why EPA Guidance Is Needed on the Scope of CBI Protection for Inhance's Submissions to EPA

- Inhance has submitted voluminous information to EPA and made sweeping CBI claims
- PFAS contamination of fluorinated containers has attracted strong media and Congressional interest
- How EPA acts on pending SNUNs will be closely scrutinized
- Accepting Inhance's aggressive CBI claims will defeat transparency
- Clarity on the limits of CBI protection for information in Inhance submissions will expedite disclosure under FOIA and otherwise
- Data being withheld by Inhance will enable the public and industry to understand the levels of PFAS in containers and the resulting risks

Cross-cutting CBI Issues under Section 14

Our position is that section 14 of TSCA does not protect:

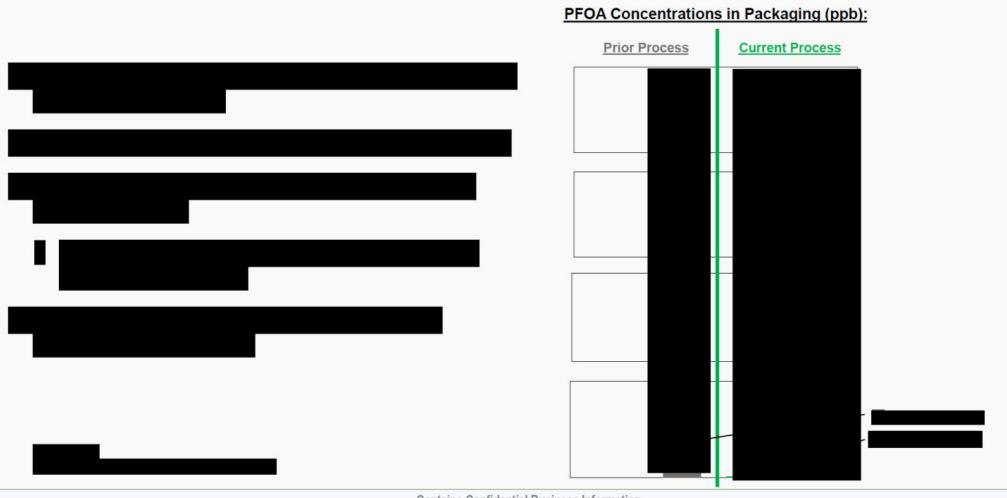
- The results of analytical testing to determine PFAS levels in fluorinated containers, including underlying data and study methods
- Calculations of the total amounts of PFAS in containers fluorinated by Inhance.
- The major use categories of fluorinated containers and the number of fluorinated containers in each category.
- The levels of fluorination used to treat different categories of containers.
- Economic analyses of sectors that use fluorinated containers and how they would be impacted if the Inhance fluorination process is eliminated
- Descriptions of the chemical process that forms PFAS during fluorination

The following slides provide examples of these data and explain why they cannot be withheld under section 14.

Test Data on PFAS Levels in Fluorinated Containers

- October 26 FOIA response includes test reports for hundreds of individual samples.
- September 29 submission includes Excel spreadsheets of LCPFAC test data for 1438 packaging samples and 113 fuel system samples.
- Inhance September 29 overview presentation (Ex. 10):
 - Compiles results of individual samples and presents average PFAS levels
 - Compares PFAS levels before and after Inhance "process changes"
- November 1 submission details combined LC-MS/MS procedure for Measurement and Analysis of PFAS in HDPE
- All information about test methods and results, including LCPFAC levels in individual samples and overall averages, is redacted

Packaging Process Modifications: R&D Trial Results



Contains Confidential Business Information

FROM INHANCE OVERVIEW PRESENTATION (9/29/23) – SHOWS REDACTION OF MEASURED PFOA LEVELS FOR PRIOR AND MODIFIED FLUORINATION PROCESS

Packaging Process Modifications (Round 2): Production Testing Data

- Round 2 modifications achieved >90% reduction in LCPFACs compared to pre-August 2021 levels
- In ~25 million pounds of fluorinated packaging treated annually, there is an estimated:



	PFOA	PFNA	PFDA	PFunDA	PFdoDA	PFTrDA	PFTeDA	PFHxDA	PFODA	Total LCP
Below LOD (No.) (%)										
Below LOQ (No.) (%)										
Above LOQ (No.) (%)										
Average LCPFAC (ppb)										
Mass of Plastic Fluorinated Annually (kg)										
Annual Mass of LCPFAC (g)										
					2					

FROM INHANCE OVERVIEW PRESENTATION (9/29/23) – SHOWS SUMMARY RESULTS OF TESTING TO DETERMINE IMPACT OF ROUND 2 PROCESS MODIFICATIONS ON LCPFAC LEVELS 11

Packaging Process Modifications (Round 2): Production Testing Data (cont'd)

	Scenario	Below LOD Assumed Concentration (ppt)	PFOA (g)
Contains Confidential Business Information	1		

FROM INHANCE OVERVIEW PRESENTATION (9/29/23) – SUMMARIZES PFOA LEVELS IN PRODUCTION TESTING

15

Fuel Systems LCMSMS Test Data

Site LOMS Testing Date PFOA (ppt	PENA (ppt)	PEDA (pgd)	PFunDA (ppt)	PFdeDA (ppt)	PFTrDA (ppt)	PFTeDA (ppt)	PRMDA (ppt)	PFODA (ppt)	Datch Number	LCMSMS Sempl	e Ruorination Leve	Tank Size	Betch Qu	y	Sector				
1/23/2023 3/3/2023																			
2023																			
5/16/2023 5/16/2023																			
5/17/2023																			
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Celumbus 5/16/2023																			
olumbus 3/20/2023 t. Louis 6/26/2023																			
Columbus 5/17/2023																	olumn1	LOD (ppt)	>LOQ (ppt
Celumbus 5/16/2023 Celumbus 2/27/2023 Celumbus 5/16/2023																	PFOA		
Columbus 5/16/2023 Columbus 3/3/2023																	PFNA		
Columbus 1/23/2025																			
Columbus 5/16/2023 Columbus 5/5/2023																	PFDA		
Houston-1 7/19/2023 St. Louis 6/19/2023																224	PFunDA		
St. Louis 6/29/2023																	PFdoDA		
Atlanta 6/14/2023 Allentown 1/23/2023																			
Mt. Pleasant 3/14/2023 St. Louis 6/19/2023																	PFtrDA		
Columbus 6/15/2023																	PFteDA		
Celumbus 5/5/2023 Columbus 5/5/2023																	PFHxDA		
Columbus 3/3/2023																	PFODA		
Mt. Pleasant 3/14/2023 Atlanta 6/14/2023																	TODA		
St. Louis 7/18/2023 Columbus 5/5/2023																_			
Houston-1 5/11/2023																-			
fouston-1 1/25/2025 Vt. Pleasant 2/15/2023																			
St. Louis 4/24/2023 Columbus 5/5/2023																			
St. Louis 6/29/2023																			
Columbus 7/19/2023 Mt. Pleasant 3/20/2023																			
Allentown 6/13/2023																			
Columbus 5/5/2023																			
5t. Louis 6/29/2023 Mt. Pleasant 3/20/2023																100			
West Chicago 3/30/2023																32			
Allentown 6/28/2025 Allentown 6/15/2023																			
Mt. Pleasant 7/19/2023 Columbus 5/5/2023																			
Mt. Pleasant 1/23/2023																			
Houston-1 7/19/2023 Houston-1 7/19/2023																			
Atlanta 7/19/2023 Mt. Pleasant 1/23/2023																			
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EXHIBIT 4 IN INHANCE SUBMISSION (9/29/23) – SPREADSHEET SHOWING RESULTS OF LCPFAC TESTING ON FUEL TANKS FLUORINATED AT DIFFERENT INHANCE FACILITIES + AVERAGE LEVELS FOR ALL SAMPLES

Redacted Summary of Calculations of LCPFAC Levels in Containers From Levels in Methanol Extracts from the Container – From 9/29/23 Presentation

onversion of Measured Value in Methanol to ppb in Plastic						
Instrument Detection and Reporting Capability	Value	Units	Alternate Units	Comments		
Instrument Limit of Detection (LOD)*						
Instrument Limit of Quantification (LOQ)*						
Mass of Plastic Sample						
Volume of Methanol Used for Extraction						
Limit of Detection - Conversion to w/w basis						
Limit of Quantification - Conversion to w/w basis						

PACE ANALYTICAL SERVICES, LLC

Detection Summary Inhance Technologies

			Lot Number: W	020022		_		10.0500.0000
Sampl	e Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	OK-2	Solid	PFBA	PFAS by ID			ug/kg	5
001	OK-2	Solid	PFDA	PFAS by ID			ug/kg	5
001	OK-2	Solid	PFDoA	PFAS by ID			ug/kg	5
001	OK-2	Solid	PFHpA	PFAS by ID			ug/kg	5
001	OK-2	Solid	PFHxA	PFAS by ID			ug/kg	5
001	OK-2	Solid	PFNA	PFAS by ID			ug/kg	5
001	OK-2	Solid	PFOA	PFAS by ID			ug/kg	5
001	OK-2	Solid	PFPeA	PFAS by ID			ug/kg	5
001	OK-2	Solid	PFUdA	PFAS by ID			ug/kg	5
002	OK-2A	Solid	PFBA	PFAS by ID			ug/kg	6
002	OK-2A	Solid	PFDA	PFAS by ID			ug/kg	6
002	OK-2A	Solid	PFDoA	PFAS by ID			ug/kg	6
002	OK-2A	Solid	PFHpA	PFAS by ID			ug/kg	6
002	OK-2A	Solid	PFHxA	PFAS by ID			ug/kg	6
002	OK-2A	Solid	PFNA	PFAS by ID			ug/kg	6
002	OK-2A	Solid	PFOA	PFAS by ID			ug/kg	6
002	OK-2A	Solid	PFPeA	PFAS by ID			ug/kg	6
002	OK-2A	Solid	PFUdA	PFAS by ID			ug/kg	6
003	OK-2B	Solid	PFBA	PFAS by ID			ug/kg	7
003	OK-2B	Solid	PFDA	PFAS by ID			ug/kg	7
003	OK-2B	Solid	PFDoA	PFAS by ID			ug/kg	7
003	OK-2B	Solid	PFHpA	PFAS by ID			ug/kg	7
003	OK-2B	Solid	PFHxA	PFAS by ID			ug/kg	7
003	OK-2B	Solid	PFNA	PFAS by ID			ug/kg	7
003	OK-2B	Solid	PFOA	PFAS by ID			ug/kg	7
003	OK-2B	Solid	PFPeA	PFAS by ID			ug/kg	7
003	OK-2B	Solid	PFUdA	PFAS by ID			ug/kg	7
004	OK-2C	Solid	PFBA	PFAS by ID			ug/kg	8
004	OK-2C	Solid	PFDA	PFAS by ID			ug/kg	8
004	OK-2C	Solid	PFDoA	PFAS by ID			ug/kg	8
004	OK-2C	Solid	PFHpA	PFAS by ID			ug/kg	8
004	OK-2C	Solid	PFHxA	PFAS by ID			ug/kg	8
004	OK-2C	Solid	PFNA	PFAS by ID			ug/kg	8
004	OK-2C	Solid	PFOA	PFAS by ID			ug/kg	8
004	OK-2C	Solid	PFPeA	PFAS by ID			ug/kg	8
004	OK-2C	Solid	PFUdA	PFAS by ID			ug/kg	8

FROM 10/26/23 FOIA RESPONSE – REPRESENTATIVE PAGE FROM LABORATORY REPORT OF TESTING FOR LCPFACS IN CONTAINERS



1049 Triad Court, Marietta, Georgia 30062 • (770) 423-1400 Fax (770) 424-6415

FROM 10/26/23 FOIA RESPONSE – LABORATORY REPORT OF CONTAINER **TESTING FOR PFOA**

	CHEMICAL TEST REPORT									
R	kef . 352195	Date March 23, 20	21 Page 1	of	1					
Attenti	Attention: Bobby Liu Materials Specification: N/A									
Custon	ner: Inhance Technologies 22008 N. Berwick Dr Houston, TX 77084	.]	Test Methods:CEN/TS 15968:2010 (E) and EPA Method 8321B Solvent Extractable							
P.O.#	10-01441		Nonvolatile Compounds by High Performance Liquid Chromatography/ Thermospray/Mass Spectrometry (HPLC/TS/MS) or Ultraviolet (UV)							
Samples: See Below Detection										
		Test Result	5							
ATS	Samj	ole	PFOA							
#	Identific	ation	ppb (µg/kg)	ppm (mg/kg)						
1	FP-1	a								
2	FP-1	b								
3	FP-1	c								
4	FP-1	d								

The sample extracts were analyzed for PFOA with a detection limit of 100 parts per trillion (ppt) ng/kg.

TSCA REMOVES CBI PROTECTION FOR HEALTH AND SAFETY STUDIES

- Section 14(b)(2) of TSCA provides that CBI protections do not apply to:
 - "any health and safety study" for chemicals subject to a significant new use rule; and
 - "any data reported to, or otherwise obtained by, the Administrator from a health and safety study."
- Under 40 C.F.R § 716.3, "the term health and safety study [must] be interpreted broadly" and includes "[a]ny data that bear on the effects of a chemical substance on health or the environment."
- The definition includes:
 - "Assessments of human and environmental exposure"; and
 - "Monitoring data, when they have been aggregated and analyzed to measure the exposure of humans or the environment to a chemical substance or mixture."

Inhance Testing Is a "Health and Safety Study" Subject to Disclosure under Section 14(b)(2)

- Measured levels of LCPFACs in fluorinated containers provide an "assessment of human and environmental exposure"
 - Vital information to determine health risks to millions of workers and consumers who handle, use, process and dispose of fluorinated plastic products
 - Intended to influence EPA unreasonable risk determinations for SNUNs
- Sampling and analysis of LCPFAC concentrations in products represent a "monitoring study"
 - Sampling results "aggregated and analyzed" by Inhance to identify "average" LCPFAC levels for different container types, facilities and process parameters
 - Goals of analysis were to show reductions in LCPFAC levels from "process modifications" and support exposure/risk assessments in SNUNs
- Individual sampling results, laboratory reports and protocols and methodologies are "data reported [to EPA] from a health and safety study" under section 14(b)(2)(B)

Inhance has Selectively Disclosed Unredacted Sampling Data

From SNUN risk assessment for fluorinated fuel tanks

Has Inhance Waived CBI Protections?

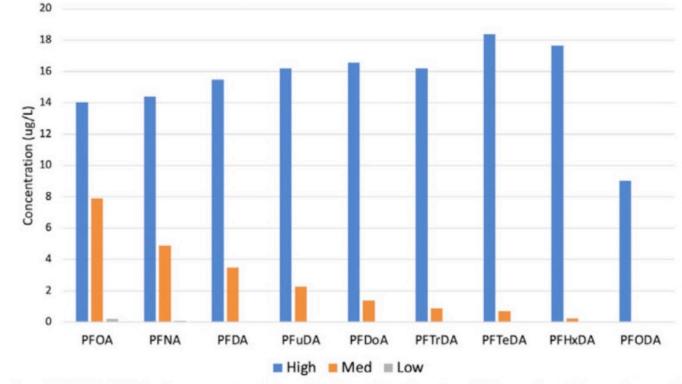


Figure 4. LCPFAC fuel concentrations by fluorination level from land-based small combustion engine fuel tanks

LCPFAC Fuel Migration Results by Fluorination Level

Inhance has Selectively Disclosed Unredacted PFAS Sampling Data

From Inhance SNUNs – submitted to District Court in support of EPA partial summary judgment motion

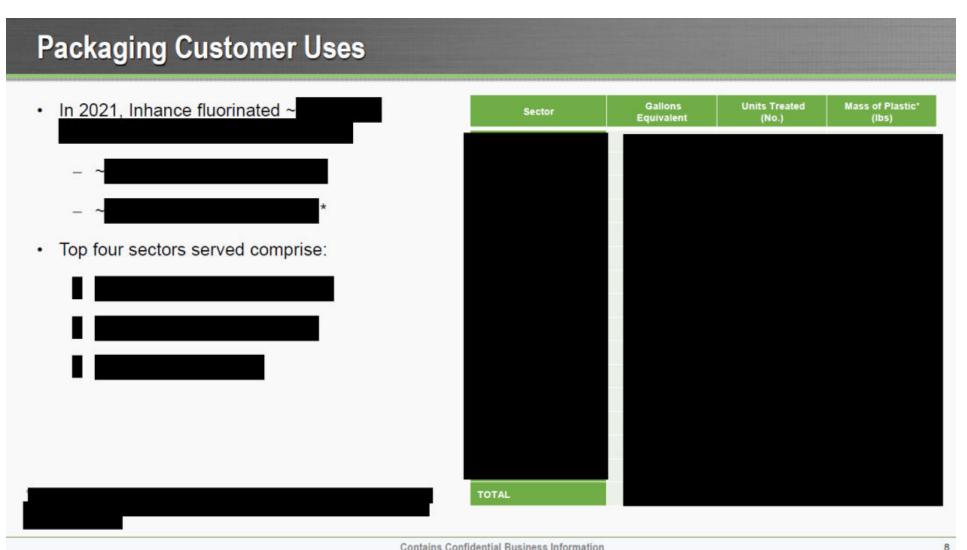
Client Inhance Technologie	S				Laboratory I	D: XH30010-0	001	
Description: Fuel Tank A					Matri	x: Solid		
Date Sampled:08/21/2022								
Date Received: 08/29/2022								
RunPrep MethodA1SOP SPE	PFAS by ID SOP		nalysis Date Analyst 9/14/2022 1431 MMM	Prep Date 09/02/2022 1	Batch 113 52957			
Parameter		CAS Number		Result Q	LOQ	MDL	Units	Run
Perfluoro-n-butanoic acid (PFBA)		375-22-4	PFAS by ID SOP	400 W	9.5	4.0	ug/kg	1
Perfluoro-n-decanoic acid (PFDA)		335-76-2	PFAS by ID SOP	320 W	9.5	1.5	ug/kg	1
Perfluoro-n-dodecanoic acid (PFDoA)		307-55-1	PFAS by ID SOP	380 W	9.5	1.7	ug/kg	1
Perfluoro-n-heptanoic acid (PFHpA)		375-85-9	PFAS by ID SOP	320 W	9.5	1.4	ug/kg	1
Perfluoro-n-hexadecanoic acid (PFHxD/	A)	67905-19-5	FAS by ID SOP	810 W	19	2.1	ug/kg	1
Perfluoro-n-hexanoic acid (PFHxA)		307-24-4	PFAS by ID SOP	320 W	9.5	1.8	ug/kg	1
Perfluoro-n-nonanoic acid (PFNA)		375-95-1	PFAS by ID SOP	320 W	9.5	1.4	ug/kg	1
Perfluoro-n-octadecanoic acid (PFODA)	(16517-11-6	PFAS by ID SOP	510 W	9.5	3.3	ug/kg	1
Perfluoro-n-octanoic acid (PFOA)		335-67-1	PFAS by ID SOP	360 W	9.5	2.0	ug/kg	1
Perfluoro-n-pentanoic acid (PFPeA)		2706-90-3	PFAS by ID SOP	330 W	9.5	1.5	ug/kg	1
Perfluoro-n-tetradecanoic acid (PFTeDA	4)	376-06-7	PFAS by ID SOP	430 W	9.5	1.8	ug/kg	1
Perfluoro-n-tridecanoic acid (PFTrDA)		72629-94-8	PFAS by ID SOP	410 W	9.5	1.6	ug/kg	1
Perfluoro-n-undecanoic acid (PFUdA)		2058-94-8	PFAS by ID SOP	390 W	9.5	1.8	ug/kg	1

PFAS by LC/MS/MS

Aggregated End-Use and Market Share Breakdowns for Fluorinated Containers

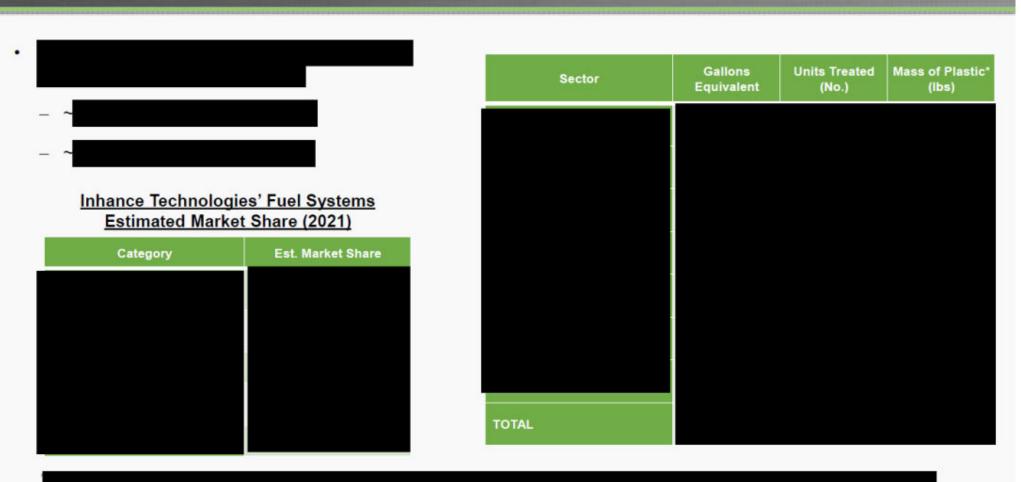
- At EPA's request, Inhance's 9/29/23 submissions contain detailed customer data (Exhibits 6 and 8)
- Inhance's overview presentation (Ex. 10) presents this information in aggregated form, showing
 - the principal end-use categories and applications of fluorinated containers,
 - the number of containers and market share associated with these use categories, and
 - the intensity of the fluorination treatment applied to the use category
- This is vital information for understanding the distribution of fluorinated containers across economic sectors, exposed worker and consumer populations and levels and pathways of exposure

Aggregated Customer Use Data for Fluorinated Packaging – From 9/29 Inhance Presentation



Aggregated Customer Use Data for Fuel Tanks – From 9/29 Inhance Presentation

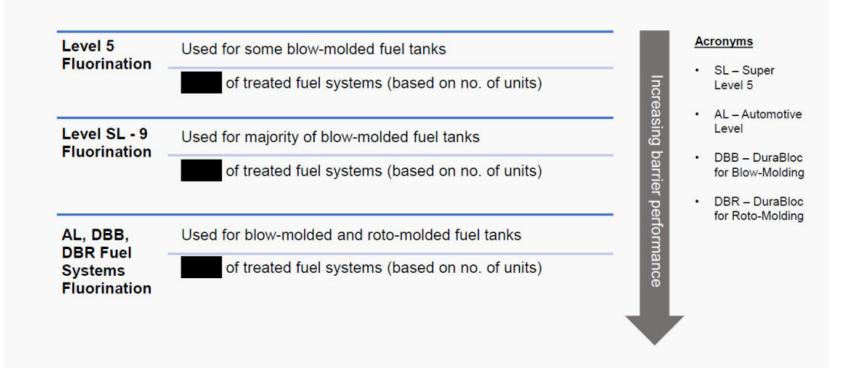
Fuel System Customer Uses



From 9/29 Presentation -- Aggregated Data on Fluorination Levels Applied to Different Product Types

Fluorination Level Is the amount of fluorine and heat applied during the fluorination process and affects the concentration of LCPFACs formed during the fluorination process

Fuel System Fluorination Levels Offered by Inhance



Section 14 Does Not Protect Aggregated Production Volume and Use Data

- Section 14(b)(3) withholds CBI protection from -
 - "any general information describing manufacturing volumes, expressed as specific aggregated volumes" and
 - "a general description of . . . Industrial., commercial or consumer functions and uses . . . of an article containing a chemical substance or mixture"
- Aggregated data on use categories and volumes of fluorinated containers falls squarely within this exemption from CBI treatment
 - Extensive information on the product types packaged in fluorinated containers is publicly available, including in numerous Inhance marketing presentations
 - PEER/CEH do not seek disclosure of raw plant-by-plant customer data

Massive Redaction of NERA Economic Analysis

- 9/29 SNUN submission includes a lengthy economic analysis (Exh. 13) by NERA Economic Consulting of impacts of restricting Inhance fluorination process
- Except for portions of the Executive Summary, the entire report 56 pages -- is redacted
- NERA's sweeping conclusions about economy-wide revenue losses and job cuts cannot be meaningfully critiqued without access to underlying data and analysis
- Plainly, large portions of the report do **NOT** meet CBI criteria



Economic Impact Assessment of the Absence of Inhance Technologies' Fluorination Technology for Packaging and Fuel Systems



Prepared for: Inhance Technologies

September 2023

Redaction of Chemistry of LCPFAC Formation

- Inhance SNUNs discuss LCPFAC formation mechanism wo redaction
- Much of relevant chemistry is in published literature
- Since Inhance describes LCPFAC formation as unintentional and without a commercial purpose, there is no legitimate CBI interest in non-disclosure

LCPFAC Formation Mechanism	LCPFAC Formation Mechanism						
 Hydrocarbon carboxylic acid impurities are formed during manufacture and molding of high-density polyethylene* 							

From 9/29 presentation (Ex. 10)

Conclusion -- What We Are Asking EPA to Do

- Over near term, EPA must require Inhance to unredact and disclose
 - All test data submitted to EPA on the presence of LCPFACs in fluorinated containers, including reports of individual sampling results, summary reports and data tabulations, and protocols, analytical methods and methodologies;
 - All aggregated customer use and volume information in 9/29 presentation;
 - NERA economic impact report except for limited information proprietary to Inhance;
 - Descriptions of the mechanism for forming LPCFACs during fluorination
- Over the longer term, EPA must
 - Conduct a comprehensive review of all of Inhance's CBI claims;
 - Set an expeditious schedule for fully responding to the PEER/CEH FOIA request

As EPA announces its decisions on SNUNs, pressure to release data will grow