55 Walkers Brook Drive, Reading, MA 01867 (HQ)
Tel: 978.532.1900

December 4, 2025

Chip Clunie
Director of Facilities & Grounds
Nantucket Public Schools
10 Surfside Road
Nantucket, MA 02554

Re: Proposed Synthetic Turf System PFAS Testing Results

Dear Mr. Clunie:

Weston & Sampson Engineers, Inc. (Weston & Sampson) has prepared this letter regarding the proposed synthetic turf system for the Nantucket Public Schools Capizzo Stadium renovation project at your request. The focus of the information provided is the potential presence of poly and perfluorinated alkyl substances (PFAS) in the synthetic turf system proposed. Over the past several years there has been a substantive evolution in the manufacturing of synthetic turf and the testing methodologies utilized for PFAS detection. The evolving scientific understanding of the complex chemistry, environmental fate, exposure routes and lack of regulatory limits, makes presentation and discussion of PFAS presence and potential risks challenging. Below, we summarize and discuss recently provided testing data related to the proposed synthetic turf system.

PFAS BACKGROUND

PFAS are a manmade suite of compounds utilized in many consumer products to provide durable waterproof coatings and in aqueous film forming foam (AFFF) used for firefighting. The scientific community is rapidly evolving its understanding of PFAS in the environment. Many PFAS have been shown to be very resistant to water, oil and degradation under typical environmental conditions. Some PFAS are water soluble and can be ingested via this exposure route. These soluble PFAS have also been shown to bioaccumulate in plants, animals and humans. Therefore, PFAS are considered to be contaminants of emerging concern (CECs), which are those chemicals that present potentially unacceptable human health effects or environmental risks, and either: (1) do not have regulatory cleanup standards, or (2) regulatory standards are evolving due to new science, detection capabilities or evolving understanding of potential exposure and toxicity, or a combination of these issues.

PFAS are contained in thousands of consumer products including food packaging, cookware, soaps, personal care products and waterproof textiles used in jackets and boots. Due to their presence in so many products and their environmental persistence, PFAS are now ubiquitous in the environment. PFAS has been detected in human blood, surface water sediments, surface and groundwater, and wildlife across the globe. Although the scientific research into PFAS is evolving, there is evidence of adverse health effects associated with long-term exposure to some PFAS compounds. The primary focus of USEPA and other regulatory agencies for exposure to PFAS is through consumption of soluble PFAS in contaminated drinking water. Based on the limited research studies to date and what is known about the chemical composition of PFAS, dermal (skin) contact with PFAS containing materials is expected to pose minimal health risk.

SYNTHETIC TURF MANUFACTURE

Synthetic turf grass is made by extruding a mixture of primarily polyethylene plastic into a mold shaped as blades of grass. Typically, a processing agent is utilized within the polyethylene mixture to assist with effective plastic injection into a mold and ease removing the blades from the mold. It is our understanding that historically the predominant processing agent being used by the plastic grass manufacturers was polyvinylidene fluoride-co-hexafluoropropylene (PVDF-HFP). To our knowledge no other PFAS were being intentionally used in the manufacture of synthetic turf system components.

In recent years, a number of synthetic turf manufacturers have indicated that they have modified their manufacturing processes and use non-PFAS containing mold release agents.

PFAS REGULATION

Drinking Water

The USEPA has set a maximum contaminant level for perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) in drinking water of 4 parts per trillion (ppt). Massachusetts Department of Environmental Protection (MADEP) has developed drinking water standard of 20 ppt for the sum of six PFAS compounds (PFAS6) including both acid and anionic forms of the following:

- perfluorohexanesulfonic acid (PFHxS)
- perfluoroheptanoic acid (PFHpA)
- perfluorooctanesulfonic acid (PFOS)
- perfluorooctanoic acid (PFOA)
- perfluorononanoic acid (PFNA)
- perfluorodecanoic acid (PFDA)

Surface Water

Currently neither the USEPA nor MADEP have set a surface water guidance/standard concentrations for PFAS. USEPA has draft recommended freshwater Aquatic Life Water Quality Criteria (AWQC) for PFOA and PFOS that are protective of aquatic organisms (see below). They are orders of magnitude higher than drinking water standards.

Draft Recommended Freshwater Aquatic Life Water Quality Criteria for PFOA and PFOS

Constituent	Acute water column (CMC)	Chronic water column (CCC)
perfluorooctanesulfonic acid (PFOS)	49 mg/L	0.094 mg/L
perfluorooctanoic acid (PFOA)	3.0 mg/L	0.0084 mg/L

Soils

MADEP has set standards for the PFAS6 in soil. Method 1 S-1/GW-1 concentrations are protective of potential leaching into groundwater and Method 1 S-1/GW-2&3 is protective of direct contact exposure. The table below summarizes the soil limits.

MADEP Soil Standards - parts per billion

PFAS	Leaching to Groundwater	Direct Contact
perfluorohexanesulfonic acid (PFHxS)	0.30	300
perfluoroheptanoic acid (PFHpA)	0.50	300
perfluorooctanesulfonic acid (PFOS)	0.72	300
perfluorooctanoic acid (PFOA)	2.00	300
perfluorononanoic acid (PFNA)	0.32	300
perfluorodecanoic acid (PFDA)	0.30	300

Consumer Products

No federal standards or regulatory limits are presently set for consumer products containing PFAS. The European Union regulates chemicals contained in consumer products via the Registration, Evaluation, Authorization and restriction of Chemicals (REACH) regulation. REACH is a European Union regulation (1907/2006/EC) restricting the levels of specific chemical substances in all imported goods. PFOS and PFOA are listed as restricted compounds by REACH. California Prop-65 provides a list containing a wide range of naturally occurring and synthetic chemicals that are known to cause cancer or birth defects or other reproductive harm. If a product contains chemicals on this list, a warning must be provided on the product. PFOA, PFOS, PFNA and PFOS transformation and degradation precursors are on the Prop-65 list.

The majority of synthetic turf manufacturers, including TenCate, have provided certifications that their products meet EU REACH and Prop-65 requirements regarding the absence of PFAS in the manufacture of their products.

Many states have, or are proposing, bans on specific consumer products that "intentionally add" PFAS in their manufacturing process. Several of these product bans specifically reference synthetic turf. Massachusetts does not have such a ban. Each of the individual State bans have unique definitions for what constitutes "intentionally added" PFAS. Generally, "intentionally added" PFAS is defined as the use of sufficient PFAS to provide a "function" in the final product such as oil resistance, water proofing, etc. The burden of proof for "intentionally added" PFAS status lands with the manufacturers. They must certify that their manufacturing process does not "intentionally add" PFAS. Some State bans also define a consumer product as containing "intentionally added" PFAS if it contains greater than 100 parts per million (ppm) Total Organic Fluorine (TOF).

TESTING METHODS

There are thousands of PFAS compounds. Currently, accredited laboratories only have the ability to test and identify approximately 40 specific PFAS compounds in consumer products via one EPA certified method. This method (EPA 1633) quantifies the PFAS6 regulated by MADEP.

Currently, there is no EPA certified "Total Organic Fluorine" analysis method. Individual laboratories have developed their own methods to measure TOF. Some laboratories use Total Extractable Organic Fluorine analysis as a proxy for TOF. Other laboratories first analyze samples for Total Fluorine and Total Inorganic Fluorine. They then subtract the Total Inorganic Fluorine concentration from the Total

Fluorine concentration to obtain a TOF concentration. Unfortunately, the results of each of these TOF analysis methods are not directly comparable to the other. The TOF analyses are designed to identify the presence of all fluorine bonded to carbon atoms. Neither method distinguishes between naturally occurring or manmade organic fluorine nor do they provide any insight as to the types of potential PFAS present.

SYNTHETIC TURF TESTING RESULTS

Weston & Sampson was provided with laboratory results from Professional Testing Laboratory, LLC (PTL) of a sample labelled "TenCate Full Artificial Turf System". It is unclear if the "turf system" being tested is the same as that proposed for Capizzo Stadium. The laboratory results are attached to this letter. The testing occurred in November 2024.

PLT used an in house PFAS sample preparation and analysis method to identify 70 individual PFAS, including the PFAS6. They also performed a total fluorine analysis. No individual PFAS were identified as present above the method detection limits of 0.012 to 0.056 part per billion. These detection limits are at least 10 times less than the MassDEP allowable concentration to protect groundwater from soil leaching PFAS (S-1/GW-1).

No total fluorine was identified at the detection limit of 1 part per million. This detection limit is 100 times less than the 100 part per million threshold in other individual State "intentionally added" PFAS definitions for banned consumer products.

Laboratory results were also provided for Brock SP ShockPad, PowerBase, and BrockFill performed in September 2024 by Eurofins laboratory. Analyses performed were laboratory specific methods for individual PFAS and TOF. No individual PFAS or TOF concentrations were reported above detection limits. Detection limits were 10 to 1,000 below the S-1/GW-1 and "intentionally added" thresholds.

Weston & Sampson Conclusions Regarding Synthetic Turf Testing Results:

Based upon the information we have reviewed to date we have made the following conclusions:

1. No individual PFAS compounds were detected at concentrations above laboratory reporting limits in the tested synthetic turf system materials.
2. Total Fluorine was not detected at concentrations above laboratory reporting limits in the tested synthetic turf system materials.

It is the opinion of Weston & Sampson that No Significant Health Risk to field users or the environment related to PFAS in the tested synthetic turf system.

Suggested Discussion Points

While the science regarding PFAS is evolving, the following points of discussion represent our understanding based on the science that is currently available.

- No Federal or Massachusetts standards exist for PFAS concentrations in consumer products.
- Multiple tests performed on the synthetic turf system components proposed for the project report PFAS concentrations as “none detected”. All regulated PFAS (PFAS6) and unregulated PFAS concentrations reported are well below the MassDEP drinking water and soil exposure standards.
- We believe the synthetic turf system components tested pose No Significant Health Risk from PFAS to field users or the environment.
- Samples of the material lots to be shipped to the project should be tested to confirm individual PFAS and total fluorine concentrations.

If you have any questions or comments regarding this letter or need any additional information, please do not hesitate to contact our office at 802-882-7028.

Sincerely,
WESTON & SAMPSON ENGINEERS, INC.

Steven LaRosa
Senior Technical Leader

Marie Rudiman
Senior Risk Assessor/Toxicologist

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Professional Testing Laboratory LLC

TEST REPORT

DATE: 11-14-2024 **TEST NUMBER:** 0311703

CLIENT	Tencate Grass

TEST METHOD CONDUCTED	EPA Method 537 Determination of Selected Perfluorinated Alkyl Acids by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) via Isotope Dilution Technique

DESCRIPTION OF TEST SAMPLE	
IDENTIFICATION	TenCate Full Artificial Turf System
CONSTRUCTION	Turf

GENERAL PRINCIPLE

A sample is fortified with isotopically labeled analogues of the method analytes that function as isotope dilution standards. The sample is passed through an SPE cartridge containing polystyrene divinylbenzene with a positively charged diamino ligand to extract the method analytes and isotope dilution analogues. The cartridge is rinsed with sequential washes of aqueous ammonium acetate followed by methanol, then the compounds are eluted from the solid phase sorbent with methanol containing ammonium hydroxide. The extract is concentrated to dryness with nitrogen in a heated water bath. The extract volume is adjusted to 1.0 mL with 20% water in methanol (v/v), and three isotopically labeled isotope performance standards are added. Extracts are analyzed by LC-MS/MS in the MRM detection mode. The concentration of each analyte is calculated using the isotope dilution technique. For QC purposes, the percent recoveries of the isotope dilution analogues are calculated using the integrated peak areas of isotope performance standards, which are added to the final extract and function as traditional internal standards, exclusively applied to the isotope dilution analogues.

TEST RESULTS

Sample ID		**Lincoln Turf System - Complete**			
Lab Sample Number		**410-174412-1**			
Sampling Date		**10/7/2024 00:00:00**			
Matrix		**Solid**			
Dilution Factor		**1**			
Units		**ng/g**			
Prep Level		**Cryogenic Grinding**			
LCMS - 537 IDA	**CAS#**	**Result**	**Q**	**RL**	**MDL**
NVHOS	801209-99-4	ND	U	0.060	0.021
PES	113507-82-7	ND	U	0.060	0.020
10:2 FTS	120226-60-0	ND	U	0.060	0.022
PMPA	13140-29-9	ND	U	0.060	0.018
HFPODA	13252-13-6	ND	U	1.0	0.20

APPROVED BY: Lee Phillips

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Professional Testing Laboratory LLC

TEST REPORT

DATE: 11-14-2024 **TEST NUMBER:** 0311703

CLIENT	Tencate Grass

TEST METHOD CONDUCTED	EPA Method 537 Determination of Selected Perfluorinated Alkyl Acids by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) via Isotope Dilution Technique
	DESCRIPTION OF TEST SAMPLE
IDENTIFICATION	Lincoln Field sample, TenCate Turf

Perfluoro-4-ethylcyclohexanesulfonic acid	133201-07-7	ND	U	0.060	0.019
Perfluoro-3,6-dioxaheptanoic acid	151772-58-6	ND	U	0.060	0.024
Perfluorooctadecanoic acid	16517-11-6	ND	U	0.060	0.012
NEtFOSE	1691-99-2	ND	U	0.060	0.020
Perfluorooctanesulfonic acid	1763-23-1	ND	U	0.060	0.035
Perfluoroundecanoic acid	2058-94-8	ND	U	0.10	0.056
NMeFOSAA	2355-31-9	ND	U	0.060	0.031
R-PSDA	2416366-18-0	ND	U	0.060	0.030
Hydrolyzed PSDA	2416366-19-1	ND	U	0.060	0.020
R-PSDCA	2416366-21-5	ND	U	0.060	0.022
R-EVE	2416366-22-6	ND	U	0.060	0.020
NMeFOSE	24448-09-7	ND	U	0.060	0.023
PEPA	267239-61-2	ND	U	0.060	0.020
Perfluoropentanoic acid	2706-90-3	ND	U	0.060	0.024
Perfluoropentanesulfonic acid	2706-91-4	ND	U	0.060	0.022
6:2 Fluorotelomer sulfonic acid	27619-97-2	ND	U	0.10	0.049
8:2 FTCA	27854-31-5	ND	U	0.060	0.016
PS Acid	29311-67-9	ND	U	0.10	0.050
NEtFOSAA	2991-50-6	ND	U	0.060	0.022
Perfluorohexanoic acid	307-24-4	ND	U	0.060	0.019
Perfluorododecanoic acid	307-55-1	ND	U	0.060	0.023
NMeFOSA	31506-32-8	ND	U	0.060	0.031
Perfluorooctanoic acid	335-67-1	ND	U	0.060	0.022
Perfluorodecanoic acid	335-76-2	ND	U	0.060	0.024
Perfluorodecanesulfonic acid	335-77-3	ND	U	0.060	0.021
Perfluorohexanesulfonic acid	355-46-4	ND	U	0.060	0.019
3:3 FTCA	356-02-5	ND	U	0.060	0.020
Perfluorobutanoic acid	375-22-4	ND	U	0.060	0.024
Perfluorobutanesulfonic acid	375-73-5	ND	U	0.80	0.36
Perfluoroheptanoic acid	375-85-9	ND	U	0.060	0.024
Perfluoroheptanesulfonic acid	375-92-8	ND	U	0.060	0.020
Perfluorononanoic acid	375-95-1	ND	U	0.060	0.023

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TEST REPORT

DATE: 11-14-2024 **TEST NUMBER:** 0311703

CLIENT	Tencate Grass

TEST METHOD CONDUCTED	EPA Method 537 Determination of Selected Perfluorinated Alkyl Acids by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) via Isotope Dilution Technique
	DESCRIPTION OF TEST SAMPLE
IDENTIFICATION	Lincoln

Perfluorotetradecanoic acid	376-06-7	ND	U	0.060	0.024
Perfluoro-3-methoxypropanoic acid	377-73-1	ND	U	0.060	0.024
8:2 Fluorotelomer sulfonic acid	39108-34-4	ND	U	0.060	0.017
PFO2HxA	39492-88-1	ND	U	0.060	0.016
PFO3OA	39492-89-2	ND	U	0.060	0.020
PFO4DA	39492-90-5	ND	U	0.060	0.019
Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	39492-91-6	ND	U	0.060	0.024
NEtFOSA	4151-50-2	ND	U	0.060	0.025
Perfluoroproprionic acid	422-64-0	ND	U	0.500	0.020
Perfluoropropanesulfonic acid	423-41-6	ND	U	0.060	0.021
6:2 FTCA	53826-12-3	ND	U	0.060	0.013
10:2 FTCA	53826-13-4	ND	U	0.060	0.019
PFMOAA	674-13-5	ND	U	0.060	0.016
Perfluorohexadecanoic acid	67905-19-5	ND	U	0.060	0.013
Perfluorononanesulfonic acid	68259-12-1	ND	U	0.060	0.022
EVE Acid	69087-46-3	ND	U	0.10	0.050
8:2 FTUCA	70887-84-2	ND	U	0.060	0.031
6:2 FTUCA	70887-88-6	ND	U	0.060	0.027
10:2 FTUCA	70887-94-4	ND	U	0.060	0.032
Perfluorotridecanoic acid	72629-94-8	ND	U	0.060	0.021
Hydro-PS Acid	749836-20-2	ND	U	0.060	0.024
Perfluorooctanesulfonamide	754-91-6	ND	U	0.060	0.021
9Cl-PF3ONS	756426-58-1	ND	U	0.060	0.024
4:2 Fluorotelomer sulfonic acid	757124-72-4	ND	U	0.060	0.017
11Cl-PF3OUdS	763051-92-9	ND	U	0.060	0.022
Hydro-EVE Acid	773804-62-9	ND	U	0.060	0.020

APPROVED BY: Lee Phillips

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Professional Testing Laboratory LLC

TEST REPORT

DATE: 11-14-2024 **TEST NUMBER:** 0311703

CLIENT	Tencate Grass

TEST METHOD CONDUCTED	EPA Method 537 Determination of Selected Perfluorinated Alkyl Acids by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) via Isotope Dilution Technique
	DESCRIPTION OF TEST SAMPLE
IDENTIFICATION	Lincoln

Perfluorododecanesulfonic acid	79780-39-5	ND	U	0.060	0.020
Perfluoro-4-isopropoxybutanoic acid	801212-59-9	ND	U	0.060	0.024
7:3 FTCA	812-70-4	ND	U	0.060	0.016
Perfluoro(4-methoxybutanoic acid)	863090-89-5	ND	U	0.060	0.022
5:3 FTCA	914637-49-3	ND	U	0.060	0.019
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	ND	U	0.060	0.022
MTP	93449-21-9	ND	U	0.060	0.017

*- : LCS and/or LCSD is outside acceptance limits, low biased.
*+ : LCS and/or LCSD is outside acceptance limits, high biased.
*1 : LCS/LCSD RPD exceeds control limits.
B : Compound was found in the blank and sample.
cn : Refer to Case Narrative for further detail
I : Value is EMPC (estimated maximum possible concentration).
J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U : Indicates the analyte was analyzed for but not detected.
Bold indicates detected result.

COMMENTS

The material as received and tested meets all current regulations and recommendations for the presence of Perfluorinated Alkyl Acids.

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Professional Testing Laboratory LLC

TEST REPORT

DATE: 01-29-2024 **Page 1 of 1** **TEST NUMBER:** 0304711

CLIENT	TenCate Grass

TEST METHOD CONDUCTED	BS EN 14582 Characterization of Waste. Halogen and Sulfur Content. Oxygen Combustion in Closed Systems and Determination Methods.
	DESCRIPTION OF TEST SAMPLE
IDENTIFICATION	Iron Turf System (Complete)
CONSTRUCTION	turf

GENERAL PRINCIPLE

This test standard specifies a combustion method for the determination of halogen content in materials by combustion in a closed system containing oxygen. The subsequent combustion product is analyzed for total fluorine content.

TEST RESULTS

FLUORINE CONTENT	None Detected

*MDL=1.0 ppm

APPROVED BY: _____

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BROCK®
IMPROVING THE FIELD OF PLAY

January 9, 2025

Subject: PFAS Testing of Brock Products

To whom it may concern:

Brock's products do not contain any intentionally added PFAS (per- and polyfluoroalkyl substances). Brock recently had PFAS testing performed on our PowerBase, SP, and BrockFILL products by Eurofins, a third-party lab with extensive PFAS testing capabilities. For all products tested, none of the 40 PFAS compounds assessed were detected at the limit of reporting of the laboratory. Additionally, total organic fluorine (TOF) testing was performed, and organic fluorine was not detected at the limit of reporting of the laboratory. These test reports are attached here.

Additionally, our material supplier certifies that the expanded polypropylene (EPP) used in Brock's underlayment products does not contain any substances of very high concern (SVHCs) identified by the European Chemicals Agency (ECHA) and subject to the EU REACH regulation. Furthermore, the base resins used to produce the EPP for Brock's underlayment products are permitted by the FDA for use in food contact applications for food types identified in Categories I through IX of Table 1, under conditions of use B through H of Table 2 in 21 CFR 176.170(c). These certification letters are also attached here.

Please contact Brock if you have additional questions.

Best Regards,

Tom Murphy, Ph.D.
Director of Engineering
Brock USA, LLC

Attachments:

1. PFAS Test Report for Brock SP
2. PFAS Test Report for Brock PowerBase
3. PFAS Test Report for BrockFILL
4. REACH / SVHC Letter
5. Base Resin FDA Letter
6. Material Certification Letter for EU RoHS

1. PFAS Test Report for Brock SP

Test Report No. 202409078A
Report Date October 24, 2024

Client

Tom Murphy

Brock USA

3090 Sterling Circle, Boulder, Colorado 80301

Phone: 5017330601

Email: Tmurphy@brockusa.com

Approval Date	September 25, 2024	**Delivery Conditions**	Satisfactory, samples tested as received
Date of Receipt	September 25, 2024	**Testing Date Range**	09-26-2024 to 10-23-2024
Test Request Form #	202409078		

Eurofins ID	Sample Name	Lot/Batch Number	Supplier/Manufacturer	Country of Origin
202409078-1	Brock SP Shockpad	N/A	Brock USA	USA

The following test item(s) was/were performed on submitted sample(s) and/or component(s) confirmed by applicant

TEST REQUESTED	RESULT
TOF (Total Organic Fluorine) by CIC (Combustion Ion Chromatography)	See Attachment
PFAS, EPA 1633 List (40 Analytes) - 537 modified	See Attachment

Analysis completed by Eurofins Subcontract Laboratory

Signed for and on behalf of
Eurofins MTS Consumer Product Testing US, Inc.

Patricia Cox / Project Coordinator

10-24-2024

This report relates to the above mentioned test item(s) and the extent to tests performed. This test report is not permitted to be reproduced except in full, without written permission of the test facility. This test report does not entitle any safety marks on this or similar products. The sample and the information regarding sample have been provided by the client. All information related to the sample are under liability of the client and have not been checked by Eurofins MTS Consumer Product Testing US, Inc.

ATTACHMENT

eurofins | Modern Testing Services

TEST REPORT

LAB LOCATION: Norwood, MA USA
DATE IN: September 25, 2024

REPORT NUMBER: 67424-090100
DATE OUT: September 27, 2024

To:	Brock USA		
Contact:	/		
Address:	3090 Sterling Circle Boulder, CO 80301 United States		
Tel:	/	**Fax:**	/
E-mail:	/		
Copy To:	/		

OVERALL RATING

SATISFACTORY	
UNSATISFACTORY	
Subject to Client's Approval	**X**

NOTE: RATING IS BASED ON TESTING LAB RESULTS. FINAL ACCEPTANCE OR REJECTION IS PER CLIENT ONLY.

Sample Information			
Product Description:	Brock SP Shockpad		
Item/ Style Number:	202409078-1		
Purchase Order Number:	200010558	**No. of Sample Submitted:**	1
Lot/Batch/Tracking Info:	-	**Date of Manufacture:**	-
Country of Origin:	USA	**Country of Destination:**	USA
Vendor/ Agent:	-	**Manufacturer:**	Brock USA

Testing Status							
☐	**Pre-production**	☒	**Production**	☐	**Retest**	☐	**Previous Report No.:**
Other/ Comments:							

For and on behalf of
Eurofins MTS Consumer Product Testing US, LLC (Norwood, MA)

John R. Gerringer

John Gerringer, Analytical Director

Eurofins MTS' smart screening approach is a restricted substance pre-screening method that effectively ensures compliance for any countries that do not require mandatory certification test reports based on a specified test method. Any positive detection results from the screening test will trigger individual tests to be performed according to the preferred test method of the country that restricts the detected substance. For any countries that require mandatory certification test reports based on a specified test method, individual tests will be performed according to the specified test methods to ensure compliance.

Sample Photo:

Testing Result Summary				
Test Property	SAT PASS	UNSAT FAIL	Subject to Client's Approval	COMMENTS
Total Organic Fluorine (TOF)			X	See Test Results Below

COMPONENT BREAKDOWN LIST:

Test Item(s)	Component Description
A	**Brock SP Shockpad**
A1	Black and White Plastic (Beads)

Eurofins MTS Consumer Product Testing US, Inc.
349 Lenox Street, Norwood, MA 02062, USA
Tel: (508) 638-1793 Fax: (508) 638-1759

E-mail: info@mts-global.com Website: www.mts-global.com Follow us on LinkedIn

TEST RESULTS:

Total Organic Fluorine Content – Client's Requirement

Test Item	Result				Conclusion
	Total Fluorine (mg/kg)	Total Inorganic Fluorine (mg/kg)	Total Organic Fluorine (mg/kg)	Client's Requirement	
A1	ND	ND	ND	100	DATA

ND= Not detected (Laboratory detection limit for TF =10mg/kg; for TIF = 5mg/kg – TOF is a calculated result)

Method: In-house method: Total Fluorine – Total Inorganic Fluorine = Total Organic Fluorine using CIC with reference to ASTM D7359 − 23 Standard Test Method for Total Fluorine – CIC. and BS EN 14582-2016 (halogen) .

Note: mg/kg = milligram per kilogram
"<" = less than

****End of Test Report****

NOTE:

If there is question or concern regarding the above results, please contact the lab person below:

Technical question & concern:
John Gerringer
Director - Analytical
Phone: 508-638-1793
John.Gerringer@cpt.Eurofinsus.com

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: USCPT Support
Eurofins MTS Consumer Product Testing US, Inc
11822 North Creek Pkwy
Suite 110
Bothell, Washington 98011
Generated 10/23/2024 10:41:31 AM

JOB DESCRIPTION

10558- Brock USA

JOB NUMBER

320-115751-2

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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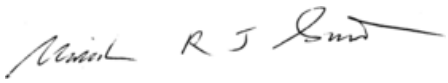
Authorization



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Authorized for release by
Micah Smith, Project Manager II
Micah.Smith@et.eurofinsus.com
(916)374-4302

Table of Contents

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-115751-2 Eurofins Sacramento

Job Narrative
320-115751-2

Receipt
The samples were received on 9/26/2024 10:05 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 18.2º C.

Receipt Exceptions
The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The sample date and times are not listed on the COC or sample container labels. The print date was used in lieu of the sample date.

LCMS
Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: 202409078-2 (320-115751-2). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: 202409078-2 (320-115751-2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 320-804369 and analytical batch 320-805587 recovered outside control limits for the following analyte: 5:3 FTCA. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method SHAKE: Due to the matrix, the initial volumes used for the following samples deviated from the standard procedure: 202409078-2 (320-115751-2). The reporting limits (RLs) have been adjusted proportionately.

Method SHAKE: The following samples in preparation batch 320-804369 were light yellow in color following extraction: 202409078-2 (320-115751-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-115751-2
Project/Site: 10558- Brock USA

Client Sample ID: 202409078-2
Lab Sample ID: 320-115751-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

10/23/2024

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-2

Client Sample ID: 202409078-2
Date Collected: 09/24/24 00:00
Date Received: 09/26/24 10:05

Lab Sample ID: 320-115751-2
Matrix: Solid

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluoropentanoic acid (PFPeA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorohexanoic acid (PFHxA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluoroheptanoic acid (PFHpA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorooctanoic acid (PFOA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorononanoic acid (PFNA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorodecanoic acid (PFDA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluoroundecanoic acid (PFUnA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorododecanoic acid (PFDoA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorononanesulfonic acid (PFNS)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
Perfluorooctanesulfonamide (FOSA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
NMeFOSAA	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
NEtFOSAA	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
4:2 FTS	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
6:2 FTS	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
8:2 FTS	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
NEtFOSA	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
NMeFOSA	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
NMeFOSE	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
NEtFOSE	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
9Cl-PF3ONS	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
HFPO-DA (GenX)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
11Cl-PF3OUdS	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
3:3 FTCA	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
5:3 FTCA	ND	*+	0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
7:3 FTCA	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
NFDHA	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
PFMBA	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
PFMPA	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1
PFEESA	ND		0.94		ug/Kg		10/04/24 04:34	10/09/24 05:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*51*		*25 - 150*	*10/04/24 04:34*	*10/09/24 05:07*	*1*
13C4 PFBA	*3*	*5-	*25 - 150*	*10/04/24 04:34*	*10/09/24 05:07*	*1*
13C5 PFPeA	*24*	*5-	*25 - 150*	*10/04/24 04:34*	*10/09/24 05:07*	*1*
13C2 PFHxA	*60*		*25 - 150*	*10/04/24 04:34*	*10/09/24 05:07*	*1*
13C4 PFHpA	*60*		*25 - 150*	*10/04/24 04:34*	*10/09/24 05:07*	*1*

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-2

Client Sample ID: 202409078-2
Date Collected: 09/24/24 00:00
Date Received: 09/26/24 10:05

Lab Sample ID: 320-115751-2
Matrix: Solid

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	81		25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C5 PFNA	85		25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C2 PFDA	89		25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C2 PFUnA	92		25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C2 PFDoA	75		25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C2 PFTeDA	72		25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C3 PFBS	72		25 - 150	10/04/24 04:34	10/09/24 05:07	1
18O2 PFHxS	80		25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C4 PFOS	86		25 - 150	10/04/24 04:34	10/09/24 05:07	1
d3-NMeFOSAA	92		25 - 150	10/04/24 04:34	10/09/24 05:07	1
d5-NEtFOSAA	89		25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C2 4:2 FTS	167	*5+	25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C2 6:2 FTS	351	*5+	25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C2 8:2 FTS	350	*5+	25 - 150	10/04/24 04:34	10/09/24 05:07	1
d-N-MeFOSA-M	52		25 - 150	10/04/24 04:34	10/09/24 05:07	1
d-N-EtFOSA-M	56		25 - 150	10/04/24 04:34	10/09/24 05:07	1
d7-N-MeFOSE-M	44		10 - 120	10/04/24 04:34	10/09/24 05:07	1
d9-N-EtFOSE-M	44		10 - 120	10/04/24 04:34	10/09/24 05:07	1
13C3 HFPO-DA	51		25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C-6:2 FTCA	42		25 - 150	10/04/24 04:34	10/09/24 05:07	1
13C-8:2 FTCA	58		25 - 150	10/04/24 04:34	10/09/24 05:07	1

Isotope Dilution Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-115751-2	202409078-2	51	3 *5-	24 *5-	60	60	81	85	89
LCS 320-804369/2-A	Lab Control Sample	89	92	85	94	94	92	96	94
MB 320-804369/1-A	Method Blank	88	92	86	92	95	88	92	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFUnA	PFDoA	PFTDA	C3PFBS	PFHxS	PFOS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-115751-2	202409078-2	92	75	72	72	80	86	92	89
LCS 320-804369/2-A	Lab Control Sample	88	82	83	94	102	93	85	95
MB 320-804369/1-A	Method Blank	97	85	85	93	96	94	93	98

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	dMeFOSA	dEtFOSA	NMFM	NEFM	HFPODA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(10-120)	(10-120)	(25-150)
320-115751-2	202409078-2	167 *5+	351 *5+	350 *5+	52	56	44	44	51
LCS 320-804369/2-A	Lab Control Sample	98	97	94	72	73	70	73	85
MB 320-804369/1-A	Method Blank	89	85	96	74	73	73	69	79

		Percent Isotope Dilution Recovery (Acceptance Limits)	
		MFHEA	MFOEA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)
320-115751-2	202409078-2	42	58
LCS 320-804369/2-A	Lab Control Sample	57	65
MB 320-804369/1-A	Method Blank	56	56

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA
MFHEA = 13C-6:2 FTCA
MFOEA = 13C-8:2 FTCA

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-804369/1-A
Matrix: Solid
Analysis Batch: 805587

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 804369

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluoropentanoic acid (PFPeA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorohexanoic acid (PFHxA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorooctanoic acid (PFOA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorononanoic acid (PFNA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorodecanoic acid (PFDA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorododecanoic acid (PFDoA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NMeFOSAA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NEtFOSAA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
4:2 FTS	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
6:2 FTS	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
8:2 FTS	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NEtFOSA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NMeFOSA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NMeFOSE	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NEtFOSE	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
9Cl-PF3ONS	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
HFPO-DA (GenX)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
11Cl-PF3OUdS	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
3:3 FTCA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
5:3 FTCA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
7:3 FTCA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NFDHA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
PFMBA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
PFMPA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
PFEESA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*88*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:25*	*1*
13C4 PFBA	*92*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:25*	*1*
13C5 PFPeA	*86*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:25*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-804369/1-A
Matrix: Solid
Analysis Batch: 805587

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 804369

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	92		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C4 PFHpA	95		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C4 PFOA	88		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C5 PFNA	92		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 PFDA	93		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 PFUnA	97		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 PFDoA	85		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 PFTeDA	85		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C3 PFBS	93		25 - 150	10/04/24 04:34	10/09/24 04:25	1
18O2 PFHxS	96		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C4 PFOS	94		25 - 150	10/04/24 04:34	10/09/24 04:25	1
d3-NMeFOSAA	93		25 - 150	10/04/24 04:34	10/09/24 04:25	1
d5-NEtFOSAA	98		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 4:2 FTS	89		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 6:2 FTS	85		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 8:2 FTS	96		25 - 150	10/04/24 04:34	10/09/24 04:25	1
d-N-MeFOSA-M	74		25 - 150	10/04/24 04:34	10/09/24 04:25	1
d-N-EtFOSA-M	73		25 - 150	10/04/24 04:34	10/09/24 04:25	1
d7-N-MeFOSE-M	73		10 - 120	10/04/24 04:34	10/09/24 04:25	1
d9-N-EtFOSE-M	69		10 - 120	10/04/24 04:34	10/09/24 04:25	1
13C3 HFPO-DA	79		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C-6:2 FTCA	56		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C-8:2 FTCA	56		25 - 150	10/04/24 04:34	10/09/24 04:25	1

Lab Sample ID: LCS 320-804369/2-A
Matrix: Solid
Analysis Batch: 805587

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 804369

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	2.00	2.00		ug/Kg		100	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	2.44		ug/Kg		122	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	1.85		ug/Kg		92	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.09		ug/Kg		105	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	2.09		ug/Kg		105	72 - 132
Perfluorononanoic acid (PFNA)	2.00	2.07		ug/Kg		104	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.05		ug/Kg		102	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	2.04		ug/Kg		102	66 - 126
Perfluorododecanoic acid (PFDoA)	2.00	2.14		ug/Kg		107	71 - 131
Perfluorotridecanoic acid (PFTrDA)	2.00	1.84		ug/Kg		92	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	1.96		ug/Kg		98	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.78	1.78		ug/Kg		100	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	2.00		ug/Kg		107	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.72		ug/Kg		95	62 - 122

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-804369/2-A
Matrix: Solid
Analysis Batch: 805587

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 804369

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanesulfonic acid (PFHpS)	1.91	2.04		ug/Kg		107	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	1.99		ug/Kg		107	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	1.92		ug/Kg		100	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.96		ug/Kg		102	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	1.94	1.89		ug/Kg		98	70 - 130
Perfluorooctanesulfonamide (FOSA)	2.00	2.18		ug/Kg		109	77 - 137
NMeFOSAA	2.00	2.56		ug/Kg		128	72 - 132
NEtFOSAA	2.00	2.06		ug/Kg		103	72 - 132
4:2 FTS	1.88	1.92		ug/Kg		102	68 - 143
6:2 FTS	1.90	1.92		ug/Kg		101	73 - 139
8:2 FTS	1.92	2.00		ug/Kg		104	75 - 135
NEtFOSA	2.00	1.97		ug/Kg		98	47 - 161
NMeFOSA	2.00	2.10		ug/Kg		105	63 - 148
NMeFOSE	2.00	2.11		ug/Kg		106	43 - 153
NEtFOSE	2.00	2.01		ug/Kg		100	44 - 155
9Cl-PF3ONS	1.87	1.84		ug/Kg		99	74 - 134
HFPO-DA (GenX)	2.00	2.05		ug/Kg		103	53 - 158
11Cl-PF3OUdS	1.89	1.77		ug/Kg		94	66 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.85		ug/Kg		98	79 - 139
3:3 FTCA	2.00	1.87		ug/Kg		93	50 - 150
5:3 FTCA	2.00	3.13	*+	ug/Kg		157	50 - 150
7:3 FTCA	2.00	1.90		ug/Kg		95	50 - 150
NFDHA	2.00	1.83		ug/Kg		91	50 - 150
PFMBA	2.00	2.18		ug/Kg		109	50 - 150
PFMPA	2.00	2.13		ug/Kg		107	50 - 150
PFEESA	1.78	1.78		ug/Kg		100	50 - 150

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*89*		*25 - 150*
13C4 PFBA	*92*		*25 - 150*
13C5 PFPeA	*85*		*25 - 150*
13C2 PFHxA	*94*		*25 - 150*
13C4 PFHpA	*94*		*25 - 150*
13C4 PFOA	*92*		*25 - 150*
13C5 PFNA	*96*		*25 - 150*
13C2 PFDA	*94*		*25 - 150*
13C2 PFUnA	*88*		*25 - 150*
13C2 PFDoA	*82*		*25 - 150*
13C2 PFTeDA	*83*		*25 - 150*
13C3 PFBS	*94*		*25 - 150*
18O2 PFHxS	*102*		*25 - 150*
13C4 PFOS	*93*		*25 - 150*
d3-NMeFOSAA	*85*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-804369/2-A
Matrix: Solid
Analysis Batch: 805587

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 804369

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	95		25 - 150
13C2 4:2 FTS	98		25 - 150
13C2 6:2 FTS	97		25 - 150
13C2 8:2 FTS	94		25 - 150
d-N-MeFOSA-M	72		25 - 150
d-N-EtFOSA-M	73		25 - 150
d7-N-MeFOSE-M	70		10 - 120
d9-N-EtFOSE-M	73		10 - 120
13C3 HFPO-DA	85		25 - 150
13C-6:2 FTCA	57		25 - 150
13C-8:2 FTCA	65		25 - 150

QC Association Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-115751-2
Project/Site: 10558- Brock USA

LCMS

Prep Batch: 804369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115751-2	202409078-2	Total/NA	Solid	SHAKE	
MB 320-804369/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-804369/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 805587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115751-2	202409078-2	Total/NA	Solid	537 (modified)	804369
MB 320-804369/1-A	Method Blank	Total/NA	Solid	537 (modified)	804369
LCS 320-804369/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	804369

Lab Chronicle

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-2

Client Sample ID: 202409078-2

Date Collected: 09/24/24 00:00
Date Received: 09/26/24 10:05

Lab Sample ID: 320-115751-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			1.06 g	10.0 mL	804369	10/04/24 04:34	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	805587	10/09/24 05:07	K1S	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-115751-2
Project/Site: 10558- Brock USA

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-27
ANAB	Dept. of Defense ELAP	L2468	01-20-27
ANAB	Dept. of Energy	L2468.01	01-20-27
ANAB	ISO/IEC 17025	L2468	01-20-27
Arizona	State	AZ0708	08-11-25
Arkansas DEQ	State	88-0691	05-18-25
California	State	2897	01-31-26
Colorado	State	CA00044	08-31-25
Florida	NELAP	E87570	06-30-25
Georgia	State	4040	01-29-25
Hawaii	State	Eurofins Sacramento	01-29-25
Illinois	NELAP	200060	03-31-25
Kansas	NELAP	E-10375	10-31-25
Louisiana	NELAP	01944	06-30-25
Louisiana (All)	NELAP	01944	06-30-25
Maine	State	CA00004	04-14-26
Michigan	State	9947	01-29-25
Minnesota	NELAP	2749448	12-31-24
Nevada	State	CA00044	07-31-25
New Hampshire	NELAP	2997	04-19-25
New Jersey	NELAP	CA005	06-30-25
New York	NELAP	11666	04-01-25
Ohio	State	41252	01-29-25
Oregon	NELAP	4040	01-29-25
Texas	NELAP	T104704399-23-17	05-31-25
US Fish & Wildlife	US Federal Programs	A22139	04-30-25
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442023-16	02-28-25
Virginia	NELAP	460278	03-14-25
Washington	State	C581	05-05-25
West Virginia (DW)	State	9930C	01-31-25
Wisconsin	State	998204680	08-31-25
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-2

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-115751-2	202409078-2	Solid	09/24/24 00:00	09/26/24 10:05

320 115751 Chain of Custody

eurofins

Print Date: Sep 24, 2024

INTER-LAB ORDER FORM

Please report samples separately

To: Eurofins Environment Testing America - Northern California

ATTN: David Altucker

Address:
880 Riverside Parkway, 95605 West Sacramento, CA, United States of America

From: Eurofins MTS Consumer Product Testing US, Inc.
11822 North Creek Pkwy Suite 110 Bothell, WA 98011
Email: USCPTSupport@cpt.eurofinsus.com
Phone: 425-686-3575

Eurofins US Sales Contact: AL

Eurofins Project Manager: Patricia Cox

PO # 200010558
Please reference PO# on report and invoice.

PLEASE SEND REPORT TO:
Attention To: Patricia Cox
Email: USCPTSupport@cpt.eurofinsus.com

PLEASE SEND INVOICE TO:
Email: DG_SCNA002-CUS047-ICO@nsc.eurofinsus.com

Applicant Information - (PLEASE ADDRESS TO THE APPLICANT AND APPLICANT ADDRESS ONLY ON THE REPORT.)			
Client (Report Addressed To:)	Brock USA	Sample Return?	No
Client Address (Shown on Report)	3090 Sterling Circle, 80301 Boulder, Colorado, United States of America		

Tests Requested	Report Delivery: Electronic	Due Date: NA

Samples

Sample ID: 202409078-1	Description: Brock SP Shockpad
Lot/Batch Number: N/A	Supplier Manufacturer: Brock USA
Country of Origin: USA	Country of Destination: USA
Tests	
Analysis: PFAS, EPA 1633 List (40 Analytes) - 537 modified	Note: Sample size requirements PER SAMPLE: small ziplock bag of product or 6"x6" swatch if turf product

We request for the above tests and agree that all testing will be carried out subject to your general terms and conditions and price set forth upon previously established agreements with Eurofins Product Testing Inc.

Signature

Date

Rec By: S EETSAC 9/25/24 1005
SO 9/25/24
18.2°C

eurofins

Print Date: Sep 24, 2024

INTER-LAB ORDER FORM

Please report samples separately

Sample ID: 202409078-2	Description: BrockFILL
Lot/Batch Number: N/A	Supplier Manufacturer: Brock USA
Country of Origin: USA	Country of Destination: USA
Tests	
Analysis: PFAS, EPA 1633 List (40 Analytes) - 537 modified	Note: Sample size requirements PER SAMPLE: small ziplock bag of product or 6"x6" swatch if turf product

NOTE:

We request for the above tests and agree that all testing will be carried out subject to your general terms and conditions and price set forth upon previously established agreements with Eurofins Product Testing Inc.

Signature

Date 09/24/2024

TEST REQUEST FORM
(Please include this form when shipping samples)

General Information	Quotation No.: 200010558	TRF Number: 202409078	Eurofins Contact: Anna Lee	Contact Email: anna.lee@cpt.eurofinsus.com
Company Information				
Company Name	Brock USA			
Address	3090 Sterling Circle		City	Boulder
Postal code	80301		Country	USA
Phone	3035445800			
Email	Tmurphy@brockusa.com			
Contact person				
Name	Tom Murphy			
Phone	5017330601			
Email	Tmurphy@brockusa.com			
Invoicing Contact				
Company Name	Brock USA			
Address	3090 Sterling Circle		City	Boulder
Postal code	80301		Country	USA
Phone	3035445800			
Email	Tmurphy@brockusa.com			
Contact Person				
Name	Tom Murphy			
Phone	3035445800			
Email	Tmurphy@brockusa.com			
Eurofins ID	202409078-1			
Sample Identification	Brock SP Shockpad			
Lot/Batch Number	N/A			
Number of Samples shipped	1		Labeled Age Grade	N/A
Supplier/Manufacturer	Brock USA			
Country of Origin	USA		Countries of Destination	USA
Comments				
Chosen tests	1. TOF (Total Organic Fluorine) by CIC (Combustion Ion Chromatography) 2. RUSH TAT for TOF analysis 3. PFAS, EPA 1633 List (40 Analytes) - 537 modified			
Eurofins ID	202409078-2			
Sample Identification	BrockFILL			
Lot/Batch Number	N/A			

Tom Murphy
tmurphy@brockusa.com

TEST REQUEST FORM
(Please include this form when shipping samples)

Number of Samples shipped	1	Labeled Age Grade	N/A
Supplier/Manufacturer	Brock USA		
Country of Origin	USA	Countries of Destination	USA
Comments			
Chosen tests	1. TOF (Total Organic Fluorine) by CIC (Combustion Ion Chromatography) 2. RUSH TAT for TOF analysis 3. PFAS, EPA 1633 List (40 Analytes) - 537 modified		

Send Samples To:	Shipping address to be provide along with IOF (Interlab Order Form) - IOF must be included with sample shipment. Please complete online test request form in order to generate your IOF - https://ecpt-portal.com/ Sample names/ID must be noted on test request form as these will be used on your final test report.
Return Sample(s)	No
TRF Comments	

Chosen tests:

Please read and review. If you have any questions, reach out to your Eurofins contact.

Please complete the above information as accurate and complete as possible. Final report revisions will incur a fee.

eurofins | Environment Testing

Loc: 320
115751

Sacramento Sample Receiving Notes (SSRN)

Tracking # 1Z 9E5 9W1 01 9683 9746

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID: LOY Corr Factor: (+ / -) N/A °C

Ice_____ Wet_____ Gel _____ Other none

Cooler Custody Seal: _____

Cooler ID _____

Temp Observed 18.2 °C Corrected 18.2 °C
From Temp Blank ☐ Sample ☒

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☐	☒	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials SO Date 9/26/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☐	☒	☐
Sample date/times are provided?	☐	☒	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 09/26/24

Notes: _____
no cooling agent
No sample date and time listed on the COC or the sample bags.

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
Log Release checked in TALS?	☒	☐	☐

Initials: DM Date 09/26/24

Login Sample Receipt Checklist

Client: Eurofins MTS Consumer Product Testing US, Inc

Job Number: 320-115751-2

Login Number: 115751

List Source: Eurofins Sacramento

List Number: 1

Creator: Morazzini, Dominic S

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

2. PFAS Test Report for Brock PowerBase

Test Report No. 202412068 - Rev. 1
Report Date January 9, 2025

Client

Tom Murphy

Brock USA

3090 Sterling Circle, Ste. 102, Boulder, Colorado 80301

Phone: +1 (501) 733-0601

Email: tmurphy@brockusa.com

Approval Date	December 20, 2024	**Delivery Conditions**	Satisfactory, samples tested as received
Date of Receipt	December 20, 2024	**Testing Date Range**	12-20-2024 to 01-09-2024
Test Request Form #	202412068		

Eurofins ID	Sample Name	Lot/Batch Number	Supplier/Manufacturer	Country of Origin
202412068-1	Brock PowerBase	n/a	Brock USA	USA

The following test item(s) was/were performed on submitted sample(s) and/or component(s) confirmed by applicant

TEST REQUESTED	RESULT
TOF (Total Organic Fluorine) by CIC (Combustion Ion Chromatography)	See Attachment
PFAS, EPA 1633 List (40 Analytes) - 537 modified	See Attachment

Analysis completed by Eurofins Subcontract Laboratory

Revision statement: Updated TOF Results per Clients request.

Signed for and on behalf of
Eurofins MTS Consumer Product Testing US, Inc.

Patricia Cox / Project Coordinator

01-09-2025

This report cancels and replaces report 202412068. The laboratory accepts no responsibility for the use of any previous report to this report.

This report relates to the above mentioned test item(s) and the extent to tests performed. This test report is not permitted to be reproduced except in full, without written permission of the test facility. This test report does not entitle any safety marks on this or similar products. The sample and the information regarding sample have been provided by the client. All information related to the sample are under liability of the client and have not been checked by Eurofins MTS Consumer Product Testing US, Inc.

ATTACHMENT

eurofins | Modern Testing Services

TEST REPORT

LAB LOCATION: Norwood, MA USA

DATE IN: December 23, 2024

REPORT NUMBER: 67424-120052
DATE OUT: January 09, 2025
Revision Date: January 9, 2025

To:	Tom Murphy Brock USA		
Contact:	/		
Address:	3090 Sterling Circle Boulder, Colorado 80301 United States		
Tel:	/	**Fax:**	/
E-mail:	/		
Copy To:	/		

OVERALL RATING

SATISFACTORY	**X**
UNSATISFACTORY	
Subject to Client's Approval	

NOTE: RATING IS BASED ON TESTING LAB RESULTS. FINAL ACCEPTANCE OR REJECTION IS PER CLIENT ONLY.

Sample Information			
Product Description:	Brock PowerBase		
Item/ Style Number:	202412068-1		
Purchase Order Number:	200010995	**No. of Sample Submitted:**	1
Lot/Batch/Tracking Info:	-	**Date of Manufacture:**	-
Country of Origin:	USA	**Country of Destination:**	USA
Vendor/ Agent:	-	**Manufacturer:**	Brock USA

Testing Status							
☐	**Pre-production**	☒	**Production**	☐	**Retest**	☐	**Previous Report No.:**
Other/ Comments:							

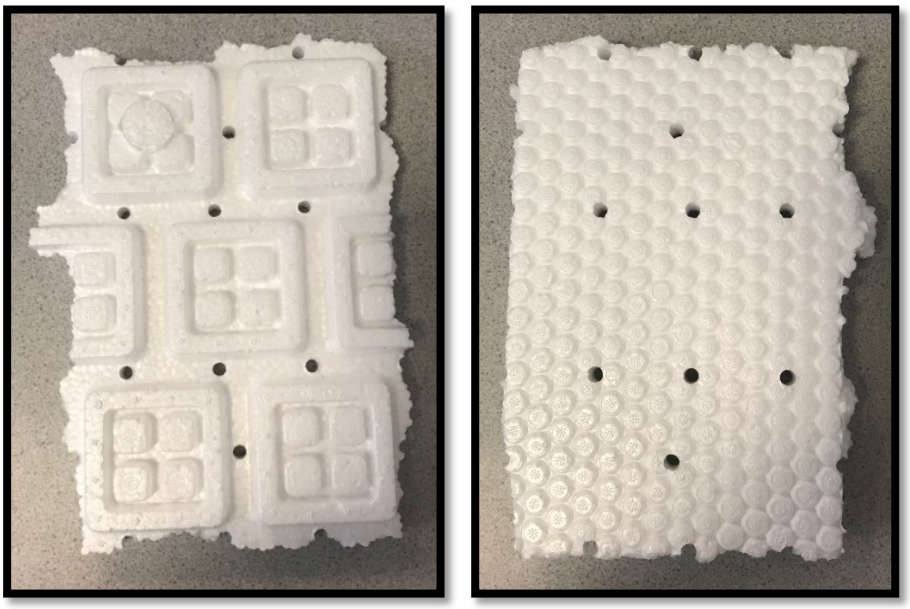
For and on behalf of
Eurofins MTS Consumer Product Testing US, LLC (Norwood, MA)

John R. Gerringer

John Gerringer, Analytical Director

Eurofins MTS' smart screening approach is a restricted substance pre-screening method that effectively ensures compliance for any countries that do not require mandatory certification test reports based on a specified test method. Any positive detection results from the screening test will trigger individual tests to be performed according to the preferred test method of the country that restricts the detected substance. For any countries that require mandatory certification test reports based on a specified test method, individual tests will be performed according to the specified test methods to ensure compliance.

Sample Photo:



Testing Result Summary				
Test Property	SAT PASS	UNSAT FAIL	Subject to Client's Approval	COMMENTS
Total Organic Fluorine (TOF)	X			See Test Results Below

COMPONENT BREAKDOWN LIST:

Test Item(s)	Component Description
A	**Brock PowerBase**
A1	White Plastic (Styrofoam)

TEST RESULTS:

Total Organic Fluorine Content – Client's Requirement

Test Item	Result				Conclusion
	Total Fluorine (mg/kg)	Total Inorganic Fluorine (mg/kg)	Total Organic Fluorine (mg/kg)	Client's Requirement	
A1	ND	ND	ND	100	PASS

ND= Not detected (Laboratory detection limit for TF =10mg/kg; for TIF = 5mg/kg – TOF is a calculated result)

Method: In-house method: Total Fluorine – Total Inorganic Fluorine = Total Organic Fluorine using CIC with reference to ASTM D7359 − 23 Standard Test Method for Total Fluorine – CIC. and BS EN 14582-2016 (halogen) .

Note: mg/kg = milligram per kilogram
"<" = less than

****End of Test Report****

NOTE:

If there is question or concern regarding the above results, please contact the lab person below:

Technical question & concern:
John Gerringer
Director - Analytical
Phone: 508-638-1793
John.Gerringer@cpt.Eurofinsus.com

This test report is governed by the Terms and Conditions, available on request or attached to the end of this test report. Attention is especially drawn to the limitations of liability, indemnification and jurisdictional provisions defined therein. This report is issued strictly based on the testing of the samples submitted by you. The test results in this report refer only to the sample(s) actually tested and do not refer or be deemed to refer to any bulk production from which such sample(s) may be said to have been obtained. In the event that Eurofins MTS Consumer Product Testing US, LLC ("ERF") was requested to survey and test any bulk production quantity of samples, ERF, in the absence of any contrary written instructions, performed random sampling of bulk production for testing purposes. Variations in the conditions under which samples are stored, transported, etc., may lead to variations in the test results. ERF cannot anticipate and shall not be held responsible for variations in test results that may be due to factors beyond ERF's control, such as, sample cross-contamination, evaporation of volatile substances due to storage temperature, humidity, etc. This report does not constitute a recommendation, actual or implied, for any specific course of action. Other than the expressed warranties made in the Terms and Conditions of the ERF Test Request Form, ERF makes no warranties or representations either expressed or implied with respect to this report. In no circumstances whatsoever shall ERF be liable for any consequential, special, or incidental damages arising out of, or in connection with, this report.

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ANALYTICAL REPORT

PREPARED FOR

Attn: USCPT Support
Eurofins MTS Consumer Product Testing US, Inc
22310 20th Ave SE
Bothell, Washington 98021

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JOB DESCRIPTION

10558- Brock USA

JOB NUMBER

320-117966-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

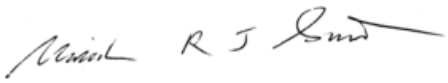
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Authorized for release by
Micah Smith, Project Manager II
Micah.Smith@et.eurofinsus.com
(916)374-4302

Table of Contents

Definitions/Glossary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-117966-1
Project/Site: 10558- Brock USA

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-117966-1 — Eurofins Sacramento

Job Narrative
320-117966-1

Receipt
The sample was received on 12/20/2024 10:30 AM. Unless otherwise noted below, the sample arrived in good condition. The temperature of the cooler at receipt was 17.6º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): 202412068-1 (320-117966-1). The sample container does not list a sample ID and the sample was logged in and labeled according to COC.

The COC and sample container do not list a collection date or time. The collection date used for sample login was the "Print date" on COC (Dec 17, 2024) with a default collection time of 00:00.

LCMS
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method SHAKE: Samples 202412068-1 (320-117966-1), (320-117966-A-1 MS) and (320-117966-A-1 MSD) were processed at reduced mass due to the nature of the matrix, and the reporting limits (RLs) have been adjusted proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-117966-1
Project/Site: 10558- Brock USA

Client Sample ID: 202412068-1
Lab Sample ID: 320-117966-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-117966-1

Client Sample ID: 202412068-1
Date Collected: 12/17/24 00:00
Date Received: 12/20/24 10:30

Lab Sample ID: 320-117966-1
Matrix: Solid

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.3		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluoropentanoic acid (PFPeA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorohexanoic acid (PFHxA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluoroheptanoic acid (PFHpA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorooctanoic acid (PFOA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorononanoic acid (PFNA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorodecanoic acid (PFDA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluoroundecanoic acid (PFUnA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorododecanoic acid (PFDoA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorononanesulfonic acid (PFNS)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
Perfluorooctanesulfonamide (FOSA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
NMeFOSAA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
NEtFOSAA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
4:2 FTS	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
6:2 FTS	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
8:2 FTS	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
NEtFOSA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
NMeFOSA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
NMeFOSE	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
NEtFOSE	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
9Cl-PF3ONS	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
HFPO-DA (GenX)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
11Cl-PF3OUdS	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
3:3 FTCA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
5:3 FTCA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
7:3 FTCA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
NFDHA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
PFMBA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
PFMPA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1
PFEESA	ND		0.93		ug/Kg		12/31/24 04:32	01/01/25 01:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*103*		*25 - 150*	*12/31/24 04:32*	*01/01/25 01:39*	*1*
13C4 PFBA	*105*		*25 - 150*	*12/31/24 04:32*	*01/01/25 01:39*	*1*
13C5 PFPeA	*107*		*25 - 150*	*12/31/24 04:32*	*01/01/25 01:39*	*1*
13C2 PFHxA	*108*		*25 - 150*	*12/31/24 04:32*	*01/01/25 01:39*	*1*
13C4 PFHpA	*107*		*25 - 150*	*12/31/24 04:32*	*01/01/25 01:39*	*1*

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-117966-1

Client Sample ID: 202412068-1
Date Collected: 12/17/24 00:00
Date Received: 12/20/24 10:30

Lab Sample ID: 320-117966-1
Matrix: Solid

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	107		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C5 PFNA	105		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C2 PFDA	107		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C2 PFUnA	112		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C2 PFDoA	97		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C2 PFTeDA	104		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C3 PFBS	107		25 - 150	12/31/24 04:32	01/01/25 01:39	1
18O2 PFHxS	109		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C4 PFOS	106		25 - 150	12/31/24 04:32	01/01/25 01:39	1
d3-NMeFOSAA	111		25 - 150	12/31/24 04:32	01/01/25 01:39	1
d5-NEtFOSAA	121		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C2 4:2 FTS	101		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C2 6:2 FTS	99		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C2 8:2 FTS	104		25 - 150	12/31/24 04:32	01/01/25 01:39	1
d-N-MeFOSA-M	104		25 - 150	12/31/24 04:32	01/01/25 01:39	1
d-N-EtFOSA-M	105		25 - 150	12/31/24 04:32	01/01/25 01:39	1
d7-N-MeFOSE-M	101		10 - 120	12/31/24 04:32	01/01/25 01:39	1
d9-N-EtFOSE-M	107		10 - 120	12/31/24 04:32	01/01/25 01:39	1
13C3 HFPO-DA	103		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C-6:2 FTCA	88		25 - 150	12/31/24 04:32	01/01/25 01:39	1
13C-8:2 FTCA	96		25 - 150	12/31/24 04:32	01/01/25 01:39	1

Isotope Dilution Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-117966-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-117966-1	202412068-1	103	105	107	108	107	107	105	107
320-117966-1 MS	202412068-1	104	106	105	110	105	105	105	109
320-117966-1 MSD	202412068-1	103	109	109	111	108	107	108	114
LCS 320-824984/2-A	Lab Control Sample	99	108	105	108	108	103	104	105
MB 320-824984/1-A	Method Blank	104	105	105	106	103	105	101	104

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFUnA	PFDoA	PFTDA	C3PFBS	PFHxS	PFOS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-117966-1	202412068-1	112	97	104	107	109	106	111	121
320-117966-1 MS	202412068-1	114	102	100	105	104	102	113	123
320-117966-1 MSD	202412068-1	113	100	99	107	109	106	117	120
LCS 320-824984/2-A	Lab Control Sample	100	89	84	107	106	106	109	105
MB 320-824984/1-A	Method Blank	106	93	88	104	101	102	113	114

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	dMeFOSA	dEtFOSA	NMFM	NEFM	HFPODA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(10-120)	(10-120)	(25-150)
320-117966-1	202412068-1	101	99	104	104	105	101	107	103
320-117966-1 MS	202412068-1	97	97	102	110	104	102	108	100
320-117966-1 MSD	202412068-1	99	98	102	100	105	106	110	105
LCS 320-824984/2-A	Lab Control Sample	99	100	99	84	93	88	93	103
MB 320-824984/1-A	Method Blank	96	100	99	96	100	96	103	101

		Percent Isotope Dilution Recovery (Acceptance Limits)	
		MFHEA	MFOEA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)
320-117966-1	202412068-1	88	96
320-117966-1 MS	202412068-1	91	92
320-117966-1 MSD	202412068-1	96	102
LCS 320-824984/2-A	Lab Control Sample	80	81
MB 320-824984/1-A	Method Blank	76	79

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS

Isotope Dilution Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-117966-1
Project/Site: 10558- Brock USA

M282FTS = 13C2 8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA
MFHEA = 13C-6:2 FTCA
MFOEA = 13C-8:2 FTCA

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-117966-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-824984/1-A
Matrix: Solid
Analysis Batch: 825251

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 824984

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.50		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluoropentanoic acid (PFPeA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorohexanoic acid (PFHxA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorooctanoic acid (PFOA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorononanoic acid (PFNA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorodecanoic acid (PFDA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorododecanoic acid (PFDoA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
NMeFOSAA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
NEtFOSAA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
4:2 FTS	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
6:2 FTS	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
8:2 FTS	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
NEtFOSA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
NMeFOSA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
NMeFOSE	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
NEtFOSE	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
9Cl-PF3ONS	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
HFPO-DA (GenX)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
11Cl-PF3OUdS	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
3:3 FTCA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
5:3 FTCA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
7:3 FTCA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
NFDHA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
PFMBA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
PFMPA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1
PFEESA	ND		0.20		ug/Kg		12/31/24 04:32	01/01/25 01:11	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*104*		*25 - 150*	*12/31/24 04:32*	*01/01/25 01:11*	*1*
13C4 PFBA	*105*		*25 - 150*	*12/31/24 04:32*	*01/01/25 01:11*	*1*
13C5 PFPeA	*105*		*25 - 150*	*12/31/24 04:32*	*01/01/25 01:11*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-824984/1-A
Matrix: Solid
Analysis Batch: 825251

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 824984

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	106		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C4 PFHpA	103		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C4 PFOA	105		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C5 PFNA	101		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C2 PFDA	104		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C2 PFUnA	106		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C2 PFDoA	93		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C2 PFTeDA	88		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C3 PFBS	104		25 - 150	12/31/24 04:32	01/01/25 01:11	1
18O2 PFHxS	101		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C4 PFOS	102		25 - 150	12/31/24 04:32	01/01/25 01:11	1
d3-NMeFOSAA	113		25 - 150	12/31/24 04:32	01/01/25 01:11	1
d5-NEtFOSAA	114		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C2 4:2 FTS	96		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C2 6:2 FTS	100		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C2 8:2 FTS	99		25 - 150	12/31/24 04:32	01/01/25 01:11	1
d-N-MeFOSA-M	96		25 - 150	12/31/24 04:32	01/01/25 01:11	1
d-N-EtFOSA-M	100		25 - 150	12/31/24 04:32	01/01/25 01:11	1
d7-N-MeFOSE-M	96		10 - 120	12/31/24 04:32	01/01/25 01:11	1
d9-N-EtFOSE-M	103		10 - 120	12/31/24 04:32	01/01/25 01:11	1
13C3 HFPO-DA	101		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C-6:2 FTCA	76		25 - 150	12/31/24 04:32	01/01/25 01:11	1
13C-8:2 FTCA	79		25 - 150	12/31/24 04:32	01/01/25 01:11	1

Lab Sample ID: LCS 320-824984/2-A
Matrix: Solid
Analysis Batch: 825251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 824984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	2.00	2.03		ug/Kg		102	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	1.93		ug/Kg		97	74 - 134
Perfluorohexanoic acid (PFHxA)	2.00	1.87		ug/Kg		94	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	1.96		ug/Kg		98	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	2.01		ug/Kg		100	72 - 132
Perfluorononanoic acid (PFNA)	2.00	1.90		ug/Kg		95	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	1.96		ug/Kg		98	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	2.08		ug/Kg		104	75 - 135
Perfluorododecanoic acid (PFDoA)	2.00	2.12		ug/Kg		106	71 - 131
Perfluorotridecanoic acid (PFTrDA)	2.00	1.72		ug/Kg		86	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	2.10		ug/Kg		105	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.78	1.74		ug/Kg		98	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.91		ug/Kg		102	75 - 135
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.81		ug/Kg		99	62 - 122

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-824984/2-A
Matrix: Solid
Analysis Batch: 825251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 824984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanesulfonic acid (PFHpS)	1.91	1.92		ug/Kg		100	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	1.90		ug/Kg		102	73 - 133
Perfluorononanesulfonic acid (PFNS)	1.92	1.78		ug/Kg		92	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.85		ug/Kg		96	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	1.94	1.50		ug/Kg		77	56 - 130
Perfluorooctanesulfonamide (FOSA)	2.00	2.00		ug/Kg		100	77 - 137
NMeFOSAA	2.00	2.01		ug/Kg		101	72 - 132
NEtFOSAA	2.00	2.21		ug/Kg		110	72 - 132
4:2 FTS	1.88	1.84		ug/Kg		98	71 - 131
6:2 FTS	1.90	1.88		ug/Kg		99	73 - 132
8:2 FTS	1.92	1.92		ug/Kg		100	75 - 135
NEtFOSA	2.00	2.05		ug/Kg		103	70 - 130
NMeFOSA	2.00	1.97		ug/Kg		99	72 - 132
NMeFOSE	2.00	1.91		ug/Kg		96	72 - 132
NEtFOSE	2.00	1.88		ug/Kg		94	71 - 131
9Cl-PF3ONS	1.87	1.77		ug/Kg		95	74 - 134
HFPO-DA (GenX)	2.00	2.01		ug/Kg		100	72 - 132
11Cl-PF3OUdS	1.89	1.73		ug/Kg		92	66 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.95		ug/Kg		103	70 - 147
3:3 FTCA	2.00	2.02		ug/Kg		101	20 - 165
5:3 FTCA	2.00	1.90		ug/Kg		95	64 - 201
7:3 FTCA	2.00	2.14		ug/Kg		107	47 - 186
NFDHA	2.00	2.04		ug/Kg		102	63 - 137
PFMBA	2.00	2.00		ug/Kg		100	75 - 135
PFMPA	2.00	2.06		ug/Kg		103	58 - 140
PFEESA	1.78	1.82		ug/Kg		102	75 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*99*		*25 - 150*
13C4 PFBA	*108*		*25 - 150*
13C5 PFPeA	*105*		*25 - 150*
13C2 PFHxA	*108*		*25 - 150*
13C4 PFHpA	*108*		*25 - 150*
13C4 PFOA	*103*		*25 - 150*
13C5 PFNA	*104*		*25 - 150*
13C2 PFDA	*105*		*25 - 150*
13C2 PFUnA	*100*		*25 - 150*
13C2 PFDoA	*89*		*25 - 150*
13C2 PFTeDA	*84*		*25 - 150*
13C3 PFBS	*107*		*25 - 150*
18O2 PFHxS	*106*		*25 - 150*
13C4 PFOS	*106*		*25 - 150*
d3-NMeFOSAA	*109*		*25 - 150*

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-117966-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-824984/2-A
Matrix: Solid
Analysis Batch: 825251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 824984

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	105		25 - 150
13C2 4:2 FTS	99		25 - 150
13C2 6:2 FTS	100		25 - 150
13C2 8:2 FTS	99		25 - 150
d-N-MeFOSA-M	84		25 - 150
d-N-EtFOSA-M	93		25 - 150
d7-N-MeFOSE-M	88		10 - 120
d9-N-EtFOSE-M	93		10 - 120
13C3 HFPO-DA	103		25 - 150
13C-6:2 FTCA	80		25 - 150
13C-8:2 FTCA	81		25 - 150

Lab Sample ID: 320-117966-1 MS
Matrix: Solid
Analysis Batch: 825251

Client Sample ID: 202412068-1
Prep Type: Total/NA
Prep Batch: 824984

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	ND		8.77	8.88		ug/Kg		101	76 - 136
Perfluoropentanoic acid (PFPeA)	ND		8.77	8.61		ug/Kg		98	74 - 134
Perfluorohexanoic acid (PFHxA)	ND		8.77	8.19		ug/Kg		93	71 - 131
Perfluoroheptanoic acid (PFHpA)	ND		8.77	8.63		ug/Kg		98	71 - 131
Perfluorooctanoic acid (PFOA)	ND		8.77	8.48		ug/Kg		97	72 - 132
Perfluorononanoic acid (PFNA)	ND		8.77	8.41		ug/Kg		96	73 - 133
Perfluorodecanoic acid (PFDA)	ND		8.77	8.40		ug/Kg		96	72 - 132
Perfluoroundecanoic acid (PFUnA)	ND		8.77	9.02		ug/Kg		103	75 - 135
Perfluorododecanoic acid (PFDoA)	ND		8.77	9.42		ug/Kg		107	71 - 131
Perfluorotridecanoic acid (PFTrDA)	ND		8.77	7.57		ug/Kg		86	71 - 131
Perfluorotetradecanoic acid (PFTeA)	ND		8.77	8.70		ug/Kg		99	67 - 127
Perfluorobutanesulfonic acid (PFBS)	ND		7.79	7.68		ug/Kg		99	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	ND		8.25	8.27		ug/Kg		100	75 - 135
Perfluorohexanesulfonic acid (PFHxS)	ND		8.00	7.50		ug/Kg		94	62 - 122
Perfluoroheptanesulfonic acid (PFHpS)	ND		8.37	8.45		ug/Kg		101	76 - 136
Perfluorooctanesulfonic acid (PFOS)	ND		8.16	8.58		ug/Kg		105	73 - 133
Perfluorononanesulfonic acid (PFNS)	ND		8.44	8.40		ug/Kg		100	72 - 132
Perfluorodecanesulfonic acid (PFDS)	ND		8.46	8.95		ug/Kg		106	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	ND		8.51	8.58		ug/Kg		101	56 - 130
Perfluorooctanesulfonamide (FOSA)	ND		8.77	8.71		ug/Kg		99	77 - 137
NMeFOSAA	ND		8.77	8.88		ug/Kg		101	72 - 132
NEtFOSAA	ND		8.77	8.88		ug/Kg		101	72 - 132

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-117966-1 MS
Client Sample ID: 202412068-1
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 825251
Prep Batch: 824984

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
4:2 FTS	ND		8.23	8.28		ug/Kg		101	71 - 131
6:2 FTS	ND		8.35	8.48		ug/Kg		101	73 - 132
8:2 FTS	ND		8.42	8.53		ug/Kg		101	75 - 135
NEtFOSA	ND		8.77	9.22		ug/Kg		105	70 - 130
NMeFOSA	ND		8.77	7.87		ug/Kg		90	72 - 132
NMeFOSE	ND		8.77	8.74		ug/Kg		100	72 - 132
NEtFOSE	ND		8.77	7.85		ug/Kg		89	71 - 131
9Cl-PF3ONS	ND		8.19	8.17		ug/Kg		100	74 - 134
HFPO-DA (GenX)	ND		8.77	8.56		ug/Kg		98	72 - 132
11Cl-PF3OUdS	ND		8.28	8.24		ug/Kg		100	66 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		8.30	8.69		ug/Kg		105	70 - 147
3:3 FTCA	ND		8.77	9.00		ug/Kg		103	20 - 165
5:3 FTCA	ND		8.77	8.62		ug/Kg		98	64 - 201
7:3 FTCA	ND		8.77	9.52		ug/Kg		109	47 - 186
NFDHA	ND		8.77	9.04		ug/Kg		103	63 - 137
PFMBA	ND		8.77	8.89		ug/Kg		101	75 - 135
PFMPA	ND		8.77	8.50		ug/Kg		97	58 - 140
PFEESA	ND		7.82	7.81		ug/Kg		100	75 - 135

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C8 FOSA	*104*		*25 - 150*
13C4 PFBA	*106*		*25 - 150*
13C5 PFPeA	*105*		*25 - 150*
13C2 PFHxA	*110*		*25 - 150*
13C4 PFHpA	*105*		*25 - 150*
13C4 PFOA	*105*		*25 - 150*
13C5 PFNA	*105*		*25 - 150*
13C2 PFDA	*109*		*25 - 150*
13C2 PFUnA	*114*		*25 - 150*
13C2 PFDoA	*102*		*25 - 150*
13C2 PFTeDA	*100*		*25 - 150*
13C3 PFBS	*105*		*25 - 150*
18O2 PFHxS	*104*		*25 - 150*
13C4 PFOS	*102*		*25 - 150*
d3-NMeFOSAA	*113*		*25 - 150*
d5-NEtFOSAA	*123*		*25 - 150*
13C2 4:2 FTS	*97*		*25 - 150*
13C2 6:2 FTS	*97*		*25 - 150*
13C2 8:2 FTS	*102*		*25 - 150*
d-N-MeFOSA-M	*110*		*25 - 150*
d-N-EtFOSA-M	*104*		*25 - 150*
d7-N-MeFOSE-M	*102*		*10 - 120*
d9-N-EtFOSE-M	*108*		*10 - 120*
13C3 HFPO-DA	*100*		*25 - 150*
13C-6:2 FTCA	*91*		*25 - 150*
13C-8:2 FTCA	*92*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-117966-1 MSD
Matrix: Solid
Analysis Batch: 825251

Client Sample ID: 202412068-1
Prep Type: Total/NA
Prep Batch: 824984

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	ND		7.52	7.55		ug/Kg		100	76 - 136	16	30
Perfluoropentanoic acid (PFPeA)	ND		7.52	7.31		ug/Kg		97	74 - 134	16	30
Perfluorohexanoic acid (PFHxA)	ND		7.52	7.03		ug/Kg		94	71 - 131	15	30
Perfluoroheptanoic acid (PFHpA)	ND		7.52	7.34		ug/Kg		98	71 - 131	16	30
Perfluorooctanoic acid (PFOA)	ND		7.52	7.46		ug/Kg		99	72 - 132	13	30
Perfluorononanoic acid (PFNA)	ND		7.52	7.24		ug/Kg		96	73 - 133	15	30
Perfluorodecanoic acid (PFDA)	ND		7.52	7.07		ug/Kg		94	72 - 132	17	30
Perfluoroundecanoic acid (PFUnA)	ND		7.52	7.92		ug/Kg		105	75 - 135	13	30
Perfluorododecanoic acid (PFDoA)	ND		7.52	8.14		ug/Kg		108	71 - 131	15	30
Perfluorotridecanoic acid (PFTrDA)	ND		7.52	6.88		ug/Kg		91	71 - 131	10	30
Perfluorotetradecanoic acid (PFTeA)	ND		7.52	8.23		ug/Kg		109	67 - 127	6	30
Perfluorobutanesulfonic acid (PFBS)	ND		6.68	6.49		ug/Kg		97	69 - 129	17	30
Perfluoropentanesulfonic acid (PFPeS)	ND		7.07	7.08		ug/Kg		100	75 - 135	15	30
Perfluorohexanesulfonic acid (PFHxS)	ND		6.86	6.52		ug/Kg		95	62 - 122	14	30
Perfluoroheptanesulfonic acid (PFHpS)	ND		7.17	7.14		ug/Kg		100	76 - 136	17	30
Perfluorooctanesulfonic acid (PFOS)	ND		6.99	7.08		ug/Kg		101	73 - 133	19	30
Perfluorononanesulfonic acid (PFNS)	ND		7.23	6.97		ug/Kg		96	72 - 132	19	30
Perfluorodecanesulfonic acid (PFDS)	ND		7.25	7.31		ug/Kg		101	71 - 131	20	30
Perfluorododecanesulfonic acid (PFDoS)	ND		7.29	7.30		ug/Kg		100	56 - 130	16	30
Perfluorooctanesulfonamide (FOSA)	ND		7.52	7.59		ug/Kg		101	77 - 137	14	30
NMeFOSAA	ND		7.52	7.36		ug/Kg		98	72 - 132	19	30
NEtFOSAA	ND		7.52	7.96		ug/Kg		106	72 - 132	11	30
4:2 FTS	ND		7.05	7.02		ug/Kg		100	71 - 131	17	30
6:2 FTS	ND		7.16	7.22		ug/Kg		101	73 - 132	16	30
8:2 FTS	ND		7.22	7.19		ug/Kg		100	75 - 135	17	30
NEtFOSA	ND		7.52	7.26		ug/Kg		97	70 - 130	24	30
NMeFOSA	ND		7.52	6.85		ug/Kg		91	72 - 132	14	30
NMeFOSE	ND		7.52	7.15		ug/Kg		95	72 - 132	20	30
NEtFOSE	ND		7.52	6.96		ug/Kg		93	71 - 131	12	30
9Cl-PF3ONS	ND		7.02	6.72		ug/Kg		96	74 - 134	20	30
HFPO-DA (GenX)	ND		7.52	7.30		ug/Kg		97	72 - 132	16	30
11Cl-PF3OUdS	ND		7.10	6.64		ug/Kg		94	66 - 136	21	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		7.11	7.27		ug/Kg		102	70 - 147	18	30
3:3 FTCA	ND		7.52	7.87		ug/Kg		105	20 - 165	13	30
5:3 FTCA	ND		7.52	7.49		ug/Kg		100	64 - 201	14	30
7:3 FTCA	ND		7.52	8.00		ug/Kg		106	47 - 186	17	30
NFDHA	ND		7.52	7.71		ug/Kg		103	63 - 137	16	30
PFMBA	ND		7.52	7.74		ug/Kg		103	75 - 135	14	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-117966-1 MSD
Client Sample ID: 202412068-1
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 825251
Prep Batch: 824984

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
PFMPA	ND		7.52	7.32		ug/Kg		97	58 - 140	15	30
PFEESA	ND		6.71	6.64		ug/Kg		99	75 - 135	16	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C8 FOSA	*103*		*25 - 150*
13C4 PFBA	*109*		*25 - 150*
13C5 PFPeA	*109*		*25 - 150*
13C2 PFHxA	*111*		*25 - 150*
13C4 PFHpA	*108*		*25 - 150*
13C4 PFOA	*107*		*25 - 150*
13C5 PFNA	*108*		*25 - 150*
13C2 PFDA	*114*		*25 - 150*
13C2 PFUnA	*113*		*25 - 150*
13C2 PFDoA	*100*		*25 - 150*
13C2 PFTeDA	*99*		*25 - 150*
13C3 PFBS	*107*		*25 - 150*
18O2 PFHxS	*109*		*25 - 150*
13C4 PFOS	*106*		*25 - 150*
d3-NMeFOSAA	*117*		*25 - 150*
d5-NEtFOSAA	*120*		*25 - 150*
13C2 4:2 FTS	*99*		*25 - 150*
13C2 6:2 FTS	*98*		*25 - 150*
13C2 8:2 FTS	*102*		*25 - 150*
d-N-MeFOSA-M	*100*		*25 - 150*
d-N-EtFOSA-M	*105*		*25 - 150*
d7-N-MeFOSE-M	*106*		*10 - 120*
d9-N-EtFOSE-M	*110*		*10 - 120*
13C3 HFPO-DA	*105*		*25 - 150*
13C-6:2 FTCA	*96*		*25 - 150*
13C-8:2 FTCA	*102*		*25 - 150*

QC Association Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-117966-1
Project/Site: 10558- Brock USA

LCMS

Prep Batch: 824984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117966-1	202412068-1	Total/NA	Solid	SHAKE	
MB 320-824984/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-824984/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-117966-1 MS	202412068-1	Total/NA	Solid	SHAKE	
320-117966-1 MSD	202412068-1	Total/NA	Solid	SHAKE	

Analysis Batch: 825251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117966-1	202412068-1	Total/NA	Solid	537 (modified)	824984
MB 320-824984/1-A	Method Blank	Total/NA	Solid	537 (modified)	824984
LCS 320-824984/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	824984
320-117966-1 MS	202412068-1	Total/NA	Solid	537 (modified)	824984
320-117966-1 MSD	202412068-1	Total/NA	Solid	537 (modified)	824984

Lab Chronicle

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-117966-1
Project/Site: 10558- Brock USA

Client Sample ID: 202412068-1
Lab Sample ID: 320-117966-1

Date Collected: 12/17/24 00:00
Matrix: Solid
Date Received: 12/20/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			1.07 g	10.0 mL	824984	12/31/24 04:32	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	825251	01/01/25 01:39	C1P	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-117966-1
Project/Site: 10558- Brock USA

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-27
ANAB	Dept. of Defense ELAP	L2468	01-20-27
ANAB	Dept. of Energy	L2468.01	01-20-27
ANAB	ISO/IEC 17025	L2468	01-20-27
Arizona	State	AZ0708	08-11-25
Arkansas DEQ	State	88-0691	05-18-25
California	State	2897	01-31-26
Colorado	State	CA00044	08-31-25
Florida	NELAP	E87570	06-30-25
Georgia	State	4040	01-29-25
Hawaii	State	Eurofins Sacramento	01-29-25
Illinois	NELAP	200060	03-31-25
Kansas	NELAP	E-10375	10-31-25
Louisiana	NELAP	01944	06-30-25
Louisiana (All)	NELAP	01944	06-30-25
Maine	State	CA00004	04-14-26
Michigan	State	9947	01-29-25
Minnesota	NELAP	2749448	12-31-25
Nevada	State	CA00044	07-31-25
New Hampshire	NELAP	2997	04-19-25
New Jersey	NELAP	CA005	06-30-25
New York	NELAP	11666	04-01-25
Ohio	State	41252	01-29-25
Oregon	NELAP	4040	01-29-25
Texas	NELAP	T104704399-23-17	05-31-25
US Fish & Wildlife	US Federal Programs	A22139	04-30-25
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442023-16	02-28-25
Virginia	NELAP	460278	03-14-25
Washington	State	C581	05-05-25
West Virginia (DW)	State	9930C	01-31-25
Wisconsin	State	998204680	08-31-25
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-117966-1
Project/Site: 10558- Brock USA

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-117966-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-117966-1	202412068-1	Solid	12/17/24 00:00	12/20/24 10:30

eurofins

Print Date: Dec 17, 2024

INTER-LAB ORDER FORM

To: ES00NG_Eurofins Environment Testing America - Northern California

ATTN: David Altucker

Address:
880 Riverside Parkway, 95605 West Sacramento, CA, United States of America

From: Eurofins MTS Consumer Product Testing US, LLC
22310 20th Ave SE, Bothell WA 98021
Email: USCPTSupport@cpt.eurofinsus.com
Phone: 425-686-3575

Eurofins US Sales Contact: AL

Eurofins Project Manager: Patricia Cox

PO # 200010995
Please reference PO# on report and invoice.

PLEASE SEND REPORT TO:
Attention To: Patricia Cox
Email: USCPTSupport@cpt.eurofinsus.com

PLEASE SEND INVOICE TO:
Email: DG_SCNA002-CUS047-ICO@nsc.eurofinsus.com

Applicant Information - (PLEASE ADDRESS TO THE APPLICANT AND APPLICANT ADDRESS ONLY ON THE REPORT.)			
Client (Report Addressed To:)	Brock USA	Sample Return?	No
Client Address (Shown on Report)	3090 Sterling Circle, 80301 Boulder, Colorado, United States of America		

Tests Requested	Report Delivery: Electronic	Due Date: NA

Samples

Sample ID: 202412068-1	Description: Brock PowerBase
Lot/Batch Number: n/a	Supplier Manufacturer: Brock USA
Country of Origin: USA	Country of Destination: USA
Labeled Age Grade: n/a	
Tests	
Analysis: PFAS, EPA 1633 List (40 Analytes) - 537 modified	Note: Sample size requirements PER SAMPLE: small ziplock bag of product or 6"x6" swatch if turf product

NOTE:

320-117966 Chain of Custody

We request for the above tests and agree that all testing will be carried out subject to your general terms and conditions and price set forth upon previously established agreements with Eurofins Product Testing Inc.

Signature [signature]

Date 12/17/2024

Rec By [illegible] EETSac 12/20/24 1030

17.6°C

1/6/2025

eurofins

12/17/2024 17 21 06
Tom Murphy
tmurphy@brockusa com

TEST REQUEST FORM
(Please include this form when shipping samples)

General Information	Quotation No.. 200010995	TRF Number: 202412068	Eurofins Contact. Anna Lee	Contact Email: anna.lee@cpt.eurofinsus com
Company Information				
Company Name	Brock USA			
Address	3090 Sterling Circle, Ste. 102		City	Boulder
Postal code	80301		Country	USA
Phone	303-544-5800			
Email	tmurphy@brockusa.com			
Contact person				
Name	Tom Murphy			
Phone	5017330601			
Email	tmurphy@brockusa.com			
Invoicing Contact				
Company Name	Brock USA			
Address	3090 Sterling Circle, Ste 102		City	Boulder
Postal code	80301		Country	USA
Phone	303-544-5800			
Email	tmurphy@brockusa com			
Contact Person				
Name	Tom Murphy			
Phone	303-544-5800			
Email	tmurphy@brockusa.com			
Eurofins ID	202412068-1			
Sample Identification	Brock PowerBase			
Lot/Batch Number	n/a			
Number of Samples shipped	1		Labeled Age Grade	n/a
Supplier/Manufacturer	Brock USA			
Country of Origin	USA		Countries of Destination	USA
Comments				
Chosen tests	1 TOF (Total Organic Fluorine) by CIC (Combustion Ion Chromatography) 2. PFAS, EPA 1633 List (40 Analytes) - 537 modified			

12/17/2024 17:21:06
Tom Murphy
tmurphy@brockusa.com

TEST REQUEST FORM
(Please include this form when shipping samples)

Send Samples To	Shipping address to be provide along with IOF (Interlab Order Form) - IOF must be included with sample shipment Please complete online test request form in order to generate your IOF - https://ecpt-portal.com/ Sample names/ID must be noted on test request form as these will be used on your final test report.

Return Sample(s)	No

TRF Comments	

Chosen tests·

Please read and review If you have any questions, reach out to your Eurofins contact
Please complete the above information as accurate and complete as possible. Final report revisions will incur a fee.

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
117966

Tracking # 1Z J20 D81 02 3758 4605

Job _____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID 107 Corr Factor (+/-) N/A °C

Ice_____ Wet_____ Gel _____ Other None

Cooler Custody Seal _____

Cooler ID _____

Temp Observed: 17.6 °C Corrected 17.6 °C

From Temp Blank ☐ Sandwich ☒ Sidewall ☐

SO 12/12/2024

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☐	☒	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials SO Date 12/20/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☐	☒	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☒	☐	☐
Sample date/times are provided?	☐	☒	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☐	☒	☐
Samples w/o discrepancies?	☐	☒	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials SO Date 12/23/24

Notes:
No Cooling agent
DNO ID, time, or date on container
→ Only Sample Received

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s). _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
Log Release checked in TALS?	☒	☐	☐

Initials SO Date 12/23/24

3. PFAS Test Report for BrockFILL

Test Report No. 202409078B
Report Date October 24, 2024

Client

Tom Murphy

Brock USA

3090 Sterling Circle, Boulder, Colorado 80301

Phone: 5017330601

Email: Tmurphy@brockusa.com

Approval Date	September 25, 2024	**Delivery Conditions**	Satisfactory, samples tested as received
Date of Receipt	September 25, 2024	**Testing Date Range**	09-26-2024 to 10-23-2024
Test Request Form #	202409078		

Eurofins ID	Sample Name	Lot/Batch Number	Supplier/Manufacturer	Country of Origin
202409078-2	BrockFILL	N/A	Brock USA	USA

The following test item(s) was/were performed on submitted sample(s) and/or component(s) confirmed by applicant

TEST REQUESTED	RESULT
TOF (Total Organic Fluorine) by CIC (Combustion Ion Chromatography)	See Attachment
PFAS, EPA 1633 List (40 Analytes) - 537 modified	See Attachment

Analysis completed by Eurofins Subcontract Laboratory

Signed for and on behalf of
Eurofins MTS Consumer Product Testing US, Inc.

Patricia Cox / Project Coordinator

10-24-2024

This report relates to the above mentioned test item(s) and the extent to tests performed. This test report is not permitted to be reproduced except in full, without written permission of the test facility. This test report does not entitle any safety marks on this or similar products. The sample and the information regarding sample have been provided by the client. All information related to the sample are under liability of the client and have not been checked by Eurofins MTS Consumer Product Testing US, Inc.

ATTACHMENT

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TEST REPORT

LAB LOCATION: Norwood, MA USA
DATE IN: September 25, 2024

REPORT NUMBER: 67424-090101
DATE OUT: September 27, 2024

To:	Brock USA		
Contact:	/		
Address:	3090 Sterling Circle Boulder, CO 80301 United States		
Tel:	/	**Fax:**	/
E-mail:	/		
Copy To:	/		

OVERALL RATING

SATISFACTORY	
UNSATISFACTORY	
Subject to Client's Approval	**X**

NOTE: RATING IS BASED ON TESTING LAB RESULTS. FINAL ACCEPTANCE OR REJECTION IS PER CLIENT ONLY.

Sample Information			
Product Description:	BrockFILL		
Item/ Style Number:	202409078-2		
Purchase Order Number:	200010558	**No. of Sample Submitted:**	1
Lot/Batch/Tracking Info:	-	**Date of Manufacture:**	-
Country of Origin:	USA	**Country of Destination:**	USA
Vendor/ Agent:	-	**Manufacturer:**	Brock USA

Testing Status							
☐	**Pre-production**	☒	**Production**	☐	**Retest**	☐	**Previous Report No.:**
Other/ Comments:							

For and on behalf of
Eurofins MTS Consumer Product Testing US, LLC (Norwood, MA)

John R. Gerringer

John Gerringer, Analytical Director

Eurofins MTS' smart screening approach is a restricted substance pre-screening method that effectively ensures compliance for any countries that do not require mandatory certification test reports based on a specified test method. Any positive detection results from the screening test will trigger individual tests to be performed according to the preferred test method of the country that restricts the detected substance. For any countries that require mandatory certification test reports based on a specified test method, individual tests will be performed according to the specified test methods to ensure compliance.

Sample Photo:

Testing Result Summary				
Test Property	SAT PASS	UNSAT FAIL	Subject to Client's Approval	COMMENTS
Total Organic Fluorine (TOF)			X	See Test Results Below

COMPONENT BREAKDOWN LIST:

Test Item(s)	Component Description
A	**BrockFILL**
A1	Brown Grains (Fill)

TEST RESULTS:

Total Organic Fluorine Content – Client's Requirement

Test Item	Result				Conclusion
	Total Fluorine (mg/kg)	Total Inorganic Fluorine (mg/kg)	Total Organic Fluorine (mg/kg)	Client's Requirement	
A1	ND	ND	ND	100	DATA

ND= Not detected (Laboratory detection limit for TF =10mg/kg; for TIF = 5mg/kg – TOF is a calculated result)

Method: In-house method: Total Fluorine – Total Inorganic Fluorine = Total Organic Fluorine using CIC with reference to ASTM D7359 − 23 Standard Test Method for Total Fluorine – CIC. and BS EN 14582-2016 (halogen) .

Note: mg/kg = milligram per kilogram
"<" = less than

****End of Test Report****

NOTE:

If there is question or concern regarding the above results, please contact the lab person below:

Technical question & concern:
John Gerringer
Director - Analytical
Phone: 508-638-1793
John.Gerringer@cpt.Eurofinsus.com

This test report is governed by the Terms and Conditions, available on request or attached to the end of this test report. Attention is especially drawn to the limitations of liability, indemnification and jurisdictional provisions defined therein. This report is issued strictly based on the testing of the samples submitted by you. The test results in this report refer only to the sample(s) actually tested and do not refer or be deemed to refer to any bulk production from which such sample(s) may be said to have been obtained. In the event that Eurofins MTS Consumer Product Testing US, LLC ("ERF") was requested to survey and test any bulk production quantity of samples, ERF, in the absence of any contrary written instructions, performed random sampling of bulk production for testing purposes. Variations in the conditions under which samples are stored, transported, etc., may lead to variations in the test results. ERF cannot anticipate and shall not be held responsible for variations in test results that may be due to factors beyond ERF's control, such as, sample cross-contamination, evaporation of volatile substances due to storage temperature, humidity, etc. This report does not constitute a recommendation, actual or implied, for any specific course of action. Other than the expressed warranties made in the Terms and Conditions of the ERF Test Request Form, ERF makes no warranties or representations either expressed or implied with respect to this report. In no circumstances whatsoever shall ERF be liable for any consequential, special, or incidental damages arising out of, or in connection with, this report.

ANALYTICAL REPORT

PREPARED FOR

Attn: USCPT Support
Eurofins MTS Consumer Product Testing US, Inc
11822 North Creek Pkwy
Suite 110
Bothell, Washington 98011

Generated 10/23/2024 10:35:28 AM Revision 1

JOB DESCRIPTION

10558- Brock USA

JOB NUMBER

320-115751-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

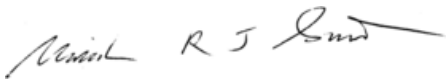
my EOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization



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Revision 1

Authorized for release by
Micah Smith, Project Manager II
Micah.Smith@et.eurofinsus.com
(916)374-4302

Table of Contents

Definitions/Glossary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-115751-1
Project/Site: 10558- Brock USA

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 320-115751-1 Eurofins Sacramento

Job Narrative
320-115751-1

Revision
The report being provided is a revision of the original report sent on 10/10/2024. The report (revision 1) is being revised to remove sample 202409078-2 (320-115751-2) from this report, as requested.

Receipt
The samples were received on 9/26/2024 10:05 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 18.2º C.

Receipt Exceptions
The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. The sample date and times are not listed on the COC or sample container labels. The print date was used in lieu of the sample date.

LCMS
Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: 202409078-1 (320-115751-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 320-804369 and analytical batch 320-805587 recovered outside control limits for the following analyte: 5:3 FTCA. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method SHAKE: Sample 202409078-1 (320-115751-1) was prepared at reduced mass due to the nature of the matrix. The reporting limits (RLs) have been adjusted proportionately.

Method SHAKE: The following sample was discolored following extraction: 202409078-1 (320-115751-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-115751-1
Project/Site: 10558- Brock USA

Client Sample ID: 202409078-1
Lab Sample ID: 320-115751-1

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-1

Client Sample ID: 202409078-1
Date Collected: 09/24/24 00:00
Date Received: 09/26/24 10:05

Lab Sample ID: 320-115751-1
Matrix: Solid

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluoropentanoic acid (PFPeA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorohexanoic acid (PFHxA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluoroheptanoic acid (PFHpA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorooctanoic acid (PFOA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorononanoic acid (PFNA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorodecanoic acid (PFDA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluoroundecanoic acid (PFUnA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorododecanoic acid (PFDoA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorononanesulfonic acid (PFNS)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
Perfluorooctanesulfonamide (FOSA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
NMeFOSAA	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
NEtFOSAA	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
4:2 FTS	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
6:2 FTS	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
8:2 FTS	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
NEtFOSA	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
NMeFOSA	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
NMeFOSE	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
NEtFOSE	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
9Cl-PF3ONS	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
HFPO-DA (GenX)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
11Cl-PF3OUdS	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
3:3 FTCA	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
5:3 FTCA	ND	*+	0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
7:3 FTCA	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
NFDHA	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
PFMBA	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
PFMPA	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1
PFEESA	ND		0.91		ug/Kg		10/04/24 04:34	10/09/24 04:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*79*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:53*	*1*
13C4 PFBA	*77*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:53*	*1*
13C5 PFPeA	*79*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:53*	*1*
13C2 PFHxA	*77*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:53*	*1*
13C4 PFHpA	*78*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:53*	*1*

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-1

Client Sample ID: 202409078-1
Date Collected: 09/24/24 00:00
Date Received: 09/26/24 10:05

Lab Sample ID: 320-115751-1
Matrix: Solid

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	84		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C5 PFNA	85		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C2 PFDA	94		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C2 PFUnA	106		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C2 PFDoA	82		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C2 PFTeDA	79		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C3 PFBS	80		25 - 150	10/04/24 04:34	10/09/24 04:53	1
18O2 PFHxS	67		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C4 PFOS	78		25 - 150	10/04/24 04:34	10/09/24 04:53	1
d3-NMeFOSAA	104		25 - 150	10/04/24 04:34	10/09/24 04:53	1
d5-NEtFOSAA	173	*5+	25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C2 4:2 FTS	116		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C2 6:2 FTS	147		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C2 8:2 FTS	169	*5+	25 - 150	10/04/24 04:34	10/09/24 04:53	1
d-N-MeFOSA-M	74		25 - 150	10/04/24 04:34	10/09/24 04:53	1
d-N-EtFOSA-M	69		25 - 150	10/04/24 04:34	10/09/24 04:53	1
d7-N-MeFOSE-M	82		10 - 120	10/04/24 04:34	10/09/24 04:53	1
d9-N-EtFOSE-M	85		10 - 120	10/04/24 04:34	10/09/24 04:53	1
13C3 HFPO-DA	71		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C-6:2 FTCA	60		25 - 150	10/04/24 04:34	10/09/24 04:53	1
13C-8:2 FTCA	90		25 - 150	10/04/24 04:34	10/09/24 04:53	1

Isotope Dilution Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-115751-1	202409078-1	79	77	79	77	78	84	85	94
LCS 320-804369/2-A	Lab Control Sample	89	92	85	94	94	92	96	94
MB 320-804369/1-A	Method Blank	88	92	86	92	95	88	92	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFUnA	PFDoA	PFTDA	C3PFBS	PFHxS	PFOS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-115751-1	202409078-1	106	82	79	80	67	78	104	173 *5+
LCS 320-804369/2-A	Lab Control Sample	88	82	83	94	102	93	85	95
MB 320-804369/1-A	Method Blank	97	85	85	93	96	94	93	98

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	dMeFOSA	dEtFOSA	NMFM	NEFM	HFPODA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(10-120)	(10-120)	(25-150)
320-115751-1	202409078-1	116	147	169 *5+	74	69	82	85	71
LCS 320-804369/2-A	Lab Control Sample	98	97	94	72	73	70	73	85
MB 320-804369/1-A	Method Blank	89	85	96	74	73	73	69	79

		Percent Isotope Dilution Recovery (Acceptance Limits)	
		MFHEA	MFOEA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)
320-115751-1	202409078-1	60	90
LCS 320-804369/2-A	Lab Control Sample	57	65
MB 320-804369/1-A	Method Blank	56	56

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = 13C2 4:2 FTS
M262FTS = 13C2 6:2 FTS
M282FTS = 13C2 8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA
MFHEA = 13C-6:2 FTCA
MFOEA = 13C-8:2 FTCA

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-804369/1-A
Matrix: Solid
Analysis Batch: 805587

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 804369

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluoropentanoic acid (PFPeA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorohexanoic acid (PFHxA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorooctanoic acid (PFOA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorononanoic acid (PFNA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorodecanoic acid (PFDA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorododecanoic acid (PFDoA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NMeFOSAA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NEtFOSAA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
4:2 FTS	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
6:2 FTS	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
8:2 FTS	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NEtFOSA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NMeFOSA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NMeFOSE	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NEtFOSE	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
9Cl-PF3ONS	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
HFPO-DA (GenX)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
11Cl-PF3OUdS	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
3:3 FTCA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
5:3 FTCA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
7:3 FTCA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
NFDHA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
PFMBA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
PFMPA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1
PFEESA	ND		0.20		ug/Kg		10/04/24 04:34	10/09/24 04:25	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*88*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:25*	*1*
13C4 PFBA	*92*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:25*	*1*
13C5 PFPeA	*86*		*25 - 150*	*10/04/24 04:34*	*10/09/24 04:25*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-804369/1-A
Matrix: Solid
Analysis Batch: 805587

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 804369

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	92		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C4 PFHpA	95		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C4 PFOA	88		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C5 PFNA	92		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 PFDA	93		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 PFUnA	97		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 PFDoA	85		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 PFTeDA	85		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C3 PFBS	93		25 - 150	10/04/24 04:34	10/09/24 04:25	1
18O2 PFHxS	96		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C4 PFOS	94		25 - 150	10/04/24 04:34	10/09/24 04:25	1
d3-NMeFOSAA	93		25 - 150	10/04/24 04:34	10/09/24 04:25	1
d5-NEtFOSAA	98		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 4:2 FTS	89		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 6:2 FTS	85		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C2 8:2 FTS	96		25 - 150	10/04/24 04:34	10/09/24 04:25	1
d-N-MeFOSA-M	74		25 - 150	10/04/24 04:34	10/09/24 04:25	1
d-N-EtFOSA-M	73		25 - 150	10/04/24 04:34	10/09/24 04:25	1
d7-N-MeFOSE-M	73		10 - 120	10/04/24 04:34	10/09/24 04:25	1
d9-N-EtFOSE-M	69		10 - 120	10/04/24 04:34	10/09/24 04:25	1
13C3 HFPO-DA	79		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C-6:2 FTCA	56		25 - 150	10/04/24 04:34	10/09/24 04:25	1
13C-8:2 FTCA	56		25 - 150	10/04/24 04:34	10/09/24 04:25	1

Lab Sample ID: LCS 320-804369/2-A
Matrix: Solid
Analysis Batch: 805587

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 804369

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	2.00	2.00		ug/Kg		100	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	2.44		ug/Kg		122	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	1.85		ug/Kg		92	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.09		ug/Kg		105	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	2.09		ug/Kg		105	72 - 132
Perfluorononanoic acid (PFNA)	2.00	2.07		ug/Kg		104	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.05		ug/Kg		102	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	2.04		ug/Kg		102	66 - 126
Perfluorododecanoic acid (PFDoA)	2.00	2.14		ug/Kg		107	71 - 131
Perfluorotridecanoic acid (PFTrDA)	2.00	1.84		ug/Kg		92	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	1.96		ug/Kg		98	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.78	1.78		ug/Kg		100	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	2.00		ug/Kg		107	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.72		ug/Kg		95	62 - 122

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-804369/2-A
Matrix: Solid
Analysis Batch: 805587

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 804369

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanesulfonic acid (PFHpS)	1.91	2.04		ug/Kg		107	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	1.99		ug/Kg		107	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	1.92		ug/Kg		100	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.96		ug/Kg		102	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	1.94	1.89		ug/Kg		98	70 - 130
Perfluorooctanesulfonamide (FOSA)	2.00	2.18		ug/Kg		109	77 - 137
NMeFOSAA	2.00	2.56		ug/Kg		128	72 - 132
NEtFOSAA	2.00	2.06		ug/Kg		103	72 - 132
4:2 FTS	1.88	1.92		ug/Kg		102	68 - 143
6:2 FTS	1.90	1.92		ug/Kg		101	73 - 139
8:2 FTS	1.92	2.00		ug/Kg		104	75 - 135
NEtFOSA	2.00	1.97		ug/Kg		98	47 - 161
NMeFOSA	2.00	2.10		ug/Kg		105	63 - 148
NMeFOSE	2.00	2.11		ug/Kg		106	43 - 153
NEtFOSE	2.00	2.01		ug/Kg		100	44 - 155
9Cl-PF3ONS	1.87	1.84		ug/Kg		99	74 - 134
HFPO-DA (GenX)	2.00	2.05		ug/Kg		103	53 - 158
11Cl-PF3OUdS	1.89	1.77		ug/Kg		94	66 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.85		ug/Kg		98	79 - 139
3:3 FTCA	2.00	1.87		ug/Kg		93	50 - 150
5:3 FTCA	2.00	3.13	*+	ug/Kg		157	50 - 150
7:3 FTCA	2.00	1.90		ug/Kg		95	50 - 150
NFDHA	2.00	1.83		ug/Kg		91	50 - 150
PFMBA	2.00	2.18		ug/Kg		109	50 - 150
PFMPA	2.00	2.13		ug/Kg		107	50 - 150
PFEESA	1.78	1.78		ug/Kg		100	50 - 150

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*89*		*25 - 150*
13C4 PFBA	*92*		*25 - 150*
13C5 PFPeA	*85*		*25 - 150*
13C2 PFHxA	*94*		*25 - 150*
13C4 PFHpA	*94*		*25 - 150*
13C4 PFOA	*92*		*25 - 150*
13C5 PFNA	*96*		*25 - 150*
13C2 PFDA	*94*		*25 - 150*
13C2 PFUnA	*88*		*25 - 150*
13C2 PFDoA	*82*		*25 - 150*
13C2 PFTeDA	*83*		*25 - 150*
13C3 PFBS	*94*		*25 - 150*
18O2 PFHxS	*102*		*25 - 150*
13C4 PFOS	*93*		*25 - 150*
d3-NMeFOSAA	*85*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-804369/2-A
Matrix: Solid
Analysis Batch: 805587

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 804369

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	95		25 - 150
13C2 4:2 FTS	98		25 - 150
13C2 6:2 FTS	97		25 - 150
13C2 8:2 FTS	94		25 - 150
d-N-MeFOSA-M	72		25 - 150
d-N-EtFOSA-M	73		25 - 150
d7-N-MeFOSE-M	70		10 - 120
d9-N-EtFOSE-M	73		10 - 120
13C3 HFPO-DA	85		25 - 150
13C-6:2 FTCA	57		25 - 150
13C-8:2 FTCA	65		25 - 150

QC Association Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-115751-1
Project/Site: 10558- Brock USA

LCMS

Prep Batch: 804369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115751-1	202409078-1	Total/NA	Solid	SHAKE	
MB 320-804369/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-804369/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 805587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115751-1	202409078-1	Total/NA	Solid	537 (modified)	804369
MB 320-804369/1-A	Method Blank	Total/NA	Solid	537 (modified)	804369
LCS 320-804369/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	804369

Lab Chronicle

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-1

Client Sample ID: 202409078-1

Date Collected: 09/24/24 00:00
Date Received: 09/26/24 10:05

Lab Sample ID: 320-115751-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			1.10 g	10.0 mL	804369	10/04/24 04:34	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	805587	10/09/24 04:53	K1S	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Job ID: 320-115751-1
Project/Site: 10558- Brock USA

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-27
ANAB	Dept. of Defense ELAP	L2468	01-20-27
ANAB	Dept. of Energy	L2468.01	01-20-27
ANAB	ISO/IEC 17025	L2468	01-20-27
Arizona	State	AZ0708	08-11-25
Arkansas DEQ	State	88-0691	05-18-25
California	State	2897	01-31-26
Colorado	State	CA00044	08-31-25
Florida	NELAP	E87570	06-30-25
Georgia	State	4040	01-29-25
Hawaii	State	Eurofins Sacramento	01-29-25
Illinois	NELAP	200060	03-31-25
Kansas	NELAP	E-10375	10-31-25
Louisiana	NELAP	01944	06-30-25
Louisiana (All)	NELAP	01944	06-30-25
Maine	State	CA00004	04-14-26
Michigan	State	9947	01-29-25
Minnesota	NELAP	2749448	12-31-24
Nevada	State	CA00044	07-31-25
New Hampshire	NELAP	2997	04-19-25
New Jersey	NELAP	CA005	06-30-25
New York	NELAP	11666	04-01-25
Ohio	State	41252	01-29-25
Oregon	NELAP	4040	01-29-25
Texas	NELAP	T104704399-23-17	05-31-25
US Fish & Wildlife	US Federal Programs	A22139	04-30-25
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442023-16	02-28-25
Virginia	NELAP	460278	03-14-25
Washington	State	C581	05-05-25
West Virginia (DW)	State	9930C	01-31-25
Wisconsin	State	998204680	08-31-25
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Eurofins MTS Consumer Product Testing US, Inc
Project/Site: 10558- Brock USA

Job ID: 320-115751-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-115751-1	202409078-1	Solid	09/24/24 00:00	09/26/24 10:05

320 115751 Chain of Custody

eurofins

Print Date: Sep 24, 2024

INTER-LAB ORDER FORM

Please report samples separately

To: Eurofins Environment Testing America - Northern California

ATTN: David Altucker

Address:
880 Riverside Parkway, 95605 West Sacramento, CA, United States of America

From: Eurofins MTS Consumer Product Testing US, Inc.
11822 North Creek Pkwy Suite 110 Bothell, WA 98011
Email: USCPTSupport@cpt.eurofinsus.com
Phone: 425-686-3575

Eurofins US Sales Contact: AL

Eurofins Project Manager: Patricia Cox

PO # 200010558
Please reference PO# on report and invoice.

PLEASE SEND REPORT TO:
Attention To: Patricia Cox
Email: USCPTSupport@cpt.eurofinsus.com

PLEASE SEND INVOICE TO:
Email: DG_SCNA002-CUS047-ICO@nsc.eurofinsus.com

Applicant Information - (PLEASE ADDRESS TO THE APPLICANT AND APPLICANT ADDRESS ONLY ON THE REPORT.)			
Client (Report Addressed To:)	Brock USA	Sample Return?	No
Client Address (Shown on Report)	3090 Sterling Circle, 80301 Boulder, Colorado, United States of America		

Tests Requested	Report Delivery: Electronic	Due Date: NA

Samples

Sample ID: 202409078-1	Description: Brock SP Shockpad
Lot/Batch Number: N/A	Supplier Manufacturer: Brock USA
Country of Origin: USA	Country of Destination: USA
Tests	
Analysis: PFAS, EPA 1633 List (40 Analytes) - 537 modified	Note: Sample size requirements PER SAMPLE: small ziplock bag of product or 6"x6" swatch if turf product

We request for the above tests and agree that all testing will be carried out subject to your general terms and conditions and price set forth upon previously established agreements with Eurofins Product Testing Inc.

Signature

Date

Rec By: S EETSAC 9/~~26~~25/24 1005
SO 9/25/24

18.2°C

eurofins

Print Date: Sep 24, 2024

INTER-LAB ORDER FORM

Please report samples separately

Sample ID: 202409078-2	Description: BrockFILL
Lot/Batch Number: N/A	Supplier Manufacturer: Brock USA
Country of Origin: USA	Country of Destination: USA
Tests	
Analysis: PFAS, EPA 1633 List (40 Analytes) - 537 modified	Note: Sample size requirements PER SAMPLE: small ziplock bag of product or 6"x6" swatch if turf product

NOTE:

We request for the above tests and agree that all testing will be carried out subject to your general terms and conditions and price set forth upon previously established agreements with Eurofins Product Testing Inc.

Signature

Date 09/24/2024

TEST REQUEST FORM
(Please include this form when shipping samples)

General Information	Quotation No.: 200010558	TRF Number: 202409078	Eurofins Contact: Anna Lee	Contact Email: anna.lee@cpt.eurofinsus.com
Company Information				
Company Name	Brock USA			
Address	3090 Sterling Circle		City	Boulder
Postal code	80301		Country	USA
Phone	3035445800			
Email	Tmurphy@brockusa.com			
Contact person				
Name	Tom Murphy			
Phone	5017330601			
Email	Tmurphy@brockusa.com			
Invoicing Contact				
Company Name	Brock USA			
Address	3090 Sterling Circle		City	Boulder
Postal code	80301		Country	USA
Phone	3035445800			
Email	Tmurphy@brockusa.com			
Contact Person				
Name	Tom Murphy			
Phone	3035445800			
Email	Tmurphy@brockusa.com			
Eurofins ID	202409078-1			
Sample Identification	Brock SP Shockpad			
Lot/Batch Number	N/A			
Number of Samples shipped	1		Labeled Age Grade	N/A
Supplier/Manufacturer	Brock USA			
Country of Origin	USA		Countries of Destination	USA
Comments				
Chosen tests	1. TOF (Total Organic Fluorine) by CIC (Combustion Ion Chromatography) 2. RUSH TAT for TOF analysis 3. PFAS, EPA 1633 List (40 Analytes) - 537 modified			
Eurofins ID	202409078-2			
Sample Identification	BrockFILL			
Lot/Batch Number	N/A			

Tom Murphy
tmurphy@brockusa.com

TEST REQUEST FORM
(Please include this form when shipping samples)

Number of Samples shipped	1	Labeled Age Grade	N/A
Supplier/Manufacturer	Brock USA		
Country of Origin	USA	Countries of Destination	USA
Comments			
Chosen tests	1. TOF (Total Organic Fluorine) by CIC (Combustion Ion Chromatography) 2. RUSH TAT for TOF analysis 3. PFAS, EPA 1633 List (40 Analytes) - 537 modified		

Send Samples To:	Shipping address to be provide along with IOF (Interlab Order Form) - IOF must be included with sample shipment. Please complete online test request form in order to generate your IOF - https://ecpt-portal.com/ Sample names/ID must be noted on test request form as these will be used on your final test report.
Return Sample(s)	No
TRF Comments	

Chosen tests:

Please read and review. If you have any questions, reach out to your Eurofins contact.

Please complete the above information as accurate and complete as possible. Final report revisions will incur a fee.

eurofins | Environment Testing

Loc: 320
115751

Sacramento Sample Receiving Notes (SSRN)

Tracking # 1Z 9E5 9W1 01 9683 9746

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID: COY Corr Factor: (+ / -) N/A °C

Ice_____ Wet_____ Gel _____ Other none

Cooler Custody Seal: _____

Cooler ID _____

Temp Observed 18.2 °C Corrected 18.2 °C
From Temp Blank ☐ Sample ☒

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☐	☒	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials SO Date 9/26/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
COC is complete w/o discrepancies	☒	☐	☐
Sample custody seal?	☐	☐	☒
Sample containers have legible labels?	☐	☒	☐
Sample date/times are provided?	☐	☒	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Is the Field Sampler's name on COC?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 09/26/24

Notes: _____
no cooling agent
No sample date and time listed on the COC or the sample bags.

Trizma Lot #(s) _____

Ammonium
Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
NCM Filed?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
Log Release checked in TALS?	☒	☐	☐

Initials: DM Date 09/26/24

Login Sample Receipt Checklist

Client: Eurofins MTS Consumer Product Testing US, Inc

Job Number: 320-115751-1

Login Number: 115751
List Number: 1
Creator: Morazzini, Dominic S

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

4. REACH / SVHC Letter

JSP Resins LLC
Pittsburgh, PA
USA

January 2024

Re: JSP Resins LLC REACH Compliance
REACH; **R**egistration, **E**valuation, **A**uthorization (& Restrictions) of **Ch**emicals
REACH EC/1097-2006 SVHC Compliance

Dear Customer,

This statement concerns European Union (EU) regulation 1907/2006 of 18 December 2006 - Registration, Evaluation, Authorization and Restriction of Chemicals, also known as REACH, and includes directive 76/769/EEC and legislation adopted per REACH Annex XIV and Annex XVII.

Under REACH regulations JSP certifies that none of our products contain substances of very high concern (SVHC) whether in the Candidate List or in the Second Consultation List. JSP has no notification obligations under Article 33 as none of these SVHC's are present at concentrations greater than or equal to 0.1 wgt% of the article. This applies to ARPRO® Expanded Polypropylene (EPP), ARPAK® Expanded Polyethylene (EPE), ARPEX® Crosslinked Expanded Polyethylene (xEPE), and all ARPLANK® products.

In October 2008, the European Chemical Agency (EChA) published a first list of 15 SHVC (Substances of Very High Concern). The list includes the following:

Substance Name	EC Number	CAS Number
Triethyl arsenate	427-700-2	15606-95-8
Anthracene	204-371-1	120-21-7
4,4'- Diaminodiphenylmethane (MDA)	202-974-4	101-77-9
Dibutyl phthalate (DBP)	201-557-4	84-74-2
Cobalt dichloride	231-589-4	7646-79-9
Diarsenic pentaoxide	215-116-9	1303-28-2
Diarsenic trioxide	215-481-4	1327-53-3
Sodium dichromate	234-190-3	7789-12-0 10588-01-9
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	201-329-4	81-15-2
Bis (2-ethylhexyl)phthalate (DEHP)	204-211-0	117-81-7

ARPRO®, ARPAK®, ARPEX®, and ARPLANK® are registered trademarks of JSP Licenses, LLC. PUBLICATION JSP REACH MEMO-External-SVHC_JAN2024

The information contained herein is based upon the results of limited laboratory tests on test samples of material molded from expanded polyolefin resin manufactured by JSP. There can be no assurance that the similar results will be achieved in simulated tests or actual use of commercial product molded by customers of JSP. Product performance may vary substantially depending upon the particular application or processing involved. The listed properties are illustrative only and not the product specifications. All suggestions and recommendations are made without warranty since the conditions of use are beyond JSP's control. Processing and applications of JSP foam products can influence molded part performance in many ways. Consequently, processors and/or users are advised that there may be a need to conduct independent tests and experiments in order for them to determine the extent to which they may choose to rely upon such information in their business operations. JSP disclaims any liability in connection with the use of the information and does not warrant against infringement by reasons of the use of its products in combination with other material or in any process.

Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	 247-148-4 221-695-9 	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	287-476-5	85535-84-8
Bis(tributyltin)oxide (TBTO)	200-268-0	56-35-9
Lead hydrogen arsenate	232-064-2	7784-40-9
Benzyl butyl phthalate (BBP)	201-622-7	85-68-7

In September 2009, EChA initiated a new public consultation on a list of 12 additional Substances of Very High Concern (SVHC). The list (effective January 2010) includes the following:

Substance Name	EC Number	CAS Number
Anthracene oil	292-602-7	90640-80-5
Anthracene oil, anthracene paste, distillation lights	295-278-5	91995-17-4
Anthracene oil, anthracene paste, anthracene fraction	295-275-9	91995-15-2
Anthracene oil, anthracene-low	292-604-8	90640-82-7
Anthracene oil, anthracene paste	292-603-2	90640-81-6
Coal tar pitch, high temperature	266-028-2	65996-93-2
2,4-Dinitrotoluene	204-450-0	121-14-2
Diisobutyl phthalate (DIBP)	201-553-2	84-69-5
Lead chromate	231-846-0	7758-97-6
Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	235-759-9	12656-85-8
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	215-693-7	1344-37-2
Tris(2-chloroethyl)phosphate	204-118-5	115-96-8

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In September 2009, EChA initiated a new public consultation on a list of 1 additional Substances of Very High Concern (SVHC). The list (effective March 2010) includes the following:

Substance Name	EC Number	CAS Number
Acrylamide	201-173-7	79-06-1

In June 2010, EChA initiated a new public consultation on a list of 8 additional Substances of Very High Concern (SVHC). The list (effective June 2010) includes the following:

Substance Name	EC Number	CAS Number
Trichloroethylene	79-01-6	201-167-4
Boric acid	10043-35-3 11113-50-1	233-139-2 234-343-4
Disodium tetraborate, anhydrous	1330-43-4 12179-04-3 1303-96-4	215-540-4
Tetraboron disodium heptaoxide, hydrate	12267-73-1	235-541-3
Potassium dichromate	7778-50-9	231-906-6
Sodium chromate	7775-11-3	231-889-5
Potassium chromate	7789-00-6	232-140-5
Ammonium dichromate	7789-09-5	232-143-1

In December 2010, EChA initiated a new public consultation on a list of 8 additional Substances of Very High Concern (SVHC). The list (effective December 2010) includes the following:

Substance Name	EC Number	CAS Number
Cobalt(II) sulphate	233-334-2	10124-43-3
Cobalt(II) dinitrate	233-402-1	10141-05-6
Cobalt(II) carbonate	208-169-4	513-79-1
Cobalt(II) diacetate	200-755-8	71-48-7

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2-Methoxyethanol	203-713-7	109-86-4
2-Ethoxyethanol	203-804-1	110-80-5
Chromium trioxide	215-607-8	1333-82-0
Chromic acid, Oligomers of chromic acid and dichromic acid, Dichromic acid (Acids generated from chromium trioxide and their oligomers)	231-801-5 - 236-881-5	7738-94-5 - 13530-68-2

In June 2011, EChA initiated a new public consultation on a list of 8 additional Substances of Very High Concern (SVHC). This list includes a substance* that was previously listed in 2008. The list (effective June 2011) includes the following:

Substance Name	EC Number	CAS Number
Cobalt dichloride*	231-589-4	7646-79-9
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	276-158-1	71888-89-6
Strontium chromate	232-142-6	6-2-7789
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	271-084-6	68515-42-4
1-Methyl-2-pyrrolidone	212-828-1	872-50-4
1,2,3-Trichloropropane	202-486-1	96-18-4
2-Ethoxyethyl acetate	203-839-2	111-15-9
Hydrazine	206-114-9	302-01-2 7803-57-8

In December 2011, EChA initiated a new public consultation on a list of 20 additional Substances of Very High Concern (SVHC). The list (effective December 2011) includes the following:

Substance Name	EC Number	CAS Number
Zirconia Aluminosilicate Refractory Ceramic Fibers; Including: a) Oxides of aluminum, silicon and zirconium are the main components present (in the fibers) within variable concentration ranges. b) Fibers have a length weighted geometric mean diameter less two *(continued)* standard geometric errors of 6 or less micrometers (µm).	650-017-00-8	

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c) Alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO +BaO) content less or equal to 18% by weight.		
Aluminosilicate Refractory Ceramic Fibers; Including: a) Oxides of aluminum and silicon are the main components present (in the fibers) within variable concentration ranges. b) Fibers have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometers (µm). c) Alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO +BaO) content less or equal to 18% by weight.	650-017-00-8	
Calcium arsenate	231-904-5	7778-44-1
Bis(2-methoxyethyl) ether	203-924-4	111-96-6
Potassium hydroxyoctaoxodizincatedichromate	234-329-8	11103-86-9
Lead dipicrate	229-335-2	6477-64-1
N,N-dimethylacetamide	204-826-4	127-19-5
Arsenic acid	231-901-9	7778-39-4
2-Methoxyaniline; o-Anisidine	201-963-1	90-04-0
Trilead diarsenate	222-979-5	3687-31-8
1,2-dichloroethane	203-458-1	107-06-2
Pentazinc chromate octahydroxide	256-418-0	49663-84-5
Formaldehyde, oligomeric reaction products with aniline	500-036-1	25214-70-4
Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8
4-(1,1,3,3-tetramethylbutyl)phenol	205-426-2	140-66-9
Lead diazide, Lead azide	236-542-1	13424-46-9
Phenolphthalein	201-004-7	77-09-8
Dichromium tris(chromate)	246-356-2	24613-89-6
Lead styphnate	239-290-0	15245-44-0
2,2'-dichloro-4,4'-methylenedianiline	202-918-9	101-14-4

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In June 2012, EChA initiated a new public consultation on a list of 13 additional Substances of Very High Concern (SVHC). The list (effective June 2012) includes the following:

Substance Name	EC Number	CAS Number
α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4); (with ≥ 0.1% of Michler's ketone or Michler's base)	229-851-8	6786-83-0
N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	202-959-2	101-61-1
1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)	423-400-0	59653-74-6
Diboron trioxide	215-125-8	1303-86-2
1,2-bis(2-methoxyethoxy) Ethane (TEGDME; triglyme)	203-977-3	112-49-2
4,4'-bis(dimethylamino)-4''-(methylamino) trityl alcohol); (with ≥ 0.1% of Michler's ketone or Michler's base)	209-218-2	561-41-1
Lead(II) bis(methanesulfonate)	401-750-5	17570-76-2
Formamide	200-842-0	75-12-7
[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3); (with ≥ 0.1% of Michler's ketone or Michler's base) 2)	208-953-6	548-62-9
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4
[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26); (with ≥ 0.1% of Michler's ketone or Michler's base)	219-943-6	2580-56-5
1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	219-514-3	2451-62-9
4,4'-bis(dimethylamino) benzophenone (Michler's ketone)	202-027-5	90-94-8

In December 2012, EChA initiated a new public consultation on a list of 54 additional Substances of Very High Concern (SVHC). The list (effective December 2012) includes the following:

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Substance Name	EC Number	CAS Number
Hexahydromethylphthalic anhydride Hexahydro-4-methylphthalic anhydride Hexahydro-1-methylphthalic anhydride Hexahydro-3-methylphthalic anhydride Includes individual isomers of the above compounds and their cis- and trans- stereo isomeric forms (and all possible combinations of the isomers)	247-094-1 243-072-0 256-356-4 260-566-1	25550-51-0 19438-60-9 48122-14-1 57110-29-9
6-methoxy-m-toluidine (p-cresidine)	204-419-1	120-71-8
Cyclohexane-1,2-dicarboxylic anhydride Cis-cyclohexane-1,2-dicarboxylic anhydride Trans-cyclohexane-1,2-dicarboxylic anhydride Includes *individual cis- and trans- isomer substances (and all possible combinations of the cis- and trans-isomers)*	201-604-9 236-086-3 238-009-9	85-42-7 13149-00-3 14166-21-3
Pyrochlore, antimony lead yellow	232-382-1	8012-00-8
Henicosafluoroundecanoic acid	218-165-4	2058-94-8
4-Aminoazobenzene	200-453-6	60-09-3
Silicic acid, lead salt	234-363-3	11120-22-2
Lead titanium zirconium oxide	235-727-4	12626-81-2
Lead monoxide (lead oxide)	215-267-0	1317-36-8
o-Toluidine	202-429-0	95-53-4
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2
Dibutyltin dichloride (DBTC)	211-670-0	683-18-1
Lead bis(tetrafluoroborate)	237-486-0	13814-96-5
Lead dinitrate	233-245-9	10099-74-8
Silicic acid ($H_2Si_2O_5$), barium salt (1:1), lead-doped Includes lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008.	272-271-5	68784-75-8

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Trilead bis(carbonate)dihydroxide	215-290-6	1319-46-6
4,4'-methylenedi-o-toluidine	212-658-8	838-88-0
Diethyl sulphate	200-589-6	64-67-5
Dimethyl sulphate	201-058-1	77-78-1
N,N-dimethylformamide	200-679-5	68-12-2
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated Including substances and UVCB and well defined substances, polymers and homologues.	-	-
4-Nonylphenol, branched and linear Including substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol. Also including UVCB- and well-defined substances which include any of the individual isomers or a combination thereof.	-	-
Furan	203-727-3	110-00-9
Lead oxide sulfate	234-853-7	12036-76-9
Lead titanium trioxide	235-038-9	12060-00-3
Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	214-604-9	1163-19-5
Dinoseb (6-sec-butyl-2,4-dinitrophenol)	201-861-7	88-85-7
1,2-Diethoxyethane	211-076-1	629-14-1
N-methylacetamide	201-182-6	79-16-3
Tetralead trioxide sulphate	235-380-9	12202-17-4
Acetic acid, lead salt, basic	257-175-3	51404-69-4
[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9
Tetraethyllead	201-075-4	78-00-2
N-pentyl-isopentylphthalate	-	776297-69-9
Pentalead tetraoxide sulphate	235-067-7	12065-90-6

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Heptacosafluorotetradecanoic acid	206-803-4	376-06-7
Tricosafluorododecanoic acid	206-203-2	307-55-1
1-bromopropane (n-propyl bromide)	203-445-0	106-94-5
Dioxobis(stearato)trilead	235-702-8	12578-12-0
Pentacosafluorotridecanoic acid	276-745-2	72629-94-8
Methoxyacetic acid	210-894-6	625-45-6
Methyloxirane (Propylene oxide)	200-879-2	75-56-9
Trilead dioxide phosphonate	235-252-2	12141-20-7
o-aminoazotoluene	202-591-2	97-56-3
4-methyl-m-phenylenediamine (toluene-2,4-diamine)	202-453-1	95-80-7
Diisopentylphthalate (DIPP)	210-088-4	605-50-5
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	284-032-2	84777-06-0
Biphenyl-4-ylamine	202-177-1	92-67-1
Fatty acids, C16-18, lead salts	292-966-7	91031-62-8
Orange lead (lead tetroxide)	215-235-6	1314-41-6
4,4'-oxydianiline and its salts	202-977-0	101-80-4
Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	204-650-8	123-77-3
Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7
Lead cyanamidate	244-073-9	20837-86-9

In June 2013, EChA initiated a new public consultation on a list of 6 additional Substances of Very High Concern (SVHC). The list (effective June 2013) includes the following:

Substance Name	EC Number	CAS Number

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Cadmium	231-152-8	7440-43-9
Ammonium pentadecafluorooctanoate (APFO)	223-320-4	3825-26-1
Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1
Dipentyl phthalate (DPP)	205-017-9	131-18-0
4-Nonylphenol, branched and linear, ethoxylated substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof		
Cadmium oxide	215-146-2	1306-19-0

In December 2013, EChA initiated a new public consultation on a list of 7 additional Substances of Very High Concern (SVHC). The list (effective December 2013) includes the following:

Substance Name	EC Number	CAS Number
Cadmium sulphide	215-147-8	1306-23-6
Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	217-710-3	1937-37-7
Dihexyl phthalate	201-559-5	84-75-3
Imidazolidine-2-thione; (2-imidazoline-2-thiol)	202-506-9	96-45-7
Trixylyl phosphate	246-677-8	25155-23-1
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	209-358-4	573-58-0
Lead di(acetate)	206-104-4	301-04-2

In June 2014, EChA initiated a new public consultation on a list of 4 additional Substances of Very High Concern (SVHC). The list (effective June 2014) includes the following:

Substance Name	EC Number	CAS Number

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2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	271-093-5	68515-50-4
Sodium perborate; perboric acid, sodium salt	239-172-9 234-390-0	-
Sodium peroxometaborate	231-556-4	7632-04-4
Cadmium chloride	233-296-7	10108-64-2

In December 2014, EChA initiated a new public consultation on a list of 7 additional Substances of Very High Concern (SVHC). The list (effective December 2014) includes the following:

Substance Name	EC Number	CAS Number
Sulfuric acid, cadmium salt, hydrate (3:3:8) & (1:1) hydrate	616-572-5 606-360-4	7790-84-3 15571-58-1
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	223-346-6	3846-71-7
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	239-622-4	15571-58-1
Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	-
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55-1
Cadmium fluoride	232-222-0	7790-79-6
Cadmium sulphate	233-331-6	10124-36-4 31119-53-6

In June 2015, EChA initiated a new public consultation on a list of 2 additional Substances of Very High Concern (SVHC). The list (effective June 2015) includes the following:

Substance Name	EC Number	CAS Number

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1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥0.3% of dihexyl phthalate (EC No. 201-559-5)	271-094-0 272-013-1	68515-51-5 68648-93-1
5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	-	-

In December 2015, EChA initiated a new public consultation on a list of 5 additional Substances of Very High Concern (SVHC). The list (effective December 2015) includes the following:

Substance Name	EC Number	CAS Number
1,3-propanesultone	214-317-9	1120-71-4
2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	223-383-8	3864-99-1
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	253-037-1	36437-37-3
Nitrobenzene	202-716-0	98-95-3
Perfluorononan-1-oic-acid and its sodium and ammonium salts	206-801-3	375-95-1

In June 2016, EChA initiated a new public consultation on a list of 1 additional Substance of Very High Concern (SVHC). The list (effective June 2016) includes the following:

Substance Name	EC Number	CAS Number
Benzo[def]chrysene	200-028-5	50-32-8

In January 2017, EChA initiated a new public consultation on a list of 4 additional Substances of Very High Concern (SVHC). The list (effective January 2017) includes the following:

Substance Name	EC Number	CAS Number

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4,4'-isopropylidenediphenol (Bisphenol A; BPA)	201-245-8	80-05-7
4-Heptylphenol, branched and linear substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof	-	-
Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts [Nonadecafluorodecanoic acid] [Ammonium nonadecafluorodecanoate] [Decanoic acid, nonadecafluoro-, sodium salt]	 206-400-3 221-470-5 -	 335-76-2 3108-42-7 3830-45-3
Nitrobenzenep-(1,1-dimethylpropyl) phenol	201-280-9	80-46-6

In July 2017, EChA initiated a new public consultation on a list of 1 additional Substance of Very High Concern (SVHC). The list (effective July 2017) includes the following:

Substance Name	EC Number	CAS Number
Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	-	-

In January 2018, EChA initiated a new public consultation on a list of 7 additional Substances of Very High Concern (SVHC). The list (effective January 2018) includes the following:

Substance Name	EC Number	CAS Number
Benz[a]anthracene	200-280-6	56-55-3 1718-53-2
Cadmium carbonate	208-168-9	513-78-0
Cadmium hydroxide	244-168-5	21041-95-2
Cadmium nitrate	233-710-6	10022-68-1 10325-94-7

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Chrysene	205-923-4	218-01-9 1719-03-5
Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene (“Dechlorane Plus”™) covering any of its individual DP anti-isomer and DP syn-isomers or any combination thereof	-	13560-89-9 135821-03-3 135821-74-8
Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) with ≥0.1% w/w 4-heptylphenol, branched and linear (4-HPbl)	-	-

In June 2018, EChA initiated a new public consultation on a list of 10 additional Substances of Very High Concern (SVHC). The list (effective June 2018) includes the following:

Substance Name	EC Number	CAS Number
Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride; TMA)	209-008-0	552-30-7
Benzo[ghi]perylene	205-883-8	191-24-2
Decamethylcyclopentasiloxane (D5)	208-764-9	541-02-6
Dicyclohexyl phthalate (DCHP)	201-545-9	84-61-7
Disodium octaborate	234-541-0	12008-41-2
Dodecamethylcyclohexasiloxane (D6)	208-762-8	540-97-6
Ethylenediamine (EDA)	203-468-6	107-15-3
Lead	231-100-4	7439-92-1
Octamethylcyclotetrasiloxane (D4)	209-136-7	556-67-2

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Terphenyl, hydrogenated	262-967-7	61788-32-7

In January 2019, EChA initiated a new public consultation on a list of 6 additional Substances of Very High Concern (SVHC). The list (effective January 2019) includes the following:

Substance Name	EC Number	CAS Number
1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one [3-benzylidene camphor; 3-BC]	239-139-9	15087-24-8
2,2-bis(4'-hydroxyphenyl)-4-methylpentane	401-720-1	6807-17-6
Benzo[k]fluoranthene	205-916-6	207-08-9
Fluoranthene	205-912-4	206-44-0 93951-69-0
Phenanthrene	201-581-5	85-01-8
Pyrene	204-927-3	129-00-0 1718-52-1

In July 2019, EChA initiated a new public consultation on a list of 4 additional Substances of Very High Concern (SVHC). The list (effective July 2019) includes the following:

Substance Name	EC Number	CAS Number
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides [covering any of their individual isomers and combinations thereof]	-	-
2-methoxyethyl acetate	203-772-9	110-49-6
4-tert-butylphenol	202-679-0	98-54-4
Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	-	-

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In January 2020, EChA initiated a new public consultation on a list of 4 additional Substances of Very High Concern (SVHC). The list (effective January 2020) includes the following:

Substance Name	EC Number	CAS Number
Perfluorobutane sulfonic acid (PFBS) and its salts	-	-
Diisohexyl phthalate	276-090-2	71850-09-4
2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	400-600-6	71868-10-5
2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	404-360-3	119313-12-1

In June 2020, EChA initiated a new public consultation on a list of 4 additional Substances of Very High Concern (SVHC). The list (effective June 2020) includes the following:

Substance Name	EC Number	CAS Number
Dibutylbis (pentane-2,4-dionato-O,O') tin	245-152-0	22673-19-4
Butyl 4-hydroxybenzoate	202-318-7	94-26-8
2-methylimidazole	211-765-7	693-98-1
1-vinylimidazole	214-012-0	1072-63-5

In January 2021, EChA initiated a new public consultation on a list of 2 additional Substances of Very High Concern (SVHC). The list (effective January 2021) includes the following:

Substance Name	EC Number	CAS Number

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Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety	-	-
Bis(2-(2-methoxyethoxy)ethyl)ether	205-594-7	143-24-8

In July 2021, EChA initiated a new public consultation on a list of 8 additional Substances of Very High Concern (SVHC). The list (effective July 2021) includes the following:

Substance Name	EC Number	CAS Number
Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP); Phenol, 4-dodecyl, branched, 4-isododecylphenol, Phenol, 4-isododecyl, Phenol, dodecyl-, branched, Phenol, (tetrapropenyl) derivatives, and Phenol, tetrapropylene	-	-
orthoboric acid, sodium salt, including; boric acid (H_3BO_3), sodium salt, hydrate, Boric acid (H_3BO_3), disodium salt, Trisodium orthoborate, Boric acid, sodium salt, Orthoboric acid, sodium salt, and Boric acid (H_3BO_3), sodium salt	-	-
Medium-chain chlorinated paraffins (MCCP) with UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17 including; Alkanes, C14-16, chloro, Alkanes, C14-17, chloro, di-, tri- and tetrachlorotetradecane, and Tetradecane, chloro derivatives	-	-
Glutaral	203-856-5	111-30-8
4,4'-(1-methylpropylidene)bisphenol	201-025-1	77-40-7
2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers including; (2R)-3-(4-tert-butylphenyl)-2-methylpropanal, 2-(4-tert-butylbenzyl)propionaldehyde, and (2S)-3-(4-tert-butylphenyl)-2-methylpropanal		

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2,2-bis(bromomethyl)propane-1,3-diol (BMP); 2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA); 2,3-dibromo-1-propanol (2,3-DBPA) including; 2,2-dimethylpropan-1-ol, tribromo derivative (TBNPA), 3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA), 2,2-bis(bromomethyl)propane-1,3-diol (BMP), and 2,3-dibromo-1-propanol (2,3-DBPA)		
1,4-dioxane	204-661-8	123-91-1

In January 2022, EChA initiated a new public consultation on a list of 4 additional Substances of Very High Concern (SVHC). The list (effective January 2022) includes the following:

Substance Name	EC Number	CAS Number
tris(2-methoxyethoxy)vinylsilane	-	-
S-(tricyclo(5.2.1.0'2,6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	213-934-0	1067-53-4
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	401-850-9	255881-94-8
2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	204-327-1	119-47-1
(±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1] heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC); (3E)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one, (1R,3E,4S) -1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one, (1S,3Z,4R)-1,7,7-trimethyl-3-(4-methylbenzylidene) bicyclo[2.2.1]heptan-2-one, (±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one, (1R,4S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one, (1S,3E,4R)-1,7,7-trimethyl-3-(4-methylbenzylidene) bicycle[2.2.1]heptan-2-one, and (1R,3Z,4S)-1,7,7-trimethyl-3-(4- methylbenzylidene)bicyclo[2.2.1]heptan-2-one	-	-

In July 2022, EChA initiated a new public consultation on a list of 1 additional Substance of Very High Concern (SVHC). The list (effective July 2022) includes the following:

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Substance Name	EC Number	CAS Number
N-(hydroxymethyl)acrylamide	213-103-2	924-42-5

In January 2023, EChA initiated a new public consultation on a list of 9 additional Substances of Very High Concern (SVHC). The list (effective January 2023) includes the following:

Substance Name	EC Number	CAS Number
1,1'-[ethane-1,2-diylbisoxy]bis[2,4,6-tribromobenzene] (BTBPE)	253-692-3	37853-59-1
2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol (Tetrobromobisphenol A (TBBPA))	201-236-9	79-94-7
4,4'-sulphonyldiphenol (Bisphenol S (BPS))	201-250-5	80-09-1
Barium diboron tetraoxide	237-222-4	13701-59-2
Bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof: [Bis(2-ethylhexyl) tetrabromophthalate]	247-426-5	26040-51-7
Isobutyl 4-hydroxybenzoate (Isobutylparaben (IBP))	224-208-8	4247-02-3
Melamine (1,3,5-triazine-2,4,6-triamine)	203-615-4	108-78-1
Perfluoroheptanoic acid and its salts (PFHpA and its salts): [Ammonium perfluoroheptanoate] [Potassium perfluoroheptanoate] [Perfluoroheptanoic acid] [Sodium perfluoroheptanoate]	228-098-2 - 206-798-9 243-518-4	6130-43-4 21049-36-5 375-85-9 20109-59-5
Reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine	473-390-7	-

In June 2023, EChA initiated a new public consultation on a list of 2 additional Substances of Very High Concern (SVHC). The list (effective June 2023) includes the following:

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Substance Name	EC Number	CAS Number
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	278-355-8	75980-60-8
Bis(4-chlorophenyl) sulphone	201-247-9	80-07-9

In January 2024, EChA initiated a new public consultation on a list of 5 additional Substances of Very High Concern (SVHC). The list (effective January 2024) includes the following:

Substance Name	EC Number	CAS Number
Oligomerization and alkylation reaction products of 2-phenylpropene and phenol, methylstyrenated	700-960-7 270-966-8	68512-30-1
Bumetrizole (UV-326)	223-445-4	3896-11-5
2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one	438-340-0	119344-86-4
2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)	221-573-5	3147-75-9
2,4,6-tri-tert-butylphenol	211-989-5	732-26-3

To date, there are 240 substances on the REACH listing. Several substances have been listed multiple times due to additional “reason for inclusion” rulings (as reference in the applicable decision number).

As the SVHC list is updated in the future by the EChA, JSP will provide updated certifications accordingly to assure continued compliance with this requirement.

For additional information regarding the REACH SVHC list see:

https://echa.europa.eu/regulations/reach/understanding-reach
https://echa.europa.eu/candidate-list-table

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JSP Resins LLC
Pittsburgh, PA
USA

Should you have any further questions, please contact the undersigned.

Regards,

29 January 2024

Date

Steven R. Sopher
Vice President, Technology
JSP Resins LLC
steve.sopher@jsp.com

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5. Base Resin FDA Letter

MATERIAL CERTIFICATION

JSP Certifies that all ARPRO® Expanded Polypropylene (EPP) Foam Beads are manufactured from base resins which comply with Title 21, Code of Federal Regulations (CFR) Parts 177.1520 (c) (item 3.1(a)), 178.2010, and other regulations promulgated under the Federal Food, Drug and Cosmetic Act as may, from time to time, be applicable. It is therefore, permitted by the FDA* for use in food contact applications for food types identified in Categories I through IX of Table 1, under conditions of use B (for applications not including cooking) through H of Table 2 in Title 21 CFR, Part 176.170 (c).

It is, however, the responsibility of the customer to determine that all conditions and specifications outlined in the above mentioned regulatory standards, and any other applicable regulatory categories are met, and the products fabricated from this material are acceptable to the FDA for use in their intended food-contact applications.

Contact JSP for any questions or for additional information about material, additive, or purity concerns regarding specific end user restictions. This certification applies to the APRRO EPP products listed herein, and does not guarantee the compliance of final articles produced using these products.

Steven R. Sopher
Vice President, Technology
JSP International, LLC

06 January 2023
Date

*Note: Per US FDA CFR Title 21, Part 178, Section 178.3297 (Colorants for polymers), the level of Carbon Black color for polymers cannot exceed 2.5%. For low and mid density applicaition (< 100 g/l), JSP recommends White/Natural color 30XX Series and/or and Silver 33XXSI or 34XXSI Series color ARPRO EPP grades for FDA contact applications. For high density applications (> 100 g/l) JSP recommends Black 54XX Series color ARPRO EPP grades for FDA contact applications.

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6. Material Certification Letter for EU RoHS

JSP

ARPRO® Expanded Polypropylene (EPP)

POROUS ARPRO® Expanded Polypropylene (PEPP)

ARPAK® Expanded Polyethylene (EPE) Bead Foam

ARPEX® Crosslinked Expanded Polyethylene (xEPE)

MATERIAL CERTIFICATION

JSP certifies that all Black, White, Colored, and Anti-Static Grade ARPRO Expanded Polypropylene (EPP), Black and White Standard Grade ARPRO Porous Expanded Polypropylene (PEPP), all Black, White and Colored Standard Grade ARPAK Expanded Polyethylene (EPE) and all Black and White Standard Grade ARPEX Cross-linked Expanded Polyethylene (xEPE) foam beads comply with the IMDS Standard 001, ELV European End-Of-Life Vehicle Directive (2000/53/EC)[1], and Restricted or Hazardous Substances (RoHS) Vehicle Directive (2002/95/EC), and Restriction or Hazardous Substances (RoHS) Electrical and Electronic Equipment Directive (2011/65/EU), as amended per Regulation Directive (EU) 2015/863 and (EU) 2019/1021 for Persistent Organic Pollutants (POPs)[2], and do not contain any substances above the reportable threshold limits, including; Asbestos, Arsenic (As) or Arsenic Compounds, Lead (Pb) or Lead Compounds, Mercury (Hg) or Mercury Compounds, Cadmium (Cd), or Cadmium Compounds, Chromium VI (Cr-VI) or Chromium Compounds, Polychlorinated Dibenzo Dioxins (PCDD), Polychlorinated Dibenzo Furans (PCDF) Polychlorinated Biphenyls (PCB), Polybrominated Biphenyls (PBB), Perfluorinated Compounds (PFC) Halogenated Compounds (including Chlorinated Compounds, Chlorosulfonated Compounds, and Chlorobenzene), Brominated Compounds (including PBDE, BDE and HBCDD), Polybrominated Terphenyls (PBT), Formaldehyde, Chlorofluorocarbons (CFC), Hydrochlorofluorocarbons (HCFC), Perfluoroalkylated Substances (PFAS); including Per-fluorooctanesulfonic Acid (PFOS), Perfluorooctanoic Acid (PFOA) and it's salts or any Fluorinated compounds, Phthalates; including Di(2-Ethylhexyl) Phthalate (DEHP), Dibutyl Phthalate (DBP) and Butylbenzyl Phthalate (BBP), Diisobutyl phthalate (DIBP), Organic Tin Compounds; including Dibutyl Tin (DBT), Dimethyl Tin (DMT), Tributyl Tin (TBT), Tributyl Tin Oxide (TBTO), and Triphenyl Tin (TPT), BNST (Benzenamine, N-phenyl-, Reaction Products with Styrene and 2,4,4-Trimethylpentene), nor do they contain Alkylphenols, Bisphenol A (BPA), Short-Chain Chlorinated Paraffins, Latex Compounds, Polyvinyl Chloride (PVC), Polyvinylidine Chloride Compounds (PVDC), Chlorinated Polyvinyl Chloride (CPVC) Compounds or Medium Chain and/or Long Chain Chlorinated Paraffin's (MCCP's and LCCP's); and contain no additional compounds listed therein.

This certification applies to all above mentioned ARPRO EPP®, ARPRO PEPP, ARPAK EPE, and ARPEX xEPE expanded foam bead product grades and includes products molded with the above mentioned ARPRO EPP, ARPRO PEPP, ARPAK EPE, and ARPEX xEPE material in accordance with the JSP's established manufacturing process standards and procedures. None of these substances listed above per the referenced industry requirements are intentionally added or used as an additive or raw material in the manufacture of this product.

ARPRO EPP, ARPRO PEPP, ARPAK EPE, and ARPEX xEPE are registered in the Global International Material Database System (IMDS) and meet the Global Automotive Declarable Substances List (GADSL)[3] requirements for declarable substances as per VDA 232-101.

Steven R. Sopher
Vice President, Technology
JSP Resins, LLC

02 January 2024
Date

[1]Note: Including Annex II of 2000/53/EC. Material meets End-Of-Life recycling requirement per EU Directive 2000/53/EG, EU Directive 2005/64/EC for Reusability, Recyclability and Recoverability, EU Directive 94/62/EC for Packaging & Packaging Waste, and EU Directive 2002/96/EC Waste Electrical and Electronic Equipment (WEEE).

[2]Note: per latest 2023 update; https://www.pop-chemicals.lu/pop-substances/currently-listed-pops

[3]Note: per latest Global Automotive Declarable Substance List (GADSL) update; FEB 2023.

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JSP