



Mr. Joshua Neff, via email, joshua.neff@dot.gov
Chief, Medium and Heavy Duty Vehicle Defect Division
Office of Defects Investigation
U.S. Department of Transportation
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Subject : Information Request ID PE24014-2, Response of Purflux USA Inc. (formerly Allevar Sogefi USA/Sogefi Group)

Dear Mr. Neff:

On behalf of Purflux USA Inc. (formerly Allevar Sogefi USA), I write to respond to your October 7, 2024 request for information concerning secondary fuel filters manufactured by Sogefi for model year 2015-2021 Ford trucks equipped with a 6.7L diesel engine. Earlier this year, Sogefi Filtration S.A. and Sogefi USA Inc. began operating as Purflux Group. For ease of reference, and consistent with your requests, this response references "Sogefi" as the manufacturer of the secondary fuel filters.

1. State the number of each of the following, received by Sogefi, or of which Sogefi is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:

a. Consumer complaints

- i) Because Sogefi is a component part manufacturer, Sogefi does not directly receive consumer complaints. Sogefi is notified of any complaints by the vehicle manufacturer, Ford Motor Company ("Ford") and/or its authorized dealerships.
- ii) Sogefi came across YouTube videos of customers reporting fine filter fuel leaks and hot turbo conditions. In addition, Ford implemented a protective diesel fuel collar to be fitted over the secondary fuel filter port to avoid damage from automotive technicians who would lean in to service the vehicle and place their hand on the fuel filter. The weight applied by their hands would cause stress and possibly cracking of both the tube or spigot of the fine filter. Sogefi found a YouTube video of how to install this clam shell onto the quick connect.

⇒ Evidence: [REDACTED]

PURFLUX Filtration S.A.S.

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78280 Guyancourt - France

S.A.S. au capital de 148.514.934,57 Euros
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b. Field reports

TOPIC #1

Sogefi was made aware by Ford of field reports. Ford was in possession of seven (7) samples for examination and testing. Ford provided 6 samples to Sogefi for analysis and testing, one of which was determined to NOT leak. 5 parts were confirmed to have a fracture at the base of spigot resulting in a leak once tested. The seventh sample was not provided to Sogefi.

Conclusion: The Initial Ford specification is not adequate. A design change is necessary (see 8D p.4)

Design for vehicle conditions

We conclude that the original design validation testing parameters "AB revision" (0 – 7 bar at ambient temperature) are not adequate to simulate actual conditions on the vehicle that may occur and therefore a design change is necessary to improve product durability at new DV test parameters "AD revision" (0 – 7 bar at 90°C) requested by Ford.

⇒ Attachment: [REDACTED]

TOPIC #2

Sogefi discovered that vehicles manufactured from December 2020 to January 2021 (see table below) contained Sogefi secondary fuel filters which had a pin hole leak issue, leading to a recall by Ford of 100% of impacted product. Sogefi provided replacement product to Ford.

Vehicle	Model Year	Assembly Plant	Build Dates
Super Duty	2021	Kentucky Truck	December 1, 2020 through January 8, 2021
		Ohio Assembly	December 1, 2020 through January 7, 2021
F-650/F-750	2021	Ohio Assembly	December 1, 2020 through December 22, 2020

⇒ Attachment [REDACTED]

⇒ Attachment [REDACTED]

⇒ Attachment : [REDACTED]

- i) Sogefi is unable to determine if the alleged 27 samples cited in this document (INIS-PE24014-20619.docx) are related to Topic #1 or Topic #2. Sogefi does not believe that the samples cited in this document would be related to Topic #2 because all product affected (involving the pinhole leak) had been replaced and would not have been available for installation after the recall.

c. Reports involving a crash, injury or fatality

- i) Sogefi is not aware of any crashes, injuries or fatalities.

d. Reports involving a fire

- i) Sogefi is aware of thermal event that was noted on warranty returned parts, received back at Sogefi for analysis.
- ii) Sogefi received notice of a potential claim from subrogation counsel for State Farm concerning a fire which damaged a vehicle. (Claim included in the supporting documents).
- ⇒ Attachment : [REDACTED]
- ⇒ Attachment: [REDACTED]

e. Property damage claims

- i) Sogefi received notice of a potential claim from subrogation counsel for State Farm concerning a property damage claim. (Claim included in the supporting documents).
- ⇒ Attachment : [REDACTED]

f. Third-party arbitration proceedings, both pending and closed, where Sogefi is or was a party to the arbitration; and

- i) Sogefi has not been involved in any such arbitration proceedings.

g. Lawsuits, both pending and closed, in which Sogefi is or was a defendant or codefendant.

- i) Sogefi has not been involved in any such lawsuits.

For subparts “a” through “g,” state the total number of each item (e.g., consumer complaints, field reports, etc.) separately. Multiple incidents involving the same vehicle are to be counted separately. Multiple reports of the same incident are also to be counted separately (i.e., a consumer complaint and a field report involving the same incident in which a crash occurred are to be counted as a crash report, a field report and a consumer complaint).

In addition, for items “c” through “g,” provide a summary description of the alleged problem and causal and contributing factors and Sogefi’s assessment of the problem, with a summary of the significant underlying facts and evidence. For items “f” and “g,” identify the parties to the action, as well as the caption, court, docket number, and date on which the complaint or other document initiating the action was filed.

2. Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 1 state the following information:

a. Sogefi's file number or other identifier used;

i) Sogefi does not have a file number nor identifier.

b. The category of the item, as identified in Request No. 1 (i.e., consumer complaint, field report, etc.);

i) See table:

#	Vehicle	MY	Prichard Mfg. Date	Top Cover Cavity	Leak Test Results NG	Leak Test Results OK	Comments
1	VIN UNKNOWN	UNKNOWN	P7J2502 B Aug 25 th , 2017	Cav1 - 07/2017 (Mold Date)	Leak @ Fracture in the top cover	---	Fracture at the base of the outlet port. Filter is very saturated with contamination. Filter is collapsed.
2	[REDACTED] 2017 F350	2017	P7J23-10 B Aug 23 rd , 2017	Cav1 - 07/2017 (Mold Date)	Leak @ Fracture in the top cover	---	Fracture at the base of the outlet port. Filter is very saturated with contamination. Filter is collapsed.
3	MEDIUM DUTY (F650/F750) 6.7L	2019	UNREADABLE / ILLEGIBLE.	Cav1 - 07/2019 (Mold Date)	---	DID NOT LEAK	Filter with low contamination. Filter is not collapsed.
4	[REDACTED] F250 6.7L	2019	UNREADABLE / ILLEGIBLE.	Cav1 - 02/2019 (Mold Date)	Leak @ Fracture in the top cover	---	Fracture at the base of the outlet port. Filter is very saturated with contamination. Filter is collapsed.
5	VIN UNKNOWN	UNKNOWN	P7G02-19 B June 2 nd , 2017	Cav1 - Sample @ Ford (Mold Date?)	Leak @ Fracture in the top cover Sample @ Ford	---	Fracture at the base of the outlet port.
6	[REDACTED] F250 SERIES	2021	POM14-18D Nov 14 th , 2020	Cav1; 10/2020 (Mold Date)	Leak @ Fracture in the top cover	---	Fracture at the base of the outlet port. Filter with low contamination. Filter is not collapsed. Claim did not come from a THERMAL EVENT.
7	[REDACTED] MY2021 - F450	2021	P7M26-19 A [Nov 26 th , 2017]	CAV2 08/2017	Leak @ Fracture in the top cover	---	Fracture at the base of the outlet port. Filter is very saturated with contamination. Filter is collapsed. Claim did not come from a THERMAL EVENT.

c. Vehicle owner or fleet name (and fleet contact person), email address and telephone number (please use distinct fields for each data type);

i) State Farm's insured is Gary D. Gross, per State Farm's subrogation counsel Kahn, Dees, Donovan & Kahn, LLP. No address was provided for Mr. Gross.

⇒ Attachment: [REDACTED]

d. Vehicle owner or fleet street address, city, state (postal abbreviation), and ZIP code (please use distinct fields for each data type);

i) Sogefi is not aware of the owner's address.

e. Vehicle's 17-character VIN;

i) The VIN was not included in the notice of claim, and Sogefi has no knowledge of it.

⇒ Attachment: [REDACTED]

f. Vehicle's make, model and model year (please use distinct fields for each data type);

i) 2020 Ford F250.

⇒ Attachment: [REDACTED]

g. Vehicle's mileage at time of incident (numeric data type);

i) This was not provided to Sogefi.

h. Incident date (MM/DD/YYYY);

i) According to the notice letter from State Farm's counsel, the incident date is April 26, 2024. Additional responsive information is on table 2 b, above.

i. Report or claim date (MM/DD/YYYY);

i) Last report update June 28th 2021; claim from State Farm counsel is dated August 9, 2024.

⇒ Attachment: [REDACTED]

⇒ Attachment: [REDACTED]

j. Whether a crash is alleged;

i) Sogefi is not aware of a crash.

k. Whether a fire is alleged;

i) The claim from State Farm's counsel alleges a fire occurred.

⇒ Attachment: [REDACTED]

l. Whether property damage is alleged;

i) The claim from State Farm's counsel alleges damage to the vehicle.

⇒ Attachment: [REDACTED]

m. Number of alleged injuries, if any; and

i) Sogefi has no knowledge of an injury.

n. Number of alleged fatalities, if any.

i) Sogefi has no knowledge of a fatality.

3. Produce copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method Sogefi used for organizing the documents. Describe in detail the search methods and search criteria used by Sogefi to identify the items in response to Request No. 2.

See documents referenced in response to Request No. 2.

4. Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, Sogefi. For each such action, provide the following information:

a. Action title or identifier;

b. The actual or planned start date;

c. The actual or expected end date;

d. Brief summary of the subject and objective of the action;

e. Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and

f. A brief summary of the findings and/or conclusions resulting from the action.

Refer to the report below:

⇒ Attachment: [REDACTED]

For each action identified, provide copies of all documents related to the action, regardless of whether the documents are in interim, draft, or final form. Organize the documents chronologically by action.

5. Describe all modifications or changes made by, or on behalf of, Sogefi in the design, material composition, manufacture, quality control, supply, or installation of the subject component, from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles. For each such modification or change, provide the following information:

a. The date or approximate date on which the modification or change was incorporated into vehicle production;

i) Quality Control – Ford requested that Sogefi change proof pressure from 4.0 to 4.5 and back to 4.0 Bar (08/06/2008)

	CDC Interne / Internal specifications	XFC104 / 144 DFCM + Fine filter - FORD diesel application			Ind. 1
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Follow-up of the indices

Index	Comments	Justification
0	Creation	- According to the last DVP revision signed by Ford - Change nominal system pressure from 4 bar to 4,5 bar - Specification of 12,5 V with nominal flow rate or no specified voltage with 225 l/h on different tests
1	Correction of the pump nominal pressure	- Change nominal system pressure from <u>4,5 bar to 4 bar</u> - FP2-3 Apply only on DFCM → correction of the test repartition list (Add fuel staying in the filter element to fuel drained) → idem FC 3-7 - FC6-1: integration of Bosch pump special cleanliness → class 1 acc. to QNO-04-55 - FC1-13 and FC1-14 Apply only on DFCM+FF → correction of the test repartition list

⇒ Attachment: 

ii) Quality Control – Ford requested that Sogefi change proof pressure from 4.0 to 4.5 Bar (6/5/2017)

No.	Characteristic Description	Specification & Tolerance
1	Leak rate: Pressure Decay	Leak rate: 8 cc/min @ 4.5 bar

⇒ Attachment: 

⇒ Attachment: 

iii) Quality Control – Ford requested Sogefi change from 4.5 Bar to 7.0 Bar (February 2018)

Go Further

FORD MOTOR COMPANY	
Validation plan	New vibration welder nests & leak check station
Test method	SPECIFICATION
Tests requirements	
Production run and leak check under 7 bar of pressure	Per FORD HC34-9T329-AB & HC34-9150-AB drawings

⇒ Attachment: [REDACTED]

⇒ Attachment: [REDACTED]

iv) Material location change – Techmer Polymer Modifiers (Sogefi’s resin supplier) informed Sogefi of a change of location from where the resin was produced.

Testing completed and signed off by Ford on 11/18/2021.

⇒ Attachment: [REDACTED]
[REDACTED]

v) Cover design change – A redesign of cover to meet new AD specification from Ford. was implemented into production, spring 3/10/2024 (Increase in cycle from 50k cycle to 100k cycle + specified temperature to run test at 90°C + adding a bypass).

⇒ Attachment: [REDACTED]

⇒ Attachment: [REDACTED]

⇒ Attachment: [REDACTED]
[REDACTED]

b. A detailed description of the modification or change;

i) Move from 4 bar to 4.5 and back to 4.0 bar.

Quality control #1 - When initially launched in production, the agreed 100% proof pressure test on manufacturing line was 4.0 Bar. The request to increase the proof pressure from 4.0 to 4.5 Bar was analyzed and implemented.

ii) Quality control #2 – Increase the proof pressure from 4.5 to 7.0 Bar was analyzed and implemented.

iii) Change from one facility to another facility, delivering the same quality of resin to Sogefi.

iv) Add specification:

- Temperature (+90°C)
- Pressure cycle increase from 50 k cycle to 100 k cycle
- Add a bypass on the product

c. The reason(s) for the modification or change;

i) Ford requested such change.

ii) Quality Control # 1 – Ford request to move to 4.5 bar.

iii) Quality Control # 2 – Ford request to move to 7 bar, however, the leak tester did not have the capability to test to 7 Bar. After the tester was purchased and installed, it was then raised to 7 Bar as this is what Ford mentioned the system could experience.

iv) Techmer Polymer Modifiers notified Sogefi that the Delaware facility where resin was produced would be closing, and production would be shifted to Techmer Polymer Modifiers' Tennessee location.

v) To meet the updated specification (ESCU5A-9G282-AD) from Ford. The change made the cover more robust. The part was developed under AB specification which is 23°C @ 7 bar for 50 k cycles. The AD revision increased specification. Any previous part designed under previous specification would fail under the new AD specification.

⇒ Attachment:

[REDACTED]

d. The part number(s) (service and engineering) of the original component;

- (1) BC34-9150-BG (4.0Bar) (FILTER)
- (2) CC34-92C17-AD (4.0Bar /) (BRKT FU/FLTR SECDRY)

e. The design criteria of the original component;

i) ES7C34-9G282-AA see specification

⇒ Attachment:

[REDACTED]

f. Designed maximum operating pressure of the original component;

- i) 7.0 Bar ES7C34-9G282-AA see specification p. 24.

Engineering Specification					
FRAME	24	OF	51	REV. LET.	PART NO. ▽ ES7C34-9G282-AA
3.2 Noise, Vibration and Harshness (NVH) Characteristics					
3.2.1 Pressure Pulsation					
<u>Purpose:</u> The purpose of this procedure is to verify that the pump does not produce large pressure pulsations that could adversely affect the fuel delivery system.					
<u>Test Set-up:</u> Use test set-up in Figure 3.					
<u>Fuel:</u> Use test fuel Q (as described in section 2.2 and defined in table 2.2).					
<u>Test Procedure:</u> Measure RMS pressure pulsations at 13.2V and Pressure = Psys. Sample rate should be at least 44 kHz.					
<u>Acceptance Criteria:</u> $\bar{X} + 3s < 7 \text{ kPa RMS}$					

⇒ Attachment: [REDACTED]

g. Engineering drawing(s) of the original component;

- i) See attached drawings:
 (1) BC34-9T329-BG “FLTER AND BRKT ASY FUL SECDRY”
 ⇒ Attachment: [REDACTED]
 (2) CC34-9T329-AD “FLTER AND BRKT ASY FUL SECDRY”
 ⇒ Attachment: [REDACTED]

h. Safety factor of the original component;

- i) Sogefi/Purflux was not provided a safety factor on this project.

i. The part number(s) (service and engineering) of the modified component;

- i) LC34-9T329-A

j. Designed maximum operating pressure of the modified component;

- i) 7.0 Bar same as initial design. ESCU5A-9G282-AD specification adding high temperature test at 90°C that was not considered in the initial specification.
 ⇒ Attachment: [REDACTED]

k. Safety factor of the modified component;

- i) Sogefi/Purflux was not provided a safety factor on this modification.

l. Engineering drawing(s) of the modified component;

- i) See attached engineering drawings:
 (1) LC34-9T329-A
 ⇒ Attachment: [REDACTED]
 (2) LC34-9150-A
 ⇒ Attachment: [REDACTED]

m. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;

i) N/A, previous version was not withdrawn

n. When the modified component was made available as a service component; and

i) First shipment 5/14/2024

⇒ Attachment: 

o. Whether the modified component can be interchanged with earlier production components.

i) Yes the parts are interchangeable. Sogefi is not aware of the Ford dealerships' practice of stocking earlier production components.

Also, provide the above information for any modification or change that Sogefi is aware of which may be incorporated into vehicle production within the next 120 days.

ii) Sogefi is not aware of any changes that will be made in the next 120 days.

6. State the number of each of the following subject components that Sogefi has sold that may be used in the subject vehicles by component name, part number (both service and engineering/production), model and model year of the vehicle in which it is used and month/year of sale (including the cut-off date for sales, if applicable):0

⇒ See table:

Report Customer	(All)														
Sum of Quantity		Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	Grand Total			
Article Code	1a Des Articolo Lingua														
	XFC263 BOX FILTER/233 FE COMBO		1									1			
	(blank)														
	XFC233 FE W/3 PORT COVER				126,434							126,434			
	XFC263 3 PORT MODULE		99,948	22,752								122,700			
	XFC263 FE W/3 PORT COVER			202,250	104,813	191,320	1,815	1,480				501,678			
	(blank)				0							0			
	XFC234/233 3 PORT FILTER KIT								2	1		3			
	XFC234/233 MODULE COMBO PACK					1						1			
	XFC263 BOX FILTER/233 FE COMBO		19,770	3,280			1	2	2			23,055			
	XFC233 FE W/3 PORT COVER				1							1			
	XFC234 MODULE W/O BRKT					1						1			
	XFC234/233 MODULE COMBO PACK				6	2						8			
	XFC263 BOX FILTER/233 FE COMBO			92,869	258,978	284,131	10					635,988			
	XFC263 MODULE W/SHIELD				2							2			
	XFC268 2 PC BOWL ASSY				1							1			
	XFC268 H567 DFCM W/O BRKT				2							2			
	(blank)				0							0			
	XFC263 BOX FILTER/233 FE COMBO					1						1			
	XFC263 BOX FILTER/233 FE COMBO					30,900	431,755	463,063	438,593	143,055		1,507,366			
	XFC268 H567 DFCM W/O BRKT							1				1			
	XFC234 MODULE W/O BRKT				1							1			
	XFC234/233 MODULE COMBO PACK					1						1			
	XFC263/233 3-PORT COMBO KIT			25,741	6,722	15,989						48,452			
	XFC263/234 3-PORT COMBO KIT						32,239	29,659	37,308	49,513	24,699	173,418			
	XFC233 FE W/3 PORT BYPASS/BRKT				40							40			
	XFC263 FE W/3 PORT BYPASS/BRKT					46,153	189,052	184,924	189,729	199,055	98,750	907,663			
	XFC263 BOX FILTER/233 FE COMBO								1			1			
	XFC263/233 FILTER COMBO NO C/S						50,449	53,930	130,931	484,920	176,902	897,132			
	XFC268 H567 DFCM W/O BRKT								1			1			
	XFC263/233 FILTER COMBO NO C/S										212,000	212,000			
	XFC263/233 FILTER COMBO NO C/S										411	411			
Grand Total			119,719	346,892	497,000	568,499	705,321	733,059	796,567	876,544	512,762	5,156,363			

Also identify by make, model and model year, any other vehicles of which Sogefi is aware that contain the identical component, whether installed in production or in service, and state the applicable dates of production or service usage.

7. Provide a detailed description and/or video of how the subject component is manufactured.

i) See flow chart

⇒ Attachment:

8. Furnish Sogefi's installation instructions and requirements for the subject component in the subject vehicles.

i) This component is delivered to Ford and then installed by Ford and/or its dealerships, Sogefi does not provide installation instructions for this part on the vehicle.

9. Furnish a list of known aftermarket components intended as direct replacements of the subject component. Provide Sogefi's assessment of each as it pertains to the alleged defect.

- i) Purflux has his own aftermarket part number. Purflux does not have a list of compatible competitors' products.

10. Furnish Sogefi's assessment of the alleged defect in the subject vehicles, including:

a. The causal or contributory factor(s);

- i) After analysis and investigation of the field part returned by Ford, Sogefi determined that Ford's initial specification was probably not sufficient to sustain real-world driving conditions. Sogefi shared this conclusion in Sogefi's report [REDACTED]

Design for vehicle conditions

We conclude that the original design validation testing parameters "AB revision" (0 – 7 bar at ambient temperature) are not adequate to simulate actual conditions on the vehicle that may occur and therefore a design change is necessary to improve product durability at new DV test parameters "AD revision" (0 – 7 bar at 90°C) requested by Ford.

⇒ Attachment: [REDACTED]

b. The failure mechanism(s);

- i) Some parts showed evidence of significant heat damage, including at least one part that had no crack, no leak.
- ii) Sogefi's FEA failure modeling predicts failure with a crack in the exact same orientation and location as warranty returned parts; with crack formation being influenced most strongly by temperature.
- iii) All parts pass original AB testing at 4 times the specification (200k cycle tested for a specification at 50 k cycle)
- iv) 6 parts designed for "AB Specification" tested under the "AD Specification" failed.

c. The failure mode(s);

- i) Fatigue crack due to a product utilization in a condition it was not designed for.

d. The risk to motor vehicle safety that it poses; and

- i) Can lead to a crack and a diesel leak.

e. The reports included with this inquiry.

- i) See Sogefi's report [REDACTED]

⇒ Attachment: [REDACTED]

We appreciate your attention to this response and trust that you will reach out with any questions or concerns.

Best regards,

Jeremy DALTON
Plant Director

/s/ _____