

UNITED STATES DISTRICT COURT
DISTRICT OF CONNECTICUT

EMMA SCHMIDT, et al.,
Plaintiffs,

v.

CONAGRA FOODS, INC.,
Defendant.

No. 3:14-cv-1816 (SRU)

MEMORANDUM OF DECISION

On May 13, 2013, Emma Schmidt (“Schmidt”) and Hallie Meyer (“Meyer”) (collectively “the Plaintiffs”) were deep frying potatoes at Meyer’s parents’ residence in Washington, Connecticut when a fire suddenly erupted in the kitchen. Schmidt and Meyer escaped the residence but were both injured. The Plaintiffs allege that the fire was caused by a defective can of PAM cooking spray that unexpectedly vented, causing flammable material to ignite near the stove. They assert violations of the Connecticut Products Liability Act (“CPLA”), Conn. Gen. Stat. § 52-572m *et seq.*, and base their claims on the following theories of liability: (i) manufacturing defect, (ii) design defect, and (iii) failure to warn. Conagra Foods Inc. (“Conagra”), which sells PAM cooking spray, denies liability and has moved for summary judgment, arguing that there is no direct evidence linking a can of PAM spray to the Plaintiffs’ injuries. Conagra has also moved to preclude several of the Plaintiffs’ experts.

For the reasons that follow, Conagra’s motion for summary judgment (doc. no. 168) is **granted** in part and **denied** in part. In addition, as discussed further below, I **grant** Conagra’s motion to preclude William Kitzes (doc. no. 167); **grant** in part and **deny** in part Conagra’s motions to preclude Thomas Eagar, Gregory Cahanin, and Lester Hendrickson (doc. nos. 154, 164, and 165); and **deny** Conagra’s motion to preclude Mitra Taheri (doc. no. 166).

I. Background

A. The Fire

Schmidt and Meyer owned a baking and catering company that primarily served Yale students. *See* Def’s Local Rule 56(a)(1) Stmt. (Doc. No. 168-1) ¶ 7. On May 13, 2013, Schmidt and Meyer were preparing a large batch of fried potato croquets for an off-campus event involving 400 Yale seniors. *Id.* ¶¶ 5–7. That night, Schmidt and Meyer began cooking the potato croquets by placing rolled balls of breaded potatoes into a large pan of hot oil. *Id.* ¶ 9. At approximately 10:22 p.m., while Meyer was facing the stove, a fire ignited. *Id.* ¶ 11. Although Schmidt and Meyer do not know exactly how the fire started, Meyer testified that she heard an explosion in the direction of a PAM can that was located “on the counter next to the burners.” Meyer Dep. (Doc. No. 168-3) at 78. “There was, like, a combustion of the [PAM] can . . . I saw a flame above the stove.” *Id.* at 77. When the fire began, Schmidt’s back was turned away from the stove but she “suddenly found [her]self on the ground.” Schmidt Dep. (Doc. No. 168-3) at 81. Schmidt then felt a warm liquid burning her lower legs. Def’s Local Rule 56(a)(1) Stmt. ¶ 14. “I tried to push myself up off the ground, and felt a warm liquid on my legs, and tried to brush it off, and came up with hand full[] of skin . . . I just pulled my hands up . . . and they were covered in skin from my legs.” Schmidt. Dep. at 81–82. Schmidt and Meyer initially ran out of the house, but Schmidt made “[a]t least one trip” back inside to retrieve her cell phone. *Id.* at 85, 88.

After they escaped, Schmidt and Meyer were both taken to a medical center for treatment. *See* Def’s Local Rule 56(a)(1) Stmt. ¶ 17. Schmidt had burns on her lower legs. *Id.* ¶ 18. Meyer was treated for burns on her face, hands, and arms. *See* Ambulance Report (Doc. No. 168-3) at 1 (“Dry, sterile dressings applied to both hands and left forearm. Patient also had red

marks to left side of neck, cheek and ear Patient stated she was doing a catering event when the cooking oil (Pam) exploded.”).

B. The Origin of the Fire

On July 18, 2013, the Fire Marshal for the Town of Washington produced a Fire Investigation Report to “determine the origin and cause of the fire.” Fire Marshal Report (Doc. No. 182-12) at 3. The Fire Marshal concluded that “[b]ased on the available evidence, burn patterns, and witness statements, I have determined this fire to be accidental involving an aerosol can of cooking oil being stored in close proximity to an open flame.” *Id.* at 6. In the report, the Fire Marshal noted that the fire began in the kitchen, where “[t]he aerosol can of cooking spray over pressurized and vented.” *Id.* at 3.

The Plaintiffs contend that the fire was caused by the “venting” of an improperly manufactured and designed PAM can, which caused a “drifting, expanding gaseous cloud” to ignite right above the stove. Pls’ Local Rule 56(a)(1) Stmt. (Doc. No. 181) ¶ 81. The Plaintiffs base that conclusion on the findings of their fire origin expert, Gregory Cahanin (“Cahanin”), who testified that “the cause of the fire was a failure in the [PAM] can, simply that: a failure in the can.” Cahanin Dep. (Doc. No. 182-13) at 28. Cahanin noted further that “the explosion initiated on the right side, right counter” where the subject can was located. *Id.* at 77. Dr. Lester Hendrickson (“Dr. Hendrickson”), the Plaintiffs’ engineering expert, testified that the fire in the kitchen was a flash fire. *See* Dr. Hendrickson Dep. (Doc. No. 182-7) at 121 (“[T]he nature of the [flash] fire, the rapid heat, the fire ball, can only occur if you have a highly combustible vapor phase And the [] only possible source of that type of fuel in the vicinity of these incidents is the propellant within the PAM can.”).

The Plaintiffs further allege that the can vented because PAM Original cans were improperly designed. “Conagra lowered substantially the amount of pressure that a PAM container is able to withstand before releasing its contents and then failed to account for well-known variances in metal thickness and yield strength that commonly occur during the manufacturing process by designing the can bottoms to these minimal standards.” Pls’ Local Rule 56(a)(1) Stmt. ¶ 88.

Conagra tells a much different story. First, it suggests that the fire originated from the grease used to fry the potatoes, rather than a PAM can. *See* Def’s Mem. in Supp. Def’s Mot. for Summary Judgment (“Def’s Mem.”) (Doc No. 168-2) at 20. Conagra contends that Cahanin “failed to consider, much less rule out, the overwhelming probability that [the] Plaintiffs’ deep-frying activities started the grease fire, which then caused the two PAM containers to overheat and vent.” *Id.* Conagra also cites statements made by the Fire Chief of the Washington Fire Department, who suggested that the incident was “an apparent grease fire” to local reporters. Libor Jany, *Trying to put out grease fire causes injury*, Newstimes (May 14, 2013) (Doc. No. 168-3) at 1. An insurance adjuster who inspected the property also classified the incident as “a grease fire.” Insurance Adjuster Notes (Doc. No. 168-3) at 2.

Second, Conagra argues that the Plaintiffs’ experts are unable to identify which can of PAM cooking spray allegedly caused the fire. “Among the debris from the fire were six or seven aerosol cooking spray cans, at least three of which were PAM cooking spray containers of the same model Cahanin admitted in his deposition that he does not know which of the two vented cans found at the scene was the origin of the fire.” Def’s Mem. at 8. Based on its experts and the destructive testing results of the subject PAM can, Conagra maintains that a properly

manufactured PAM can would not overpressure and vent under the conditions alleged by Schmidt and Meyer.

C. Procedural History

On December 3, 2014, Schmidt and Meyer filed this lawsuit against Conagra to recover money damages for the injuries they sustained as a result of the fire. *See generally* Compl. (Doc. No. 1). In the complaint, the Plaintiffs allege that the PAM cooking spray sitting atop the counter (the “subject can”) was defective “as designed, manufactured, and/or sold” by Conagra because it “over-pressurized and vented flammable contents, creating a risk of fire and burn injury to person using it.” *Id.* ¶ 21. The Plaintiffs raise the following theories of liability under the CPLA: (1) strict liability in tort and (2) failure to warn. The Plaintiffs’ strict liability theory is premised on: (1) a manufacturing defect, (2) a design defect, or in the alternative, (3) a malfunction defect. Schmidt and Meyer seek \$10,000,000 in compensatory damages in addition to punitive damages. *Id.* at Prayer for Relief.

Conagra answered the complaint on March 3, 2015. *See* Answer (Doc. No. 10). On March 17, 2015, a Notice of Consolidation was filed on the docket (doc. no. 11), consolidating the member case, *Associated Indemnity Corp. v. Conagra Foods Inc.*, 3:15-cv-63 (SRU). On December 17, 2019, Conagra moved for summary judgment. *See generally* Def’s Mot. for Summary J. (Doc. No. 168). Conagra has also moved to preclude the Plaintiffs’ expert witnesses.¹ On February 4, 2020, I held oral argument, at which I took the motion for summary judgment and the motions to preclude under advisement. *See* Minute Entry, Doc. No. 203.

¹ Those witnesses include:

(1) Dr. Thomas Eagar (“Dr. Eagar”), who opines that “there is substantial evidence that the containers buckle and vent below 180 psi.” Dr. Eagar Rebuttal Report (Doc. No. 155-1) at 10;

II. Standard of Review

A. Summary Judgment

Summary judgment is appropriate when the record demonstrates that “there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a); *see also Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 256 (1986) (plaintiff must present affirmative evidence in order to defeat a properly supported motion for summary judgment).

When ruling on a summary judgment motion, the court must construe the facts of record in the light most favorable to the nonmoving party and must resolve all ambiguities and draw all reasonable inferences against the moving party. *Anderson*, 477 U.S. at 255; *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986); *Adickes v. S.H. Kress & Co.*, 398 U.S. 144, 158–59 (1970); *see also Aldrich v. Randolph Cent. Sch. Dist.*, 963 F.2d 520, 523 (2d Cir. 1992) (court is required to “resolve all ambiguities and draw all inferences in favor of the nonmoving party”).

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- (2) Cahanin, who opines that the origin of the fire was the PAM cooking spray;
 - (3) Dr. Hendrickson, who performed a computer model to explain how potential variances in the raw metal sheet used to make the bottom of the PAM can may lead to variances that cause the can to vent prematurely;
 - (4) Dr. Mitra Taheri (“Dr. Taheri”), who opines that it “is possible” that the subject PAM can “began to vent at pressures well below 180 psi, and as low as ~100 psi.” Dr. Taheri Report (Doc. No. 166-2) at 5; and
 - (5) William Kitzes (“Kitzes”), who opines that Conagra “failed to act as a reasonably prudent manufacturer to adequately protect users from the catastrophic risk of fire and explosion,” “failed to apply the accepted principles of product safety management” when creating its labels, and, in response to allegations of “explosions,” “failed to address the danger in a responsible way.” Kitzes Report (Doc. No. 167-2) at 46, 48.

For purposes of deciding the motion for summary judgment, I have considered all of the Plaintiffs’ experts’ opinions.

“Only when reasonable minds could not differ as to the import of the evidence is summary judgment proper.” *Bryant v. Maffucci*, 923 F.2d 979, 982 (2d Cir. 1991); *see also Suburban Propane v. Proctor Gas, Inc.*, 953 F.2d 780, 788 (2d Cir. 1992). If the nonmoving party submits evidence that is “merely colorable,” or is not “significantly probative,” summary judgment may be granted. *Anderson*, 477 U.S. at 249–50.

The mere existence of some alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no genuine issue of material fact. As to materiality, the substantive law will identify which facts are material. Only disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment. Factual disputes that are irrelevant or unnecessary will not be counted.

Id. at 247–48. To present a “genuine” issue of material fact, there must be contradictory evidence “such that a reasonable jury could return a verdict for the non-moving party.” *Id.* at 248.

If the nonmoving party has failed to make a sufficient showing on an essential element of his case with respect to which he has the burden of proof at trial, then summary judgment is appropriate. *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). In such a situation, “there can be ‘no genuine issue as to any material fact,’ since a complete failure of proof concerning an essential element of the nonmoving party’s case necessarily renders all other facts immaterial.” *Id.* at 322–23; *accord Goenaga v. March of Dimes Birth Defects Found.*, 51 F.3d 14, 18 (2d Cir. 1995) (movant’s burden satisfied if he can point to an absence of evidence to support an essential element of nonmoving party’s claim). In short, if there is no genuine issue of material fact, summary judgment may enter. *Celotex*, 477 U.S. at 323.

B. Daubert Challenge

Rule 702 of the Federal Rules of Evidence addresses testimony to be provided by experts. The Rule provides that, if the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training or education, may testify thereto in the form of an opinion or otherwise, if: (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case. *See* Fed. R. Evid. 702. Rule 702 “establishes a standard of evidentiary reliability,” and “requires a valid . . . connection to the pertinent inquiry as a precondition to admissibility.” *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 590, 592 (1993).

In determining the admissibility of expert testimony, whether based on “scientific,” “technical,” or “other specialized knowledge,” the Supreme Court has adopted a two-step inquiry under which trial judges must determine “whether the reasoning or methodology properly can be applied to the facts in issue.” *Daubert*, 509 U.S. at 592–93. Specifically, the Federal Rules of Evidence—and particularly Rule 702—“assign to the trial judge the task of ensuring that an expert’s testimony both rests on a reliable foundation and is relevant to the task at hand.” *Daubert*, 509 U.S. at 597; *see also Wills v. Amerada Hess Corp.*, 379 F.3d 32, 48 (2d Cir. 2004) (instructing that “the district court must consider both the reliability and relevance of the proffered testimony”).

In assessing the reliability of a proffered expert’s testimony, a district court’s inquiry under *Daubert* must focus, not on the substance of the expert’s conclusions, but on whether those conclusions were generated by a reliable methodology. *See Daubert*, 509 U.S. at 595. In *Daubert*, the Supreme Court set out a list of non-exclusive factors the trial court may consider in

determining whether an expert's reasoning or methodology is reliable: (1) whether the theory or technique on which the expert relies has been tested – that is, whether the expert's theory can be challenged in an objective sense, or whether it is instead simply a subjective, conclusory approach that cannot reasonably be assessed for reliability; (2) whether the theory or technique has been subject to peer review and publication; (3) the known or potential rate of error of the technique when applied; (4) the existence of standards controlling the technique's operation; and (5) whether the method has been generally accepted by the scientific community. *See id.* at 593–94.

Those factors are not a definitive checklist, however. *See Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 150 (1999). A court applying the *Daubert* factors must look at “the nature of the issue, the expert's particular expertise, and the subject of his testimony,” and “consider the specific factors identified in *Daubert* where they are reasonable measures of the reliability of expert testimony.” *Id.* at 150–52. In short, “the trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable.” *Id.* at 152.

III. Discussion

A. The Connecticut Products Liability Act

The Connecticut Products Liability Act (“CPLA”), Conn. Gen. Stat. § 52-572m *et seq.*, is the exclusive remedy for all product liability claims in Connecticut. Conn. Gen. Stat. § 52-572n(a). The statute displaces related common law causes of action and enables plaintiffs to bring a single cause of action based on the following theories: “[s]trict liability in tort; negligence; breach of warranty, express or implied; breach of or failure to discharge a duty to

warn or instruct, whether negligent or innocent; [and] misrepresentation or nondisclosure, whether negligent or innocent.” Conn. Gen. Stat. § 52-572m(b).

To prevail under the doctrine of strict liability in tort, the Plaintiffs must establish that: “(1) the defendant was engaged in the business of selling the product; (2) the product was in a defective condition unreasonably dangerous to the consumer or user; (3) the defect caused the injury for which compensation was sought; (4) the defect existed at the time of the sale; and (5) the product was expected to and did reach the consumer without substantial change in condition.” *Metro. Prop. & Cas. Ins. Co. v. Deere & Co.*, 302 Conn. 123, 131 (2011) (internal citations omitted). “Strict liability claims under the CPLA can include theories of manufacturing defect, design defect, or state law ‘malfunction theory.’” *Karazin v. Wright Medical Technology, Inc.*, 2018 WL 4398250, at *3 (D. Conn. Sept. 14, 2018). In addition, “[s]trict liability applies to failure to warn claims where adequate warnings or instructions were not provided and where the harm suffered would not have occurred had adequate warnings been given.” *Id.* at *5.

B. The Origin of the Fire

As a dispositive factual matter, Conagra argues that summary judgment is warranted because there is insufficient evidence to establish that the subject can was the origin of the fire. “Because there was no witness to the origin of the fire, it was even more important for [the] Plaintiffs to adduce expert testimony that would allow a trier of fact to conclude, without speculation, that it is more likely than not that the origin of the fire was a container of PAM.” Def’s Mem. at 19. Without such proof, Conagra contends that the Plaintiffs are unable to establish that the PAM can at issue was defective and caused the Plaintiffs’ injuries. *Id.*

Conagra bases its argument on the “probability” that the fire was ignited by grease spilling from Schmidt and Meyer’s deep frying, rather than a defective can of PAM. *Id.* at 20.

“[A]ssuming the disputed facts in Plaintiffs’ favor[,] the fire originated from [either] an ‘under-pressure’ venting of a PAM container [] or, it originated from the spilling of oil or grease (a possibility that is consistent with the evidence, and one that Cahanin does not refute)

Plaintiffs’ expert[s] fail[ed] to address this critical question.” *Id.*

In response, the Plaintiffs rely on Cahanin’s expert report, where he expressly rules out other potential causes of the fire:

The only viable material present in the kitchen readily available for rapid ignition (fire/explosion) is the highly flammable contents of the Pam can. There is no evidence of a propane gas leak. There is no evidence of any overheating of the cooking oil on the stovetop would result in a localized fire. A cooking oil fire would have spread less rapidly and would have remained above the cooking pan in the time period that both injured parties were still in the kitchen.

Cahanin Report (Doc. No. 168-3) at 12.

Drawing all inferences in the Plaintiffs’ favor, there is a dispute of material fact regarding whether the subject can was the origin of the fire. There is evidence in the record supporting the allegation that at least one PAM can “vented” at some point during the fire. For example, Meyer testified that she saw a PAM can explode near the stove at the start of the fire. “There was, like, a combustion of the [PAM] can . . . I saw a flame above the stove.” Meyer Dep. at 77. Meyer’s testimony is consistent with the Fire Marshal’s investigation, *see* Fire Marshal Report at 3 (“aerosol can of cooking spray over pressurized and vented”), and with Meyer’s statements made to emergency personnel right after the fire, *see* Ambulance Report at 1 (“Patient stated she was doing a catering event when the cooking oil (Pam) exploded.”). Lastly, at least two PAM cooking spray cans recovered from the scene were discovered in the “vented” position.² *See* Ex. 13 to Def’s Mot (Doc. No. 168-2) at 2 (photos of PAM cans recovered from the fire).

² Conagra also argues that summary judgment is proper because the Plaintiffs are unable to establish which of the two vented cans caused the fire. *See* Def’s Mem. at 22. Dr. Hendrickson and the Fire Marshal, however, agree that

Whether those cans vented as a result of a grease fire or spontaneously due to a manufacturing or design defect cannot be determined from the record. I conclude that there is a genuine dispute of material fact regarding the origin of the May 13, 2013 fire. Therefore, summary judgment is **denied** on that ground.³

C. The Plaintiffs' CPLA Claims

1. *Manufacturing Defect*

The Plaintiffs argue that their injuries were caused by a manufacturing defect in the subject can.⁴ “Generally speaking, a manufacturing defect is a mistake in the assembly process, which results in a product that differs from the manufacturer’s intended result.” *Moss v. Wyeth Inc.*, 872 F. Supp. 2d 162, 166 (D. Conn. 2012) (citing *Miller v. United Technologies Corp.*, 233 Conn. 732, 779 (1995)). To establish a manufacturing defect in this case, the Plaintiffs allege that the subject can sold by Conagra unexpectedly “vented” below the product’s intended design specification (180 psi). *See* Pls’ Local Rule 56(a)(1) Stmt. ¶¶ 60–61.

To support their manufacturing defect claims, the Plaintiffs rely on their experts.⁵ First, the Plaintiffs cite Dr. Hendrickson’s Finite Element Analysis (“FEA”), which is a computer-based model to explain how the average thickness and strength of the metal used in the subject can’s bottom may have been too low, thereby allowing for venting under 180 psi. *See* Dr. Hendrickson Am. Report (Doc. No. 168-3) at 15 (“The objective of the FEA performed here was

the “over pressurized aerosol can . . . found on the floor in between the kitchen sink and island area” is the subject can. Pls’ Local Rule 56(a)(1) Stmt. ¶ 23. Therefore, summary judgment is not warranted on that ground.

³ Nonetheless, even if cooking grease started the fire, that fact alone does not warrant summary judgment. The Plaintiffs allege that a defective can caused their injuries. As discussed below, there is a genuine dispute of material fact regarding whether A-70 propellant from the subject can contributed to the Plaintiffs’ injuries. It is reasonable to infer that A-70 propellant from the subject can may have exacerbated the fire, regardless of whether it started the fire.

⁴ The Plaintiffs do not assert an exclusive manufacturing defect theory. Instead, their manufacturing defect claims encompass their design defect claims. *See* Pls’ Opp. (Doc. No. 182) at 16–17.

⁵ The Plaintiffs’ experts, however, primarily focus their analysis on the Plaintiffs’ design defect theory discussed below.

to allow the most critical properties of the metal, i.e. its thickness, its yield strength, and the diameter of the flat section at the apex of the dome, to vary and determine the critical pressure (P_{cr}) at which the buckling process begins.”). In his report, Dr. Hendrickson opines that “[t]he results of the FEA analysis show conclusively that reasonable variations in the dimensions of the thickness of the bottom dome, and in the yield strength of the steel sheet, result in significant reductions in the critical pressure below the minimum value of design pressure of 180 psig.” *Id.* at 24. Accordingly, Dr. Hendrickson concludes that a certain number of PAM cans vent at temperatures well below their intended design specification due to variations of yield strength and thickness inherent in the manufacturing process. *See id.*

The Plaintiffs also rely on Dr. Eagar’s Microscopic Variations Theory; Dr. Eagar examines images of the subject can that show variations in “coarseness” of the metal measured at the can’s bottom and explains how those variations may cause under-pressure venting. *See Eagar Rebuttal Report* at 19–23. In his report, Dr. Eagar compares a Scanning Electron Microscope (“SEM”) image of the subject can with a SEM image of an exemplar can, and notes that although “both are ductile fractures, the variation in coarseness of the [subject can] is apparent.” *Id.* at 19. Based on the differences between the subject can and the exemplar can, Dr. Eagar concludes that “[t]here is substantial evidence that the [subject can] was not manufactured to the specified tolerances.” *Id.* at 31.

Based on the evidence in the record, I conclude that summary judgment is warranted regarding the Plaintiffs’ manufacturing defect theory. The Plaintiffs have not presented any evidence to establish that the subject can actually reflected any “mistake in the assembly process, which result[ed] in a product that differ[ed] from [Conagra’s] intended result.” *Moss*, 872 F. Supp. 2d at 166. Because the Plaintiffs’ experts primarily focus their analysis on the Plaintiffs’

design defect claims,⁶ they provide little analysis explaining how the subject can itself was faulty, regardless of whether PAM spray cans were improperly designed due to a U-shape design or use of A-70 propellant.

a. Direct Measurements of the Subject Can

The Plaintiffs' experts' theories are significantly undercut by actual measurements of the bottom of the subject can taken in connection with destructive testing. Those measurements demonstrate that the subject can's average thickness and strength at the bottom of the can were consistent with Conagra's specifications.⁷ To complete the destructive testing, an independent laboratory took approximately fifty measurements of the thickness of the metal at the bottom of the can. *See* Def's Local Rule 56(a)(1) Stmt. ¶ 40. The average measurement was 0.0136 inches, which places the thickness and yield strength of the subject can's bottom within the specified tolerance for the steel used to manufacture PAM can bottoms. *See* Dr. Easley Supp. Report (Doc. No. 168-4) at 16.⁸ Those results contrast with Dr. Hendrickson's FEA analysis findings that rely in part on a reduced thickness of the subject can's bottom. *See* Dr. Hendrickson Am. Report at 24 ("The thickness was reduced to 0.0120 [inches], less than two thousandths of an inch less than that specified in the patent. The yield strength was varied from 65 ksi to 50 ksi in increments of 5 ksi. The values for Pcr ranged from 150 psig down to 112 psig.").

⁶ *See, e.g.*, Dr. Eagar Dep. (Doc. No. 182-8) at 193–94 (“[M]y opinions basically say this is design defect with some things that might be considered manufacturing defects, but primarily I’m arguing this is a design issue, mostly Dr. Hendrickson argued the manufacturing defect, but he’s also argued the design defect. We both kind of overlap in that sense, but we’re talking about different parts of design and manufacturing.”).

⁷ On March 4, 2019, I granted Conagra's request for destructive testing of the subject can over the Plaintiffs' objection. *See* Minute Entry, Doc. No. 122.

⁸ The average measurement of a vented exemplar can was 0.0140 inches and the average for an unvented exemplar can was 0.0139 inches. The tolerance range was 0.0138 ± 0.0003 inches. *Id.*

The Plaintiffs refute the results of the destructive testing on two grounds. First, they contend that “averaging” measurements of the thickness of the subject can’s bottom is not probative of the can’s overall strength because Dr. Easley, Conagra’s expert, did not measure “obviously deformed” sections, which were “observably thinner than the other parts of the can.” Pls’ Local Rule 56(a)(1) Stmt. ¶ 40. Second, they highlight that “16 out of the 50 measurements of thickness on the bottom of the Subject Can were below tolerance representing 32%, or nearly 1/3, of the total measurements recorded.” Pls’ Opp. at 21.

Regarding the first point, Plaintiffs’ counsel stated during oral argument that the “average” of the subject can’s thickness is irrelevant because under–pressure venting would be caused by the can’s weakest point. Mot. Hr’g Tr. (Doc. No. 207) at 47. I am not persuaded. The goal of destructive testing was to establish whether the metal at the bottom of the subject can was below specification *before* the can deformed during the fire. Measuring the clearly distorted portions of the subject can would thwart that goal.

Second, the local disparities observed in the direct measurements of the subject can do not establish a manufacturing defect because similar variations were observed in the unvented exemplar can.

Two regions, symmetrically located on either side of the central disc, had thickness values below the tolerance minimum for the raw steel material, with a minimum reading of 0.0126 inch. The same pattern in thickness readings was observed for the unvented exemplar can, which also had local regions with thickness below the minimum tolerance for the raw steel material symmetrically located on either side of the central disc.

Dr. Easley Supp. Report at 17 (internal footnote omitted). The Plaintiffs have not explained how the local variations of thickness in the subject can were due to a manufacturing defect or how those variations caused their injuries. Moreover, Dr. Eagar at his disposition conceded that the steel used in the bottom of the subject can was “probably” within specification.

Q: So you agree that the testing showed that the Tata steel used to make the bottom of the subject can was within specification?

A: I said it probably is. We didn't test it to the specification. So you can't say 100 percent, but it probably was.

Q: And you have no factual basis to say that it wasn't? There's nothing you've seen, no data to suggest that it was not?

A: That's a fair statement.

Dr. Eagar Dep. at 149–50 (objections omitted).

In conclusion, the Plaintiffs do not provide sufficient evidence for a reasonable jury to find that the subject can had been improperly manufactured when it left the assembly line. In addition, direct measurements of the subject can taken in connection with destructive testing refute the manufacturing defect opinions offered by Dr. Hendrickson and Dr. Eagar. Based on the evidence presented—and the lack of evidence—no reasonable jury could find that the subject can contained a manufacturing defect as defined under Connecticut law.

b. The Malfunction Theory

The Plaintiffs also base their manufacturing defect claims on the malfunction theory. Although most product liability claims are based on direct evidence of a particular product defect, Connecticut courts have allowed plaintiffs to proceed under a “malfunction theory” when such evidence is unavailable. *Metro. Prop. & Cas. Ins. Co.*, 302 Conn. at 131–33. Under that theory, a plaintiff may “establish a prima facie product liability case on the basis of circumstantial evidence.” *Id.* at 133.

The Connecticut Supreme Court set forth the contours of the malfunction theory in *Metro. Prop. & Cas. Ins. Co.* The Court stressed the need for limitations to the theory to ensure that product liability cases proceed to trial only when the plaintiff's evidence establishes “the probability, and not the mere possibility, that the plaintiff's injury resulted from a product defect

attributable to the manufacturer.” *Id.* at 139. Toward that end, the Court held that, “when direct evidence of a specific defect is unavailable, a jury may rely on circumstantial evidence to infer that a product that malfunctioned was defective at the time it left the manufacturer’s or seller’s control if the plaintiff presents evidence establishing that[:]

- (1) the incident that caused the plaintiff[s] harm was of a kind that ordinarily does not occur in the absence of a product defect, and;
- (2) any defect most likely existed at the time the product left the manufacturer’s or seller’s control and was not the result of other reasonably possible causes not attributable to the manufacturer or seller.

Id. at 139–40 (footnote omitted).

The Plaintiffs may establish the elements through evidence such as “(1) the history and use of the particular product, (2) the manner in which the product malfunctioned, (3) similar malfunctions in similar products that may negate the possibility of other causes, (4) the age of the product in relation to its life expectancy, and (5) the most likely causes of the malfunction.” *Id.* at 141 (footnote omitted). “If lay witnesses and common experience are not sufficient to remove the case from the realm of speculation, the plaintiff will need to present expert testimony to establish a prima facie case.” *Id.*

Connecticut courts have noted that whether the product at issue is available to the Plaintiffs for inspection is the “threshold issue that must be determined before any relevant circumstantial evidence can be considered [under the malfunction theory].” *Decato v. Brandfon Motors, Inc.*, 2013 WL 4873069, at *7 (Conn. Super. Ct. Aug. 20, 2013). The malfunction theory is unavailable when “the subject product was available for inspection, and the plaintiff[s] w[ere] not prevented from gathering evidence from [the defendant] in order to present direct evidence of a specific product defect.” *Id.*; see also *Metro. Prop. & Cas. Ins. Co.*, 302 Conn. at

132 (footnote omitted) (noting that the malfunction theory is available when product was “discarded or destroyed after the incident such that the parties are no longer able to examine it”).

In this case, I conclude that the malfunction theory does not apply because the subject can was available for inspection by the parties. The Plaintiffs had the opportunity to design, and signed off on, the destructive testing protocol that was employed by a third-party lab. *See* Mem. in Supp. Def’s Mot. to Preclude Eagar (Doc. No. 155) at 21. Contrary to the Plaintiffs’ assertions, the subject can was not “effectively unavailable for meaningful inspection.” Pls’ Opp. at 24.

Although the Connecticut Supreme Court in *Metro. Prop. & Cas. Ins. Co.* stated that “[w]hether a plaintiff in this state may use the malfunction theory when the product is still available for inspection but the plaintiff nevertheless is unable to produce direct evidence of a specific defect is a question that we need not resolve in this appeal,” *id.* at 132 n.4, courts in Connecticut typically allow the malfunction theory only when the incident “damages or destroys much, if not all, of the [subject] product[’]s components.” *Id.* at 131–32. Here, the subject can, although moderately damaged, was not completely destroyed. Accordingly, the malfunction theory does not apply in this case.

As discussed above, the Plaintiffs have not established that a mistake in the assembly process of the subject can caused their injuries. The direct measurements of the subject can demonstrate that its average thickness was within specification. Therefore, I **grant** summary judgment regarding the Plaintiffs’ manufacturing defect claims.

2. *Design Defect*

The Plaintiffs also allege that the subject can was defectively designed. A design defect exists “when the product is otherwise properly manufactured, but is nonetheless unreasonably

dangerous because its attributes can cause unexpected injury.” *Moss*, 872 F. Supp. 2d at 166.

Under Connecticut law, a product is defectively designed if: “(1) it failed to perform as safely as an ordinary consumer would expect when used in a reasonably foreseeable manner (the ‘ordinary consumer expectations’ test); or (2) in the case of complex products, the risk of danger inherent in the design of the product outweighs its utility (the ‘modified consumer expectations’ test).”⁹

Id.

The Plaintiffs’ design theory claims are based primarily on two purported defects of PAM spray cans. First, the Plaintiffs contend that the U-shape design at the bottom of the cans “fail[s] to account for well-known variances in metal thickness and yield strength that commonly occur during the manufacturing process The result is that some cans will fail below even the low tolerances set by Conagra for the vented cans.” Pls’ Opp. at 25. (internal citation omitted). Those variances, the Plaintiffs argue, caused the subject can to vent below 180 psi. *Id.*

To support that assertion, the Plaintiffs rely primarily on Dr. Hendrickson, who testified that the entire venting system incorporated into Conagra’s “new” PAM spray cans is defective.

Q. Doctor Hendrickson, do you understand that, as designed, the can has vents on the bottom that open when the bottom everts, as it’s been described?

A. Absolutely.

Q. And if that occurs at the designed pressure specification of a minimum of 180 PSI, do you still describe that as a failure?

A. It depends on what the circumstances are. But the vents themselves, in my opinion, are defects in the can

⁹ Under the modified consumer expectation test, “a plaintiff may establish liability solely by reference to the product sold, upon proof that its risks outweigh its utility.” *Bifolck v. Philip Morris, Inc.*, 324 Conn. 402, 422 (2016). The Connecticut Supreme Court in *Potter v. Chicago Pneumatic Tool Co.*, stated that the modified consumer expectation test is the primary test and that the ordinary consumer expectation test is reserved for cases “in which the product failed to meet the ordinary consumer’s *minimum* safety expectations, such as *res ipsa* cases.” *Izzarelli v. R.J. Reynolds Tobacco Co.*, 321 Conn. 172, 194 (2016).

Q. Do you have an opinion as to what you consider a reasonable factor of safety for cooking spray cans.

A: [Y]ou don't need a factor of safety if you don't put vents in the can. The vents -- the vents end up requiring a factor of safety only because they compromise the strength of that can. And they serve absolutely no useful purpose whatsoever. Even if they've served the purpose of what they claim they're supposed to serve, I don't think they ever serve any useful purpose.

Dr. Hendrickson Dep. at 42–43, 133.

Dr. Hendrickson also testified that Conagra's "old" version of PAM spray cans were built to withstand at least 270 psi. Pls' Local Rule 56(a)(1) Stmt. ¶ 89. Had Schmidt and Meyer used the old version, Dr. Hendrickson opines that the subject can would likely not have vented under the circumstances alleged. *See id.*

Second, the Plaintiffs claim that the A-70 propellant used to propel the cooking spray out of the container is a design defect. Dr. Hendrickson testified about the potential dangers of A-70 propellant during his deposition:

A-70 propellant is a 50/50 mixture of butane and isopropane [sic]. Extremely flammable . . . once the walls of the can are breached and this liquid propellant comes out; it immediately instantly transforms to the vapor phase. The vapor phase, it increases in volume by a factor of from 210 to 245 times. So you all of a sudden take a small quantity of liquid in the propellant, or in the can, and it expands into a huge cloud of vapor

Dr. Hendrickson Dep. at 88.

Dr. Hendrickson stated that the ignition source in this case was the burner on the stove. *Id.* "As soon as the first bit of gas reaches that ignition source . . . just ignites the rest of the -- rest of the cloud. That's why you have these balls of fire that occur." *Id.* at 88–89.

In response, Conagra argues that the Plaintiffs' design defect claims fail because their own experts admit that the subject can, as designed, would not vent under its reasonable or intended use. *See Def's Mem.* at 27.

Plaintiffs cannot establish that the existing design, when used as intended or in a reasonably foreseeable manner, is “unreasonably dangerous” [The] Plaintiffs’ own experts performed numerous “simulations” and “calculations”[] and have concluded [] that, even when placed in close proximity (immediately adjacent) to a gas burner on high, the PAM product will not reach temperatures approaching what would be required for the can to reach a pressure of 180 psi.

Id. at 27–28 (internal citations omitted).

a. Under-Pressure Venting

After reviewing the evidence in the record, I conclude that the Plaintiffs’ design defect claims based on under-pressure venting fail. The Plaintiffs offer three different theories to explain how a PAM can could vent below 180 psi, each can’s designed tolerance:

- (1) Dr. Hendrickson’s FEA model, which is a computer-based model to explain how the average thickness and strength of the metal used in the can’s bottom may have been too weak, thereby allowing for venting under 180 psi;
- (2) Dr. Taheri’s Fracture Mechanics model, which explains how the U-shaped vents could introduce “areas of susceptibility,” leading to venting under 180 psi; and
- (3) Dr. Eagar’s Microscopic Variations theory, which explains that images taken of the subject can show variations in “coarseness” of the metal measured at the bottom of the subject can, which could lead to under-pressure venting.

All three experts fail to provide sufficient evidence from which a reasonable jury could find that the subject can vented below its design specification and caused the Plaintiffs’ injuries.

Dr. Hendrickson’s opinions are undercut by his own cooking simulation. Dr. Hendrickson performed two cooking simulation tests to determine whether the subject can could have reached the temperature necessary for the internal contents to reach 180 psi. For the initial test, he set up two 10-ounce cans approximately six inches from the burner of a gas stove and allowed the cans to heat for over two hours.¹⁰ After the test, Hendrickson reports that the

¹⁰ Meyer testified that the subject can was approximately six inches from the stove before it exploded. Specifically, Meyer testified that she did not recall the subject can being “unreasonably close” to the burner, and when asked to clarify, indicated “[w]ithin, like -- maybe this is six inches.” Meyer Dep. at 82.

maximum temperature reached on the outside of either can was 104.2°F. *See* Dr. Hendrickson Am. Report at 12. For the second simulation, which Dr. Hendrickson describes as a “much more aggressive” test, two 10-ounce cans were placed in contact with an aluminum foil cooking pan placed atop a burner. *Id.* The maximum temperature reached in that test was 134°F. Dr. Hendrickson states in his report, however, that “[a] pressure of 180 psig is not reached until a temperature of *near 200* [°F] is reached.” *Id.* at 13 (emphasis added). Dr. Hendrickson’s testing tends to show that a designed tolerance of 180 psig is not defective under ordinary use, including the conditions alleged by Schmidt and Meyer.¹¹ The FEA analysis is pertinent to the question of manufacturing defect, not design defect.

Dr. Taheri creates a mathematical model using fracture mechanics,¹² and estimates that “the temperature at the [subject] can due to heat transfer from the stove was less than 120 degrees Fahrenheit” when the subject can vented. Dr. Taheri Report at 6. Based on her mathematical calculations, Dr. Taheri opines that “*it is possible* that the [subject can] began to vent at pressures well below 180 psi, and as low as ~100 psi.” *Id.* at 5 (emphasis added). A mere possibility, however, does not establish a genuine dispute of fact. *See Caldarola v. Calabrese*, 298 F.3d 156, 160 (2d Cir. 2002) (quoting *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586–87 (1986)) (emphasis added) (“The nonmoving party must come forward with *specific facts* showing that there *is a genuine issue for trial.*”). In addition,

¹¹ Dr. Hendrickson’s cooking simulation in another PAM cooking spray case reached similar results. *See Urena v. ConAgra Foods, Inc.*, 2020 WL 3051558, at *12 (E.D.N.Y. June 8, 2020) (internal footnote omitted) (“Dr. Hendrickson’s analysis notes that it is ‘highly unlikely’ for the can at issue to burst or vent, and points to a theoretical manufacturing defect claim, and *not* to a design defect claim. Under the conditions testified to by Lucita, based on the scientific analysis done by Plaintiffs’ own expert, the design of the can should not and would not have resulted in the venting of the can.”).

¹² “Fracture mechanics is a subset of the larger discipline known generally as engineering mechanics. As a specialization within engineering mechanics, fracture mechanics as a unique discipline has been around for about 100 years and was originally developed by researchers who were trying to understand how flaws in structures reduced the strength of the structure.” Dr. Viz Report (Doc. No. 166-2) at 16.

Dr. Taheri does not identify an approximate pressure or temperature at which the subject can vented, nor does she explain whether the can “buckled” prior to venting, which is a feature of the U-shaped design. *See* Dr. Taheri Dep. (Doc. No. 166-2) at 208–09, 212–14.

Dr. Eagar concludes that “[t]here is substantial evidence that the [PAM] containers buckle and vent below 180 psi.” Dr. Eagar Rebuttal Report at 10. To reach that conclusion, he performed a Weibull statistical analysis, which concludes that “one out of a million [PAM] containers are expected to vent at pressures of 156 psi.” *Id.* In his report, he notes, “[f]or the 1 in a million probability the range is 126 psi to 167 psi. These pressures correspond to temperatures for the A-70 propellant of 105°F to 125°F.” *Id.* at 11. Identifying a one-in-a-million possibility is not sufficient to raise a jury issue. Dr. Hendrickson’s cooking simulation reports that the maximum temperature reached outside of a PAM can approximately six inches from a stove burner was only 104.2°F. *See* Dr. Hendrickson Am. Report at 12. Based on those results, the subject can is outside even the “one out of a million” probability range that Dr. Eagar provides. In addition, although Dr. Eagar highlights the variances in “coarseness” between the subject can and an exemplar can, he does not offer evidence to permit a jury to find that the variances in coarseness resulted from a design defect rather than from damage sustained in the fire.¹³ Under Connecticut law “[t]he expert opinion that seeks to establish the causal connection between the injury and the alleged negligence ‘must rest upon more than surmise or conjecture.’” *Zuchowicz v. United States*, 140 F.3d 381, 389 (2d Cir. 1998) (quoting *Shelnitz v. Greenberg*, 200 Conn. 58, 66 (1986)). Although “it is well-established that causation may be proved by circumstantial evidence,” *id.* (internal quotations omitted), “[a] trier is not concerned with

¹³ As discussed above, the direct measurements of the subject can show that its average thickness was consistent with levels observed in the exemplar PAM cans. *See* Dr. Easley Supp. Report at 22 (“Representative images of the microstructure of the cross-section of the bottoms for the unvented exemplar, vented exemplar, and subject cans are shown in Figure 18. No differences in the microstructure between the three cans were observed.”).

possibilities but with reasonable probabilities,” *Aspiazu v. Orgera*, 205 Conn. 623, 630 (1987) (citation omitted).

In this case, the Plaintiffs’ theories that “it is possible” PAM cans vent below 180 psi are inconsistent with objective evidence in the record and do not raise a genuine issue of material fact. It is conceivable that the subject can was improperly designed based on the Plaintiffs’ assertions. Their experts assume that the cans vent at temperatures below their design specification and use various theories to explain that defect. That reasoning, however, is flawed. One cannot conclude that a product is defective by relying on a model or theory that assumes that the product is defective. For their design defect claims to reach a jury, the Plaintiffs must present some evidence establishing that the subject can vented under–pressure, without first assuming that the can vented prematurely. Although the Plaintiffs assert that “one out of a million” PAM cans will vent at low pressure, they have not explained why this can is the “one.”

In addition, I note that the Plaintiffs rely on two items of evidence that are not relevant to this case. First, Dr. Eagar’s opinions rely in part on the Duran video, which captures a flash fire that occurred in a commercial kitchen in Houston, Texas. In his report, Dr. Eagar opines that “[t]he Duran container venting is substantially similar to the Schmidt/Meyer container venting.” Dr. Eagar Rebuttal Report at 28. To support that opinion, Dr. Eagar notes that the “Duran container has the U-shaped vents manufactured by DS Containers and held cooking spray” and that “[t]here are no heat sources within several inches of the shelf upon which the container sat before and after the flash fire occurred.” *Id.* at 28–29. Dr. Eagar provides no citations in his report for those claims other than a picture of the bottom of the can. He provides no evidence

that the Duran can contained PAM cooking spray.¹⁴ Nor is there any evidence that the Duran can was located or used in the same manner as the can in this case. Where a similar incident is “offered to prove causation, courts tend to consider multiple factors—namely, whether ‘(1) the products are similar; (2) the alleged defect is similar; (3) causation related to the defect in the other incidents; and (4) exclusion of all reasonable secondary explanations for the cause of the other incidents.’” *In re Gen. Motors LLC Ignition Switch Litig.*, 2017 WL 2493143, at *6 (S.D.N.Y. June 9, 2017) (quoting *Watson v. Ford Motor Co.*, 389 S.C. 434, 453 (2010)). Here, the Plaintiffs have not satisfied those factors.

Second, the Plaintiffs charge that the subject can type failed to meet the requirements of a DOT regulation regarding the transport of hazardous materials. That regulation is entitled “Limited quantities of compressed gases” and provides as follows:

Pressure inside the container may not exceed 180 psig at 54.4 °C (130 °F) except as may be authorized by variations of a DOT specification container type. In any event, the metal container must be capable of withstanding without bursting a pressure of at least one and one-half times the equilibrium pressure of the contents at 54.4 °C (130 °F).

49 C.F.R. § 173.306.

The DOT regulation is simply irrelevant to the Plaintiffs’ design defect claims. Even if the Plaintiffs were able to establish that the subject can violated the requirements of 49 C.F.R. § 173.306, that regulation only governs the transportation of hazardous materials.¹⁵ There is no suggestion that Schmidt and Meyer were harmed by the improper transportation of the subject can.

¹⁴ In fact, Dr. Eagar suggests that the Duran video depicted a Cisco, and not a PAM, spray can. *See* Dr. Eagar Dep. at 182–83. (Q. . . . Do you have an understanding as to what product was in the Duran video depicted? A. . . . I assume that it’s one of DS Container containers and it was a Cisco product as I remember.”)

¹⁵ Dr. Hendrickson, the Plaintiffs’ expert, agrees. “It is important to note that the DOT Regulations 49 [] CFR 173.306 only considers factors relevant to the *safe transportation* of aerosol type products. They do not consider *any issues pertaining to consumer safety* related to normal or reasonably foreseeable use of the product.” Hendrickson Am. Report at 5 (emphasis added).

For the reasons stated above, I **grant** summary judgment in favor of Conagra regarding the Plaintiffs' design defect claims based on under-pressure venting.

b. A-70 Propellant

The Plaintiffs also assert a design defect claim premised on the use of A-70 propellant, which is a highly flammable compressed liquid. Dr. Hendrickson explains that the use of A-70 propellant in a cooking spray can is inherently dangerous because of its propensity to create flash-fire fireballs when it leaks near a heat source. “[F]uel ignited . . . from the liquid that expanded the propellant, the A-70 propellant, [] from the can and expanded in the vapor phase. That’s what ignited [A]bsolutely no way should there be a flammable propellant in these cans.” Dr. Hendrickson Dep. at 117, 210. Dr. Hendrickson opines that a reasonable alternative to A-70 propellant is non-flammable nitrous oxide, which, if vented from a PAM can would result in a “harmless liquid and vapor com[ing] out” *Id.* at 210.

Conagra contends that the Plaintiffs' design defect theory based on the use of A-70 propellant fails because the Plaintiffs are unable to explain how the can's existing design, which ensures that the can will not vent “under intended and reasonable uses,” is unreasonably dangerous. Def's Mem. at 28. “*As designed*, the U-shaped scores do not open unless the can's contents are overheated to an internal temperature above 160°F and a corresponding pressure above the can's minimum pressure specification of 180 psi, at which point the can bottom buckles and the scores/vents open.” Def's Reply (Doc. No. 194) at 6. I disagree.

To establish causation under Connecticut law, the Plaintiffs must provide evidence that the subject can was a substantial cause, rather than the sole cause, of their injuries. *See Barry v. Quality Steel Prod., Inc.*, 263 Conn. 424, 433 (2003) (“[T]he test of proximate cause is whether the defendant's conduct is a substantial factor in bringing about the plaintiff's injuries.”) (quoting

Paige v. St. Andrew's Roman Catholic Church Corp., 250 Conn. 14, 25 (1999)). Here, there is no dispute that the A-70 propellant used in the subject can is highly flammable. There is also no dispute that at least two PAM cans were recovered from the fire in the “vented” position. After the incident, Schmidt told Meyer that she saw a PAM can burning next to her during the fire. “So I hear this sound and then – [] I heard [Schmidt] like make a kind of like screaming noise and I turned around and she was on the ground and she saw a burning can of Pam next to her.” Ex. H to Pls’ Local Rule 56(a)(1) (Doc. No. 182-9) at 28. Based on the Plaintiffs’ description of the fire, there is a genuine dispute regarding whether the A-70 propellant in the can was a substantial cause of the Plaintiffs’ injuries.

Even if the fire was caused by the Plaintiffs’ deep-frying activities, that fact alone would not preclude the Plaintiffs’ design defect claims. *See Barry*, 263 Conn. at 435 (“If a defendant’s negligence was a substantial factor in producing the plaintiff’s injuries, the defendant would not be relieved from liability for those injuries even though another force concurred to produce them.”). Therefore, it does not matter whether the subject can was the origin of the fire. What matters is whether there is sufficient evidence to show that the contents of the can significantly contributed to the Plaintiffs’ injuries, regardless whether the can initially started the fire.

In addition, the fact that the Plaintiffs have not established that PAM cans vent at pressures under their design specification does not foreclose their design defect claims regarding the A-70 propellant. The Plaintiffs have demonstrated (and Conagra does not dispute) that A-70 propellant is a highly flammable material that will ignite near a heat source, and a reasonable jury could find that the risks inherent in designing a can of cooking spray with a highly flammable propellant clearly outweigh the benefits of that design. *Bifolck*, 324 Conn. at 435.

For those reasons, I conclude that there is sufficient evidence for a reasonable jury to find that the can's design was defective and unreasonably dangerous based on the use of A-70 propellant. Accordingly, Conagra motion for summary judgment is **denied** regarding the Plaintiffs' design defect claims based on A-70 propellant.

3. *Failure to Warn*

Next, Conagra moves for summary judgment with respect to the Plaintiffs' failure to warn claims.

Courts evaluating a failure to warn claim engage in a three-step analysis. First, the Plaintiffs must prove the five elements governing design defect claims: (1) Conagra sold the product in question; (2) the product was defective and unreasonably dangerous; (3) the defect caused the Plaintiffs' injuries; (4) the defect existed at the time of sale; and (5) the product reached the consumer without substantial change in condition. *See Karavitis v. Makita U.S.A., Inc.* 243 F. Supp. 3d 235, 252 (D. Conn. 2017), *aff'd*, 722 F. App'x 53 (2d Cir. 2018) (internal citations omitted).

Second, the Plaintiffs must prove that product instructions or warnings "were required, and if so, whether they were adequate" *Id.* Courts may consider the following factors in undertaking that analysis: "(1) [t]he likelihood that the product would cause the harm suffered by the claimant; (2) the ability of the product seller to anticipate at the time of manufacture that the expected product user would be aware of the product risk, and the nature of the potential harm; and (3) the technological feasibility and cost of warnings and instructions." *Id.* at 252–53 (citing Conn. Gen. Stat. § 52-572q(b)).

Lastly, the Plaintiffs must establish that, “if adequate warnings or instructions had been provided, the claimant would not have suffered the harm.” *Id.* at 253 (citing Conn. Gen. Stat. § 52-572q(c)).

The label on the PAM Original cans warns consumers of the risks of leaving the cans near a stove or other heat source. The relevant portion of the warning label reads as follows:

WARNING: USE ONLY AS DIRECTED . . . FLAMMABLE. DO NOT SPRAY ON HEATED SURFACES OR NEAR OPEN FLAME . . . CAN MAY BURST IF LEFT ON STOVE OR NEAR HEAT SOURCE . . . CONTENTS UNDER PRESSURE. DO NOT PUNCTURE OR INCINERATE. DO NOT STORE ABOVE 120°F.

Ex. 3 to Def’s Mot. (Doc No. 168-3) at 1.

The Plaintiffs contend that the warning language is inadequate for several reasons. First, the warning label failed to warn Schmidt and Meyer that the subject can may “overheat.” Pls’ Local Rule 56(a)(1) Stmt. ¶ 92. Second, although the warning label states that the “can may burst if left on a stove or near a heat source,” the label does not define what “near” or “on” means. *Id.* In addition, the Plaintiffs argue that the label is defective because it does not include a “DANGER” warning or warn that the contents are “extremely flammable.” *Id.*

Conagra argues that the failure to warn claims fail because there is no evidence that the Plaintiffs would have changed their behavior had Conagra produced a more comprehensive warning label. Schmidt testified during her deposition that she does not recall reading the warning label. *See* Schmidt Dep. (Doc. No. 168-3) at 122–23 (“Q: Do you recall ever, like, reading the label of PAM cooking spray. A: No.”). Meyer testified that she may have read the warning label, but she did not recall exactly what it said.

Q. Okay. Have you ever read the label on the – on a PAM cooking spray container?

A. I think so. I don’t remember what it says, though. Yeah.

Q. Do you remember anything about -- anything about what the label says?

A. Not really, no.

Q. Okay. Do you recall there being any, like, warnings or anything like that on the label?

A. There likely are.

Q. And why do you say that?

A. Because it's a kitchen product. So I assume that most have warnings on them.

Meyer Dep. at 118.

For the reasons stated below, I conclude that there is a dispute of material fact regarding whether the subject can's labeling was inadequate because it did not warn the Plaintiffs that the can contained the A-70 propellant and the concomitant dangers.

First, as discussed above, there is a factual dispute regarding whether the Plaintiffs have adequately demonstrated the existence of a design defect based on the use of the A-70 propellant. Second, there is a factual dispute regarding whether a warning alerting the consumer of A-70 propellant was required. Although the PAM label explains that the cans' "contents [are] under pressure," the label does not specifically warn consumers that the cans contain A-70 propellant. Whether an A-70 propellant warning was required is a factual question for a jury.

Third, there is genuine dispute regarding whether the Plaintiffs would have suffered harm had an adequate warning been given. Although Schmidt testified she did not read the label and Meyer could not remember its contents, both Plaintiffs stated that "[h]ad the front label on the cans said 'DANGER' and 'EXTREMELY FLAMMABLE' [they] would not have purchased the PAM Original cooking spray" Ex. I to Pls' Local Rule 56(a)(1) (Doc. No. 182-10) at 2; Ex. S to Pls' Local Rule 56(a)(1) (Doc. No. 182-20) at 2. A jury must resolve that factual dispute.

For the reasons stated above, I **deny** Conagra's motion for summary judgment on the Plaintiffs' failure-to-warn claim based on the failure to warn that the can contained an extremely flammable propellant.

D. Conagra's Motions to Preclude the Plaintiffs' Experts

Conagra also moves to preclude five of the Plaintiffs' experts. Before I address each motion below, I note as a preliminary matter that any expert opinion that pertains solely to the Plaintiffs' manufacturing defect claim or design defect claim based on under-pressure venting will not be admissible at trial under Federal Rule of Evidence 702. Because I have granted summary judgment in Conagra's favor on the aforementioned claims, those opinions are no longer relevant. *See Daubert*, 509 U.S. at 591 (explaining that, under Rule 702, the expert testimony must help "the trier of fact to understand the evidence or determine a fact in issue" and that the requirement "goes primarily to relevance").

1. *Motion to Preclude Thomas Eagar (Doc. No. 154)*

Conagra first seeks to preclude Eagar's testimony and opinion, arguing that: (1) his opinions are not offered in "rebuttal" of Conagra's supplemental expert reports and are thus "untimely" under Federal Rule 26, and (2) his opinions are unreliable and irrelevant under *Daubert* and Federal Rule of Evidence 702.

Under Federal Rule of Civil Procedure 26, a party must disclose an expert witness "at the times and in the sequence that the court orders. Absent a stipulation or a court order, the disclosures must be made . . . if the evidence is intended solely to contradict or rebut evidence [from an opponent's expert disclosed pursuant to Rule 26(a)], within 30 days after the other party's disclosure." Fed. R. Civ. P. 26(a)(2)(D)(ii). "If a party fails to provide information or identify a witness as required by Rule 26(a) . . . the party is not allowed to use that information

or witness to supply evidence on a motion, at a hearing, or at a trial, unless the failure was substantially justified or is harmless.” Fed. R. Civ. P. 37(c)(1). “A district court ‘has broad discretion when determining if a discovery violation is harmless or justified.’” *Barack v. Am. Honda Motor Co.*, 2013 WL 12291437, at *1 (D. Conn. Apr. 10, 2013) (quoting *Ebbert v. Nassau County*, 2008 WL 4443238, at *14 (E.D.N.Y. Sept. 26, 2008)).

“Courts in the Second Circuit consider four factors on a motion to preclude expert testimony: ‘(1) the party’s explanation for the failure to comply with the discovery order; (2) the importance of the testimony of the precluded witness; (3) the prejudice suffered by the opposing party as a result of having to prepare to meet the new testimony; and (4) the possibility of a continuance.’” *Scientific Components Corp. v. Sirenza Microdevices, Inc.*, 2008 WL 4911440, at *4 (D. Conn. Nov. 13, 2008) (quoting *Softel, Inc. v. Dragon Med. & Scientific Commc’ns, Inc.*, 118 F.3d 955, 961 (2d Cir. 1997)).

In its motion, Conagra argues that the ten opinions offered by Eagar in his expert report do not refute Conagra’s July 10, 2019 supplemental reports and instead raise new issues. *See* Def’s Mem. in Supp. Mot. to Preclude Eagar (Doc No. 155) at 7. “[T]o the extent Dr. Eagar’s opinions are construed as rebuttal, many concern assertions from Conagra’s initial expert reports, which were disclosed in November 2018. Any such opinions are thus well beyond Rule 26’s 30-day limit and should be excluded as untimely.” *Id.*

The Plaintiffs argue that Conagra’s July 10, 2019 (post-destructive testing) supplemental reports “incorporate[]” or “related back” to its original reports dated November 2018. *See* Pls’ Eagar Opp. (Doc. No. 159) at 9 n.13.

For the reason that follow, I **grant** in part and **deny** in part Conagra’s motion.

a. Opinion 1 – “One in a Million” Probability Based on the Weibull analysis

Eagar opines that the probability of a PAM container venting at a pressure of 156 psi is “1 in a million.” Eagar Report (Doc. No. 155-1) at 10–11. Conagra argues that Eagar’s Weibull analysis¹⁶ does not rebut any specific opinion offered by its experts. “Conagra’s [experts] did not opine that PAM containers ‘do not ever’ vent below 180 psi It appears that [the] Plaintiffs retained [Eagar] to conduct his Weibull analysis after the hypotheses of their other experts proved invalid upon destructive testing and in an effort to refocus their theory of the case around statistical probability rather than proof of defect.” Def’s Mot. to Preclude Eagar (Doc. No. 155) at 11. Conagra also argues that Eagar’s first opinion is inadmissible under Rule 702 because his Weibull analysis evaluates PAM cans generally and does not address the subject can.

Conagra is correct that Eagar’s first opinion addresses Conagra’s opinions disclosed in November 2018, but not July 2019. Shipley, one of Conagra’s experts, noted in his November 19, 2018 report that “assuming a normal distribution, the odds of *a can* buckling at a pressure less than 162 psi . . . are estimated at 1 in a billion.” Shipley Report (Doc. No. 159-3) at 14 (emphasis added). Eagar’s Weibull analysis directly refutes that conclusion and would also “assist the trier of fact” to determine the probability that a PAM can vents under 180 psi. Although Eagar was timely disclosed as a rebuttal expert under Rule 26, his Weibull Analysis does not appear to directly refute opinions rendered by Conagra’s experts in their July 19, 2019 supplemental reports.

Despite the Plaintiffs’ tardiness, the *Scientific Components* factors do not warrant full preclusion. Although the Plaintiffs deny that they violated the discovery order, Defendants have

¹⁶ A Weibull distribution predicts the probability of outlier events and can predict the probability of infrequent events such as a Pam Can venting at pressures below the intended pressure. See Eagar Report at 2.

not persuasively shown how Conagra is prejudiced if Opinion 1 is admitted. Therefore, I **deny** the motion regarding Opinion 1.

b. Opinion 2 – There is “Little Scientific Value” in Analyzing Potential Alternative Causes (the “Fishbone” Diagram)

In his second opinion, Eagar identifies a list of twenty-three factors that may have caused the subject can to buckle and vent and noted that there is “little scientific value” in addressing each alternative cause. *See* Eagar Report (Doc. No. 155-1) at 13–14. Conagra cites Eagar’s deposition testimony to argue that Opinion 2 is not proper rebuttal evidence. *See* Eagar Dep. (Doc. No. 155-1) at 115 (“Q: And you say [that there are a number of factors that may have caused the can to vent] in rebuttal to a statement made by Dr. Easley? A: It’s actually not really rebuttal. I’m not refuting what she says. I’m sort of agreeing with her.”). Conagra also argues that under Rule 702, Eagar’s opinion is inadmissible because he “performed no testing or analysis to . . . rule out all [other] potential causes.” Def’s Mot. to Preclude Eagar (Doc. No. 155) at 14 (emphasis omitted).

Here, Conagra’s argument fails because it takes Eagar’s testimony out of context. In his report, Easley stated that “[t]here are many factors that control the venting pressure of a ‘759 Patent aerosol container. There is little scientific value in quantifying each of these separately since there are multiple factors and multiple interactions between these factors.” Eagar Report (Doc. No. 155-1) at 13. Eagar renders that opinion in direct response to Easley, who opined in her supplemental report that “[a] number of factors directly influence the pressure at which the bottom of the can will buckle and ultimately vent.” Easley Supp. Report at 5. Because Eagar appears to be directly responding to Easley’s assumption that there was no “manufacturing defect” with respect to the subject can, I **deny** Conagra’s motion regarding Opinion 2.

- c. Opinions 3, 8, and 9 – The use of vents forecloses a “Controlled Release”; constitutes a “Design Defect”; and is “Indistinguishable from Bursting”

Eagar also opines that the “[v]enting of the container with the U-shaped notches does not produce a controlled release of the product” (Opinion 3); that the use of vents has “no measurable benefit” and is “less safe” than other designs (Opinion 8); and that a “burst” and a “vent” are indistinguishable (Opinion 9). Eagar Report (Doc. No. 155-1) at 15, 25–26, 28. Conagra correctly notes that Opinion 8 is duplicative of opinions previously rendered by Hendrickson in October 2018. *See, e.g.*, Addendum to Hendrickson Am. Report (Doc. No. 165-2) at Op. 16 (PAM cans are defective because they are “‘vented cans’ . . . containing the propellant A-70.”). Opinions 3 and 9, however, both rebut an opinion rendered by a Conagra expert in July 2019. Shipley opines in his July 2019 report that “[t]he contour of the subject bottom indicate[] that it buckled completely and vented *as would be expected* due to an internal pressure of 180 psi or more.” Shipley Report at 2 (emphasis added). Eagar’s opinion that a “burst” and a “vent” are indistinguishable directly refutes that reasoning.

For those reasons, I **grant** Conagra’s motion with respect to Opinion 8. It is nearly identical to Hendrickson’s opinions presented in October 2018. “Rebuttal evidence is confined to new matters adduced by the defense and not to repetition of the plaintiff’s theory of the case.” *See Brune v. Time Warner Entm’t Co., L.P.*, 2004 WL 2884611, at *2 (S.D.N.Y. Dec. 14, 2004). Conversely, I **deny** the motion regarding Opinions 3 and 9 because they directly address Shipley’s July 2019 opinions.

- d. Opinion 4 – The Can is a “Manufacturing Defect”

Eagar’s fourth opinion is that “[t]here [is] substantial evidence that the Schmidt/Meyer container was not manufactured to [Conagra’s] specified tolerances.” Eagar Report (Doc. No. 155-1) at 18. As noted above, Eagar reaches that conclusion after taking microscopic

measurements of the coarseness and thickness of the subject can and comparing those measurements to an exemplar can. Conagra argues that Eager's fourth opinion is "another improper attempt to bolster the opinions of [Hendrickson's] report from nearly a year earlier." Def's Mot. to Preclude Eager (Doc. No. 155) at 20.

Here, Eager's fourth opinion is proper under Rule 26. Eager's opinion was rendered after destructive testing of the subject can. His conclusion directly contradicts Easley's opinion that the subject can did not contain a manufacturing defect. Eager's testimony, however, is more vulnerable under Rule 702. Eager does not appear to identify any facts or data to explain how the variances may have been caused by the combustion of the can during the fire, rather than a mistake in the manufacturing process.

Therefore, I **grant** the motion regarding Opinion 4.

e. Opinion 5 – "Insufficient Sample"

Eager's fifth opinion is that "[t]esting some properties of 3 or 4 containers is an insufficient sample to determine the probability of venting or the variability in 100,000,000 containers." Eager Report (Doc. No. 155-1) at 21. Conagra argues that Eager's opinion does not address any of the opinions identified in Conagra's experts' reports disclosed in July 2019. The Plaintiffs respond that Eager's fifth opinion refutes Easley's methodology supporting her July 2019 report. "Eager rebuts [Easley's] methodology and the conclusions reached from it by referencing his own statistical analysis, which provides an objective and undisputed probability regarding the number of defective cans and the likelihood that any will be defective, including the subject one." Pls' Opp. (Doc. No. 159) at 22.

I agree with the Plaintiffs. Eager's fifth opinion directly addresses Easley's methodology (that entails comparing microscopic images of (1) the subject can, (2) a vented exemplar can, and

(3) an unvented exemplar can). *See* Easley Supp. Report at 22 (“Representative images of the microstructure of the cross-section of the bottoms for the unvented exemplar, vented exemplar, and subject cans are shown in Figure 18. No differences in the microstructure between the three cans were observed.”). Moreover, in its motion, Conagra does not provide any facts to support its Rule 702 argument other than conclusory statements that Opinion 5 “will do nothing to bring the jury closer to the truth” and that Opinion 5 contradicts Eagar’s Weibull Analysis. Def’s Mot. to Preclude Eagar at 22.

I therefore **deny** the motion regarding Opinion 5.

f. Opinion 6 – “The Bucking/Venting Process”

With his sixth opinion, Eagar asserts that “[b]uckling of the bottom dome precedes the fracture of the U-shaped grooves and venting. Fracture of the grooves and venting are not independent events distinguishable from the buckling process.” Eagar Report (Doc. No. 155-1) at 21. Conagra agrees, but moves to preclude because it contends that Eagar’s opinion is not proper rebuttal. *See* Def’s Mot. to Preclude Eagar (Doc. No. 155) at 23.

In his June 2019 report, however, Conagra expert Shipley opines that “[i]t is understood that the bottom of an aerosol can with the vent feature will evert (buckle) before the vents open.” Shipley Report (Doc. No. 155-1) at 2. Because Eagar’s opinion that the buckling and venting of the vented cans could happen independently refutes Shipley opinion, I **deny** the motion with respect to Opinion 6.

g. Opinion 7 – “A Flash Fire Occurred First”

With his seventh opinion, Eagar asserts that “[t]here was both a flash fire and a sustained fire at the Schmidt [Meyer] home. There is sufficient evidence that the flash fire occurred first.” Eagar Report (Doc. No. 155-1) at 23. First, Conagra moves to preclude that opinion because it

does not rebut an opinion of a Conagra expert. “[Eagar] mistakenly claims Opinion 7 rebuts Dr. Ogle’s supplemental report from July 2019. But nowhere in Dr. Ogle’s supplemental report does he indicate that ‘[t]he fire damage indicate[s] the occurrence of a sustained fire not a flash fire.’” Def’s Mot. to Preclude Eagar at 23 (quoting Eagar Report at 23). Second, Conagra argues that Eagar’s seventh opinion should be precluded under FRE 702 because Eagar is a metallurgist and not a fire investigator. “[Eagar’s] conclusory opinion regarding the cause of the incident fire should be excluded because an expert must ‘stay within the reasonable confines of his subject area’ and may not stray to ‘an entirely different field or discipline.’” *Id.* at 24 (quoting *Lappe v. Am. Honda Motor Co.*, 857 F. Supp. 222, 227 (N.D.N.Y. 1994)).

In response, the Plaintiffs argue that Eagar’s opinion “rebutts Dr. Ogle’s general conclusion that the cause of the fire cannot be determined and that the evidence shows a [sustained] fire, not a flash fire.” Pls’ Opp. to Mot. to Preclude Eagar (Doc. No. 159) at 22–23 (internal quotation marks and citations omitted). In addition, the Plaintiffs contend that Eagar bases his conclusion on “his analysis of the scientific principles involved as well as the Duran Video.^[17]” *Id.* at 22.

Although Eagar’s seventh opinion qualifies as rebuttal evidence, I agree with Conagra that the opinion should be excluded under Rule 702. In his report, Eagar bases his conclusion in part on the Duran Video, which captures a flash fire that occurred in a commercial kitchen in Houston, Texas. “Anyone seeing the [Duran] video from which Figure 6 of this report was taken, would agree that that event was a flash fire.” Eagar Report (Doc. No. 155-1) at 23. As discussed above, the Plaintiffs have not provided any evidence to establish that the fire captured in the Duran Video involved the same product used by Schmidt and Meyer. Moreover, I agree

¹⁷ The Duran Video is the basis for Eagar’s Tenth opinion discussed *infra*.

with Conagra that Eager is not qualified to testify about the origin of the fire. Although he is undoubtedly qualified to testify about Metallurgy, he bases his opinion on the Plaintiffs' description of the incident and not on any specific Metallurgic scientific principles. "Anyone reading the Plaintiff's [sic] description of the fire that injured [Schmidt and Meyer] would agree that they describe a flash fire, not a slowly progressing structural fire." Eager Report (Doc. No. 155-1) at 24.

Accordingly, I **grant** Conagra's motion regarding Opinion 7.

h. Opinion 10 – "An Event from Houston, Texas [the Duran Video]"

With his tenth opinion, Eager states that "[t]he Duran container venting is substantially similar to the Schmidt/Meyer container venting." Eager Report at 28. To support that opinion, Eager notes *inter alia* that, the "Duran container has the U-shaped vents manufactured by DS Containers and held cooking spray" and that "[t]here are no heat sources within several inches of the shelf upon which the container sat before and after the flash fire occurred." *Id.* at 28–29.

Eager provides no citations in his report for those claims other than a picture of the bottom of the can. As Conagra correctly notes, there is no evidence that the Duran can contained PAM cooking spray. *See* Def's Mot. to Preclude Eager at 25. Nor, as I explained above, is there any evidence that the Duran can was located or used in the same manner as this case. *Id.* Where a similar incident is "offered to prove causation, courts tend to consider multiple factors—namely, whether '(1) the products are similar; (2) the alleged defect is similar; (3) causation related to the defect in the other incidents; and (4) exclusion of all reasonable secondary explanations for the cause of the other incidents.'" *In re Gen. Motors LLC Ignition Switch Litig.*, 2017 WL 2493143, at *6 (citation omitted). Here, the Plaintiffs have not provided any evidence to establish those factors.

Therefore, I **grant** Conagra's motion under FRE 402 and FRE 702.

2. *Motion to Preclude Gregory Cahanin (Doc. No. 164)*

Conagra also moves to preclude Gregory Cahanin, the Plaintiffs' fire origin expert, who opines that the subject PAM can was the origin of the May 13, 2013 kitchen fire. Conagra argues that Cahanin's opinions are inadmissible for two main reasons. First, according to Conagra, Cahanin failed to follow the "scientific method" because he reached his conclusion before eliminating other possible causes of the fire. *See* Def's Mot. to Preclude Cahanin at 1. Second, Cahanin bases his opinions on incorrect factual assumptions. *Id.* Conagra also moves to preclude Cahanin's fourth opinion, in which he opines that "[t]here is no evidence that the manufacturer considered in product development any level of safety for use of PAM in kitchens by consumers." Cahanin Report (Doc. No. 164-2) at 13.

For the reason stated below, I **grant** in part and **deny** in part Conagra's motion.

a. Cahanin's Opinion that the Origin of the Fire was PAM Container is Admissible Under FRE 702.

First, Conagra argues that Cahanin reached his opinion regarding the origin of the fire without following his stated methodology. In his deposition, Cahanin describes his methodology as follows: "my conclusion is based upon NFPA 921 and [the] scientific method looking at the other things that are available to ignite and explode and eliminating any of those potentially that the only source that's available to have caused the explosion and the residue, debris . . . that is after the fire is the can of PAM." Cahanin Dep. (Doc. No. 164-2) at 27.

In its motion, Conagra contends that Cahanin failed to follow his own methodology. "Most significantly, [in his original report] he failed to consider, evaluate, or eliminate the most obvious potential cause of the fire, which was a grease fire from spilling or dripping of any one

of numerous sources of oil in the vicinity.” Def’s Mot. to Preclude Cahanin (Doc. No. 164-1) at 13. Because of that omission, Conagra moves to exclude Cahanin’s opinions under FRE 702. *See id.* at 14. It relies on *Amorgianos v. Nat’l R.R. Passenger Corp.*, as support, a Second Circuit opinion that affirmed a district court’s exclusion of an expert witness’s testimony because “[his] opinion rested on a faulty assumption due to his failure to apply his stated methodology reliably to the facts of the case.” 303 F.3d 256, 269 (2d Cir. 2002) (internal quotations omitted).

In response, the Plaintiffs note that Cahanin adhered to the generally accepted methodology set forth in the National Fire Protection Association’s Guide for Fire Investigations (“NFPA 921”) when performing his investigation of the May 13, 2013 fire. As Cahanin describes in his report, that methodology “breaks the analysis of this fire/explosion event into two distinct categories. First, the actions of the occupants present that did or did not impact the fire outcome. Second, the environment in which the fire/explosion occurred that includes the materials present in the room and the materials available to burn.” Cahanin Report (Doc. No. 164-2) at 9.

I find Conagra’s argument unavailing. Conagra’s primary criticism of Cahanin’s investigation is that he failed to consider the possibility that Schmidt and Meyer’s deep frying caused the fire instead of a PAM spray can. After reviewing Cahanin’s report, he clearly addressed that possibility. For example, he notes that Schmidt and Meyer’s description of the incident was not consistent with a grease (or oil) fire. “In their description of the events leading up to the fire/explosion [Meyer] and [Schmidt] do not report smoking of the oil that would point to overheating of the cooking oil and its possible auto ignition at some later point.” *Id.* at 10. Moreover, he opines that there was no indication that Schmidt and Meyer overheated the oil in the pan to above 350 degrees. “[The Plaintiffs’] observations from statements and cooking

knowledge kept the cooking oil in the pan at or below 350 degrees. The oil's auto-ignition temperature was in the 580 to 620 degrees F range and not being achieved as a part of their cooking efforts on the stovetop. The oil in the pan did not cause the fire/explosion." *Id.* To the extent that Conagra argues that Cahanin's report is inadmissible because he did not personally visit the fire scene, that requirement is not mandated by NFPA 921.¹⁸

Next, Conagra argues that Cahanin's opinion is not supported by sufficient facts or data. First, Conagra attacks Cahanin's conclusion that the auto-ignition of the cooking oil in the pan was not the origin of the fire. He bases that conclusion primarily on Schmidt and Meyer's description of the fire. *See, e.g.*, Cahanin Report (Doc. No. 164-2) at 10 ("[Meyer] and [Schmidt] do not report smoking of the oil that would point to overheating of the cooking oil."). Contrary to Cahanin's assertions, Conagra argues that there are facts in the record to establish that the Plaintiffs did recall seeing smoke "from the area around the stove" at the start of the fire. Schmidt Dep. (Doc. No. 164-2) at 83. In addition, Conagra contends that Schmidt and Meyer's cooking ability is irrelevant and that he failed to consider facts from the Plaintiffs' testimony suggesting that there may have been a "pan fire." *See* Def's Mot. to Preclude Cahanin at 19.

Although Conagra may disagree about how Cahanin characterizes the facts in his report, its contentions do not provide a basis for preclusion under FRE 702. As noted above, there is sufficient evidence in the recording supporting the theory that a PAM can at least was involved with the start of the fire. That evidence includes Schmidt and Meyer's testimony, photos of burn

¹⁸ The NFPA 921 guide provides that the scientific method is the systematic approach recommended in fire investigation and defines the scientific method as containing the following six steps: (1) recognizing the need for investigation; (2) defining the problem; (3) collecting data; (4) analyzing the data; (5) developing a hypothesis; and (6) testing the hypothesis through deductive reasoning. *Wargo v. Warden*, 2011 WL 522858, at *11 (Conn. Super. Ct. Jan. 20, 2011).

patterns from the scene, and the Washington Fire Marshal's investigative report. Even if Cahanin's recitation of the facts fails to incorporate all of the Plaintiffs' testimony, "[a] minor flaw in an expert's reasoning or a slight modification of an otherwise reliable method will not render an expert's opinion *per se* inadmissible. The judge should only exclude the evidence if the flaw is large enough that the expert lacks good grounds for [his] conclusions." *Amorgianos*, 303 F.3d at 267 (citations and quotation marks omitted). I have no doubt that Cahanin will be subject to vigorous cross-examination, but the flaws relied upon by Conagra do not justify excluding his opinion.

For the reasons stated above, I **deny** Conagra's motion with regards to Cahanin's fire origin opinion.

b. Cahanin's Fourth Opinion is Precluded.

Cahanin's fourth opinion in his fire origin report provides:

ConAgra in their can selection process gave over their entire focus to meeting national DOT safe transportation requirements and warehousing requirements in NFPA 30B. ConAgra in Safety Data Sheets for the PAM product classify it as highly and extremely flammable in relation to DOT transportation of PAM. ConAgra in warning consumers about product safety use only state the product is flammable. There is no evidence that the manufacturer considered in product development any level of safety for use of PAM in kitchens by consumers.

Cahanin Report (Doc. No. 164-2) at 13.

Conagra moves to preclude that opinion for three reasons. First, Cahanin, as a fire investigator, is not qualified to offer it. *See* Def's Mot. to Preclude Cahanin (Doc. No. 164-1) at 21. Second, to the extent Cahanin's opinion is meant to be a factual statement, witnesses may not "simply transmit hearsay to the jury" without applying any expertise. *Id.* at 21–22. Third, opinion four is not relevant to the case and would unfairly prejudice Conagra under FRE 402 and FRE 403. *Id.* at 22.

I agree. As a “Fire Protection Engineer,” Cahanin is clearly qualified to provide opinions regarding the cause or origin a fire. *See* Cahanin Report (Doc. No. 164-2) at 1. He is not, however, qualified to opine on any alleged manufacturing or design defects concerning the subject PAM can. Even if he was qualified, he provides no methodology or facts in his report to support opinion four. Therefore, I **grant** Conagra’s motion regarding Opinion 4.

3. *Motion to Preclude Lester Hendrickson (Doc. No. 165)*

Next, Conagra moves to exclude all twenty-five opinions of Lester Hendrickson, the Plaintiffs’ metallurgist, who provides opinions to support the Plaintiffs’ manufacturing defect and design defect claims.

For the reasons that follow, I **grant** in part and **deny** in part the motion.

a. Hendrickson’s Cooking Simulation Tests are Inadmissible Under FRE 702.

First, Conagra moves to preclude Hendrickson’s opinion that the subject can vented at a pressure below 180 psi. Hendrickson concludes that the subject can “released its contents . . . due to premature opening of the vents at a temperature less than 130°F.” Addendum to Hendrickson Am. Report, at 26. To reach that conclusion, Hendrickson first relies on the results of his PAM can cooking simulation discussed above. *Id.* “[C]ooking simulation tests have shown that the subject can will release its highly flammable and combustible contents at a temperature and pressure much less than the can is designed to do.” Hendrickson Am. Report at 17.

As Conagra correctly notes, however, Hendrickson *depressurized* the PAM cans used in the test *before* he began the cooking simulation. *See* Def’s Mot. to Preclude Hendrickson at 13. “To eliminate any potential for a pressurized explosion, each [testing] can was turned and the propellant was expelled until flow stopped During the cooking simulation, [the vents] were

closed with wood plugs.” Hendrickson Am. Report (Doc. No. 165-2) at 11. Therefore, a conclusion that the subject can “released its contents” before a certain temperature based on the cooking simulation is not a “scientifically valid” methodology that “can be applied to the facts in issue.” *Daubert*, 509 U.S. at 592–93.

Accordingly, I **grant** Conagra’s motion regarding the cooking simulation.¹⁹

b. Hendrickson’s FEA Model is Admissible Under FRE 702.

Next, Conagra moves to preclude Hendrickson’s FEA computer model that he uses to explain how the subject can could have vented below 180 psi due to a manufacturing defect in the can’s bottom. Hendrickson’s report provides, in relevant part:

Finite Element Analysis is a universally accepted method utilizing computer modeling to relate forces and pressure acting on objects of complex shapes to stresses in the metal (or other material) from which the object is made. The objective of the FEA performed here was to allow the most critical properties of the metal, i.e. [its] thickness The results of the FEA analysis show conclusively that reasonable variations in the dimensions of the thickness of the bottom dome, and in the yield strength of the steel sheet, result in significant reductions in the critical pressure below the minimum value of design pressure of 180 psig, which makes the resulting canister defective in design.

Hendrickson Am. Report at 23–24.

Conagra attacks Hendrickson’s FEA analysis in three respects: (1) Hendrickson is not qualified to build an FEA model; (2) his FEA model does not show the subject can venting below 105°F; and (3) the actual measurements of the can contradict Hendrickson’s conclusions.

See Def’s Mot. to Preclude Hendrickson at 14–15.

¹⁹ In their opposition, the Plaintiffs argue that the cooking simulation “showed generally that it is not possible to heat a can of Conagra cooking spray to the point where its internal pressure exceeds 180 psig if a can, as in this case, is more than two inches from a burner and on a separate surface.” Pls’ Opp. to Def’s Mot. to Preclude Hendrickson (Doc. No. 185) at 4. Although true, it is also evidence that a can of Conagra cooking spray was *not* improperly designed.

First, Hendrickson need not be a mathematician to rely on a statistical model. “Where an expert has the education or background to permit him to analyze a given set of circumstances, he can through reading, calculations, and reasoning from *known scientific principles* make himself very much an expert in the particular product even though he has not had actual experience in its manufacture.” *Lara v. Delta Int’l Machinery Corp.*, 174 F. Supp. 3d 719, 730 (E.D.N.Y. 2016) (internal quotation marks and citations omitted) (emphasis added). Conagra does not challenge the reliability of an FEA model in their motion. It is appropriate for Hendrickson to rely on a third party to perform the actual FEA analysis.

Second, as the Plaintiffs note, Hendrickson’s model is not used to predict the precise temperature at which the subject can may have vented. *See* Pl’s Opp. to Def’s Mot. to Preclude Hendrickson at 22–24. Instead, it is used to establish that there could be variations in thickness at the bottom of the subject can.

Third, the actual measurements of the subject can do not render Hendrickson’s opinions inadmissible. Although the direct measurements of the can may undercut the Plaintiffs’ manufacturing defect claims, they do not preclude Hendricks’s testimony. As Conagra concedes, “[n]ot every single measurement [of the subject can] was within specification.”²⁰ Def’s Mot. to Preclude Hendrickson (Doc. No. 165-1) at 15. Hendrickson’s FEA model is a reliable method to explain any variance. *See Daubert*, 509 U.S. at 597.

For those reasons, I **deny** Conagra’s motion regarding Hendrickson’s FEA model.

²⁰ Conagra claims that only two out of the approximately fifty measurements taken were out of specification. *See* Pl’s Opp. to Def’s Mot. to Preclude Hendrickson at 20. The Plaintiffs respond that, in reality, 16 out of the 50 measurements of thickness on the bottom of the Subject Can were below tolerance. *Id.*

c. Hendrickson’s Design Defect Opinions are Admissible Under FRE 702.

Next, Conagra attacks Hendrickson’s design defect opinions. Hendrickson opines that the vents themselves are “defects” in the can and that Conagra failed to consider a “factor of safety” when designing the PAM spray can. *See* Hendrickson Dep. at 42–43, 133. Conagra moves to preclude those opinions because (1) Hendrickson is not qualified to make them, (2) his testimony will not assist the trier of facts, and (3) his opinions are not supported by facts or analysis. *See* Def’s Mot. to Preclude Hendrickson (Doc. No. 165-1) at 18–19.

First, Hendrickson is qualified to offer opinions in support of the Plaintiffs’ design defect claims. Although Hendrickson is not currently “a professional engineer,” *see id.* at 17, he previously served as “chairman of the Materials Science and Engineering faculty for twenty-seven years” at Arizona State University. Hendrickson Am. Report (Doc. No. 165-2) at 1. After his tenure at ASU, he became a “Forensic Engineering Consultant,” and has been involved in over a thousand investigations. *Id.* at 2. Hendrickson is qualified to offer an expert opinion regarding the engineering and design of an aerosol can.

Next, Hendrickson’s design defect opinions will assist the trier of fact. Conagra attempts to conflate Hendrickson’s manufacturing defect opinions with his design defect opinions. Conagra focuses its argument on a single portion of Hendrickson’s opinion, which provides that “absent a manufacturing defect . . . the subject PAM can in either the Coello or the Schmidt/Meyers incident would have safely retained their explosive contents.” Hendrickson Am. Report (Doc. No. 165-2) at 26. On the very same page, however, Hendrickson also stated that “[i]t my opinion that *a combination of defects* were the root cause of the explosion under the circumstances that transpired in either the Coello or the Schmidt/Meyer events.” *Id.* (emphasis added). Hendrickson’s slightly inconsistent statement does not render his entire testimony inadmissible.

Third, Hendrickson's design defect opinions are supported by facts and analysis. Conagra argues that Hendrickson's "vague" opinions that the PAM product would be safer if a different propellant were used are not based on any supporting facts. Def's Mot. to Preclude Hendrickson (Doc. No. 165-1) at 20. In his report, however, Hendrickson relies on several facts to support his alternative design theories, including Conagra's *own* models. *See, e.g.*, Hendrickson Dep. (Doc. No. 165-2) at 210 (Q: Do you have an opinion as to what an alternative propellant should be? A: Use the one [Conagra] used before 2011. [Conagra] could use Nitrous oxide. [Conagra] could use a non-flammable propellant that's a lot more expensive, but it's not flammable.").

For the reasons stated above, I **deny** Conagra's motion regarding Hendrickson's design defect opinions.

d. Hendrickson's Opinions Regarding 49 C.F.R. § 173.306 Is Excluded.

Lastly, Conagra moves to preclude Hendrickson from mentioning any DOT regulation because they are irrelevant in this case. As discussed above, I agree with Conagra. DOT Regulation 49 C.F.R. § 173.306 applies to hazardous materials in transit. It is not a consumer protection regulation. If introduced at trial it has the potential to unfairly prejudice Conagra and mislead or confuse the jury. Accordingly, I **grant** Conagra's motion precluding Hendrickson from mentioning that Conagra was in violation of a DOT regulation under FRE 403.

4. *Motion to Preclude Mitra Taheri (Doc. No. 166)*

Conagra also moves to preclude Mitra Taheri's testimony. In her report, Taheri creates a mathematical model, based in part on "fracture mechanics," to conclude that "the temperature at the [subject] can due to heat transfer from the stove was less than 120 degrees Fahrenheit" when it vented. Taheri Report (Doc. No. 166-2) at 6. To reach that conclusion, Taheri analyzes data

points from the Plaintiffs’ testimony, documents describing the design of the can, and other expert testimony presented in this case. *See id.* at 4. Taheri uses two sets of calculations to formulate her opinions. First, she uses a fracture mechanics model to identify “the expected pressure when the aerosol can will begin to vent,” and then she uses a “heat transfer” calculation to estimate the internal temperature of the subject can before it vented. *Id.* at 4–6.

In its motion, Conagra moves to preclude Taheri’s opinions for the following reasons:

(1) Taheri is not qualified to offer an opinion in fracture mechanics; and (2) Taheri’s opinions are not supported by sufficient facts or data and are therefore speculative.

For the reasons stated below, I **deny** Conagra’s motion in its entirety.

a. Taheri is Qualified to Testify.

The crux of Conagra’s motion is that Taheri is not qualified to offer her opinions because she stated in her deposition that she is “not an expert in fracture mechanics.” Def’s Mot. to Preclude Taheri (Doc. No. 166-1) at 8. “[Taheri] is not qualified to offer expert opinions or testimony regarding fracture mechanics analysis — which is the entire field of science behind her conclusions.” *Id.* That argument misconstrues Taheri’s analysis and her deposition testimony. Fracture mechanics analysis is a small subset of material science and engineering. Taheri testified that although she would not consider herself “an expert in [the sub-specialty field of] fracture mechanics,” she is “a common user of fracture mechanics and [is] educated through the doctoral level in fracture mechanics.” Taheri Dep. (Doc. No. 166-2) at 27–28. She further testified that, in her report, she used the “typical governing fracture mechanics equations that would be used often by material scientists.” *See id.* at 97–98. Here, Conagra does not challenge Taheri’s credentials regarding her material science background.

Like Hendrickson, Taheri need not be an expert with respect to a specific mathematical model in order to rely on that model in her report. *See Lara*, 174 F. Supp. at 730. Accordingly, I **deny** Conagra's motion regarding Taheri's qualifications.

b. Taheri Opinions are Admissible Under FRE 702.

Conagra also argues that Taheri's opinions are unreliable and should be excluded under FRE 702. Conagra's main contention is that Taheri considers the "vents" at the bottom of PAM spray cans to be "cracks." *See Def's Mot. to Preclude Taheri* at 9. Conagra contends that Taheri's analysis is therefore "fundamentally flawed." *Id.* at 9. "[Taheri's] opinions are inadmissible because she cannot defend her threshold observation that the U-shaped scores on the bottom of the can constitute cracks as that term is applied to fracture mechanics." *Id.* at 10. (emphasis omitted).

In addition, Conagra moves to preclude Taheri's opinions because she is unable to defend her "speculative" opinions. "[Taheri's] opinion is irrelevant because it is speculative — it is simply inviting the jury to speculate without any guidance as to the probability." *Id.* at 12.

However, whether Taheri can defend her opinions goes to credibility and not admissibility. That decision is for the trier of fact, not Conagra, to decide. *See Perkins v. Origin Medsystems, Inc.*, 299 F. Supp. 2d 45, 62 (D. Conn. 2004) ("[d]isputes as to the strength of . . . [her] use of differential etiology as a methodology . . . go to the weight, not the admissibility, of [her] testimony.").

Therefore, I **deny** Conagra's motion on that ground.

5. *Motion to Preclude William Kitzes (Doc. No. 167)*

Lastly, Conagra moves to preclude the testimony of William Kitzes, the Plaintiffs' warning label expert. In his report, Kitzes opines that Conagra "failed to act as a reasonably

prudent manufacturer” by failing to protect users “from the catastrophic risk of fire and explosion under [the] reasonably foreseeable” use of PAM cooking spray. Kitzes Report (Doc. No. 167-2) at 46. He renders ten opinions in total. *Id.* at 45–46.

Conagra argues that Kitzes’s opinions are inadmissible because: (1) Kitzes is not qualified to serve as a “consumer safety” expert, (2) his opinions are not based on a reliable methodology, and (3) his opinions are irrelevant and will not assist the trier of fact.

For the reasons stated below, I agree with Conagra that Kitzes fails to employ any reliable methodology. In addition, Kitzes admits that any reliance on DOT regulation 49 C.F.R. § 173.306 is irrelevant. As a result, I **grant** Conagra’s motion.

a. Kitzes is Qualified to Testify.

Like most of the Plaintiffs’ experts, Conagra focuses its initial attack on Kitzes’s qualifications. “Kitzes has no relevant education or experience. He has never worked on a case involving food products and food labels. And he has never done research on, or published peer-reviewed articles on the adequacy of labels on consumer food products.” Def’s Mot. to Preclude Kitzes (Doc. No. 167-1) at 12 (citation omitted).

Kitzes has over thirty years in the consumer product safety arena. *See* Kitzes Report (Doc. No. 167-2) at 5. From 1974 to 1981, he worked at the U.S. Consumer Product Safety Commission (“CPSC”), part of which time included being the Legal Advisor to the Director of the Office of Product Defect Identification. *Id.* He is a Board-Certified Product Safety Manager and Hazard Control Manager and received a Certificate in Risk Communication from the Harvard School of Public Health. *Id.*

As the Plaintiffs correctly note, an expert need not have a scientific background or a specific degree to qualify as an expert under FRE 702. “Some types of expert testimony will not

rely on anything like a scientific method, and so will have to be evaluated by reference to other standard principles attendant to the particular area of expertise.” Fed. R. Evid. 702 advisory committee’s notes to 2000 amendments. In his report, Kitzes applies his knowledge from working at CPSC to the facts of this case. Neither his lack of an advance degree in engineering nor his lack of experience with aerosol can labels warrants full preclusion.

b. Kitzes’s Opinions Are Excluded Under FRE 702.

Notwithstanding his qualifications, Kitzes does not mention or rely on any type of methodology in his report. He simply lists various regulations authorized by the Federal Hazardous Substances Act and notes that Conagra failed to comply because its can could vent at a pressure less than 180 psi. *See, e.g.*, Kitzes Report (Doc. No. 167-2) at 40 (“ConAgra failed to comply with Section 15 of the CPSA and the regulations at 16 CFR 1115 by failing to report to the CPSC knowledge that vented 2Q aerosol cans of PAM Original cooking oil spray contain a defect which ‘could create’ a substantial product hazard.”). Among those various regulations includes 49 C.F.R. § 173.306, which Kitzes admits in his report does not address consumer protection. “While the DOT regulations at 49 CFR 173.306 govern the shipping and transportation of aerosol cans, *they do not address the risk of injury to consumers.*” *Id.* at 33 (emphasis added).

Kitzes does not explain how other similar cooking spray cans comply with those various regulations. As Conagra indicates, his report does not mention how potential consumers understand and react to certain labels. Moreover, many of the regulations he relies on are voluntary.

Q. Can you give some examples of food products sold in the United States that comply with ANSI Z535.4?

A. Well, any food product that’s also a consumer product would have to comply.

Q. Can you think of any?

A. Not off the top of my head.

Q. Okay. And you mentioned that these standards are voluntary, right?

A. Yes, ma'am.

Q. And the CPSC did not require it, right?

A. Well, it depends. The CPSC uses it as the basis of warnings that come with recalls.

Q. Okay. But the CPSC hasn't . . . adopted this standard, right?

A. No.

Q. And FDA has not required it on food labels, right?

A. No.

Kitzes Dep. (Doc. No. 167-2) at 195; *see also* Kitzes Report (Doc. No. 167-2) at 46 (“Clearly, the labeling on the PAM Original cooking spray fails to meet the requirements of the industry developed *voluntary* ANSI Z535.4-2011.”) (emphasis added). As Conagra highlights, Kitzes’ methodology has been questioned before.

Even acknowledging that Kitzes has expertise in the field of “product safety management” and that such expertise is or could be relevant to some issue or issues raised in the case, there is insufficient information and analysis in Kitzes’s report to conclude that Kitzes employed a “reliable” methodology in reaching his “conclusions” such that his opinions are admissible. The “opinions” Kitzes purports to provide, set forth above, are not cogent (or cogently linked to the issues raised in the case) *and are not supported by any discernible rationale or methodology*. Kitzes, for example, does not substantively analyze any specific purported conduct (or omission) of Leatt or explain how Leatt’s conduct fell short of any safety management principle. Rather, Kitzes merely makes conclusory statements in his opinions that are devoid of any discernible analysis or methodology and states facts that the jury does not need his help or expertise to determine.

S.S. v. Leatt Corp, 2013 WL 3714142, at *18 (N.D. Ohio July 15, 2013) (emphasis added).

For the reasons stated above, I **grant** Conagra’s motion and exclude Kitzes’s opinions.

IV. Conclusion

For the reasons stated above, Conagra's motion for summary judgment (doc. no. 168) is **granted** regarding the Plaintiffs' manufacturing defect claims and design defect claims based on under-pressure venting; and **denied** regarding the Plaintiffs' design defect claims based on A-70 propellant and the Plaintiff's failure-to-warn claims.

In addition, as discussed above, I **grant** Conagra's motion to preclude William Kitzes (doc. no. 167); **grant** in part and **deny** in part Conagra's motions to preclude Thomas Eagar, Gregory Cahanin, and Lester Hendrickson (doc. nos. 154, 164, and 165), and **deny** Conagra's motion to preclude Mitra Taheri (doc. no. 166).

So ordered.

Dated at Bridgeport, Connecticut, this 30th day of November 2020.

/s/ STEFAN R. UNDERHILL
Stefan R. Underhill
United States District Judge