UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

TOWN OF WESTPORT, **Plaintiff,** **v.** **MONSANTO COMPANY et al.** **Defendants.**	**Civil Action No. 14-12041**

MEMORANDUM AND ORDER

CASPER, J. **April 7, 2017**

I. Introduction

Plaintiff Town of Westport ("Westport") has filed this lawsuit against Defendants Monsanto Company, Pharmacia Corporation and Solutia, Inc. (collectively "Pharmacia") alleging that one of its school buildings, Westport Middle School ("WMS"), was contaminated with polychlorinated biphenyls ("PCBs") that originated from plasticizers produced by Pharmacia. D. 1. Pharmacia has moved for summary judgment as to Westport's claims of breach of the implied warranty of merchantability for defective design (Count I), breach of the implied warranty of merchantability for failure to warn (Count II) and negligence (Count III). D. 205. Alternatively, Pharmacia has moved for partial summary judgment on Westport's claim of damages, asking that the Court limit Westport's damages to no more than the fair market value of WMS. D. 201. Lastly, both parties have filed numerous motions to exclude the expert reports and anticipated testimony of a number of proposed experts. D. 153; D. 155; D. 157; D. 158; D. 159; D. 164; D. 167; D. 170;

D. 173. For the reasons stated below, the Court ALLOWS the motion for summary judgment, D. 205, and DENIES the motion for partial summary judgment, D. 201, as moot. Furthermore, the Court DENIES the motions to exclude expert testimony as moot, D. 153; D. 155; D. 157; D. 158; D. 159; D. 164; D. 167; D. 170; D. 173.

II. Factual Background

Unless otherwise noted, the following undisputed material facts are drawn from the parties' statements of material facts and their responses. WMS was built in or about 1970. D. 207 ¶ 38; D. 212-1 ¶ 38. The construction specifications of WMS called for the use of caulk. D. 207 ¶¶ 38-39; D. 212-1 ¶¶ 38-39. While Pharmacia did not manufacture, formulate, sell or market caulk, it did sell chemical additives—called plasticizers—that were then used by intermediary distributors and product manufacturers (or "formulators") in their caulk formulations. D. 207 ¶ 9; D. 212-1 ¶ 9. One such formulator, Product Research & Chemical Corporation ("PRC"), supplied caulk to the contractors hired by Westport for the construction of WMS. D. 207 ¶¶ 15, 39; D. 212-1 ¶¶ 15, 39. Pharmacia did not determine the caulk formulation; this was instead determined exclusively by the formulators. D. 207 ¶ 10; D. 212-1 ¶ 10. Thus, while Pharmacia played a role in suggesting particular chemical compositions to formulators based on Pharmacia's own studies, the formulators ultimately determined the composition of the various interacting components that would make up the caulk—such as the base resin, fillers, plasticizers and other additives. Id. As such, caulk formulations—like the one supplied to the WMS contractors by PRC—were proprietary to their manufacturer. Id. ¶ 14; D. 212-1 ¶ 14.

Some Pharmacia plasticizers consisted of mixtures of PCBs, which are a class of 209 nonpolar chlorinated hydrocarbons with a biphenyl nucleus on which one to ten of the hydrogens have been replaced by chlorine. D. 207 ¶¶ 1, 3; D. 212-1 ¶¶ 1, 3. Commercial PCBs, like those

manufactured by Pharmacia, were sold as complex mixtures containing multiple PCB isomers (congeners) at different degrees of chlorination. D. 207 ¶ 1; D. 212-1 ¶ 1. The Pharmacia PCB-containing Aroclor numbers included but were not limited to 1248 and 1254. D. 207 ¶ 3; D. 212-1 ¶ 3. In 1970, in response to growing information regarding PCBs' environmental presence, Pharmacia began voluntarily phasing out the sale of PCBs for various applications, but continued to sell certain PCB-containing plasticizers after this date. D. 207 ¶ 7; D. 212-1 ¶ 7. Pharmacia ended the manufacture and sale of PCBs for all uses by 1977. D. 207 ¶ 8; D. 212-1 ¶ 8.

In 2010, Westport planned to replace multiple windows at WMS as a part of the Massachusetts State Building Authority's Green Repair Program. D. 207 ¶ 44; D. 212-1 ¶ 44. In furtherance of this project, Westport tested the WMS facility for potentially hazardous materials, including PCBs, on May 11, 2011. D. 207 ¶¶ 45-46, 48; D. 212-1 ¶¶ 45-46, 48. These tests identified PCBs in window glazing, exterior window caulking and interior door caulking throughout WMS. D. 207 ¶ 48; D. 212-1 ¶ 48. These PCBs were identified as Aroclor 1248 and Aroclor 1254. D. 212-1 ¶ 1; D. 229 ¶ 1. Westport then began a multimillion dollar PCB remediation project to remove all material containing PCBs from WMS. D. 207 ¶ 48; D. 212-1 ¶ 48.

III. Procedural History

Westport instituted this action on May 7, 2014. D. 1. Pharmacia filed a partial motion to dismiss on July 3, 2014. D. 22. The Court granted the motion and dismissed the claims alleging public nuisance (Count IV), private nuisance (Count V), trespass (Count VI) and violation of the Massachusetts Oil and Hazardous Material Release Prevention and Response Act, Mass. Gen. L. c. 21E §§ 5(a)(3)-(5) (Count VII). D. 44. After the Court denied the motion to dismiss, the parties proceeded with discovery. The claims for breach of warranty and negligence (Counts I-III) remain.

The Court heard the parties on the pending motions on March 8, 2017 and took these matters under advisement. D. 233.

IV. Motions to Exclude Expert Testimony

Pursuant to Federal Rule of Evidence 702, expert opinion is admissible if 1) "scientific, technical, or other specialized knowledge will help the trier of fact," 2) the expert is qualified "by knowledge, skill, experience, training, or education" to testify on that subject, 3) the expert's proposed testimony is based upon "sufficient facts or data," 4) that testimony is the product of "reliable principles and methods" and 5) the expert "reliably appl[ies] the principles and methods to the facts of the case." Fed. R. Evid. 702.

The trial judge is required to "ensur[e] that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 597 (1993). The trial judge has broad discretion to determine the reliability and relevance of an expert's proposed testimony. Hochen v. Bobst Grp., Inc., 290 F.3d 446, 452 (1st Cir. 2002).

Pharmacia challenges the admissibility of seven of Westport's proposed experts. Robert May, the president of Fuss & O'Neill EnviroScience, LLC—lead environmental consultant on the WMS PCBs remediation project—would opine that Westport followed a reasonable standard of care in its response to the discovery of PCBs at the WMS, including reasonably testing for PCBs and following reasonable and necessary steps in response to its discovery of PCB-containing building materials. D. 165-1 at 3-9. Ross Hartman, who previously worked for Triumvirate Environmental—a company responsible scraping and disposing of PCB-containing building material at WMS—would render an opinion as to the reasonableness of Westport's future estimated costs. D. 172-1 at 14-15. Michael Duarte, the head of maintenance and facilities for Westport Schools, would speak to the maintenance and repair of WMS and explain that the

maintenance of WMS was reasonable and all actions undertaken relating to cleaning, maintenance, renovations or repairs at WMS were properly and reasonably performed. D. 161-3. Dr. Jack Matson, an environmental and chemical engineer, would testify that: (1) Pharmacia knew that PCBs were known to cause systemic toxic effects resulting in physiological harm; (2) Pharmacia should have conducted tests to determine the PCB exposures likely to occur from the extended release of PCBs from polysulfide sealants and other building materials and toxic effects prior to producing and selling PCB-containing Aroclors as plasticizers for building materials; (3) Pharmacia should not have sold PCB-containing Aroclors as plasticizers for polysulfide sealants and other materials used in buildings; and (4) Pharmacia did not meet its corporate responsibilities to protect consumers, communities and the environment from dangers associated with exposure to PCBs. D. 156-1 at 13-14, 15, 25. Dr. James Olson, a former reviewer and consultant both to the Environmental Protection Agency and to the U.S. Public Health Service in evaluating the human health effects of PCBs, would testify that testify that: (1) PCBs pose a significant threat to human health; (2) Pharmacia knew from the 1930s that PCBs were toxic to humans and laboratory animals; (3) Pharmacia should have conducted more comprehensive, long-term studies of the toxicological effects of PCBs; and (4) had Pharmacia conducted these additional studies in the 1930's-60's, they would have found a wide range of cancer and non-cancer effects. D. 541-1 at 4. Robert Herrick, a certified industrial hygienist, would opine that Westport was reasonable in its decision to take actions to remove or otherwise remediate PCB contamination at WMS to provide maximum protection for those inside the school building. D. 160-1 at 5-6. He would also testify that Westport acted reasonable in deciding to remove or otherwise remediate sources of PCB contamination from WMS. Id. Finally, Franklin Dorman, an expert in gas chromatography, gas chromatography-mass spectrometry and analytical methodology for environmental forensics and

persistent organics analysis, would opine that Pharmacia had the ability to detect PCB volatilization from PCB products in the 1940s and 50s, even at low levels of concentration. D. 187-1 at 3, 7.

Westport challenges the admissibility of two of Defendants' experts. D. 157, 173. Maureen Reitman, a polymer scientist, would opine as to the chemical and physical properties of PCBs, the use of PCBs as plasticizers, the plasticizer business, the manufacturing process of formulators and the choices that formulators made with respect to choosing a suitable plasticizer. D. 173-2 at 17-24. Martin Barry, a certified industrial hygienist who provided an environmental and safety assessment of WMS and a review of the PCB sampling and analysis performed at WMS, would testify that the PCBs found in products at WMS were most likely not manufactured by Pharmacia. D. 157-2 at 5.

Having considered the motions to exclude, as well as the oppositions to same, the Court excludes Dr. Matson's opinions in its consideration of the summary judgment motion to the extent he opines that Pharmacia knew both that PCBs were toxic and that the volatilization of PCBs would contaminate indoor air. D. 156-1 at 13, 25. The Court does rely on the expert opinion of Westport's toxicologist Dr. James Olson regarding similar subjects. D. 154-1 at 6-13. Unlike Dr. Matson, however, Dr. Olson addresses what was known industry-wide regarding PCBs as opposed to what Pharmacia, itself, specifically knew at the time. For example, while Dr. Olson offers the opinion that "PCBs were known to cause adverse health effects as early as the 1930s and 1940s." D. 154-1 at 6, Dr. Matson's opinion concludes that "Monsanto produced and sold PCB-containing Aroclors as plasticizers for polysulfide sealants and other building materials . . . knowing that volatilization of PCBs would result in PCB contamination in indoor air, and did not inform its customers or the public of the dangers associated with products containing PCBs as plasticizers."

D. 156-1 at 13. Such testimony about Pharmacia's specific knowledge would not be admissible at trial. See In re Toyota Motor Corp. Unintended Acceleration Mktg., Sales Practices & Prods. Liab. Litig., 978 F. Supp. 2d 1053, 1087 (C.D. Cal. 2013) (explaining that "[Defendant's] knowledge (or lack thereof) is not a proper subject for expert testimony, and it must be established (if at all) by other evidence"). Similarly, Dr. Matson's opinions regarding Pharmacia's motivations, intentions and awareness of various issues are not a proper subject for expert testimony. Holmes Grp., Inc. v. RPS Prods., Inc., Civil Action No. 03-40146-FDS, 2010 WL 7867756, at *5 (D. Mass. June 25, 2010) (noting that "[a]n expert witness may not testify as to another person's intent . . . [n]o level of experience or expertise will make an expert witness a mind-reader").

To the extent that Westport seeks to introduce Duarte's testimony to suggest that the maintenance provided met a uniform standard of care, such testimony is excluded. Duarte's opinions regarding the reasonableness of Westport's actions do not appear to be based on any industry standards or state or federal regulations concerning PCBs or building maintenance. D. 190-1. Furthermore, Duarte acknowledged that he had not received training on certain state or federal regulations. Id. at 10. Without a specific standard, Duarte's testimony "could only be a subjective opinion on what [he] believed Defendants could have done rather than what industry or governmental standards require them to do." In re Prempro Prods. Liab. Litig., No. MDL C01507-WRW, 2010 WL 5663003, at *2 (E.D. Ark. Sep. 16, 2010). To the extent that the record contains Duarte's percipient testimony, rather than Duarte's expert opinion, such would not be excluded at trial.

For those reasons, the Court's summary judgment analysis below does not rely on the portions of Matson's and Duarte's opinions outlined above. Finally, the Court notes that while it

sees no reason to exclude any portion of Reitman or Barry's expert opinions—as requested by Westport in its motions to exclude—the Court's summary judgment analysis and conclusion do not meaningfully rely upon either expert and, therefore, the Court's outcome would remain the same even if exclusion, as urged by Westport, was warranted.

V. Summary Judgment Standard

Summary judgment is appropriate when "the pleadings, depositions, answers to interrogatories and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c). Pursuant to the language of the rule, the moving party bears the two-fold burden of showing that "no genuine issue exists as to any material fact," and that he is "entitled to judgment as a matter of law." Vega-Rodríguez v. P.R. Tel. Co., 110 F.3d 174, 178 (1st Cir. 1997).

After the moving party has satisfied this burden, the onus shifts to the resisting party to show that there still exists "a trialworthy issue as to some material fact." Cortés-Irizarry v. Corporación Insular De Seguros, 111 F.3d 184, 187 (1st Cir. 1997). A fact is deemed "material" if it potentially could affect the outcome of the suit. Id. Moreover, there will only be a "genuine" or "trialworthy" issue as to such a "material fact," "if a reasonable fact-finder, examining the evidence and drawing all reasonable inferences helpful to the party resisting summary judgment, could resolve the dispute in that party's favor." Id. At all times during the consideration of a motion for summary judgment, the Court must examine the entire record "in the light most flattering to the nonmovant and indulg[e] all reasonable inferences in the party's favor." Maldonado–Denis v. Castillo–Rodríguez, 23 F.3d 576, 581 (1st Cir. 1994).

VI. Discussion

A. Breach of the Implied Warranty of Merchantability (Counts I and II)

Under the implied warranty of merchantability, manufacturers have a duty to design products so that they are "fit for the ordinary purposes for which such goods are used." M.G.L. c. 106 § 2–314(2)(c). To prevail on a breach of implied warranty of merchantability claim, the plaintiff must show:

> (1) that the defendant manufactured or sold the product; (2) that a defect or unreasonably dangerous condition existed at the time the product left the defendant's hands so that it was not reasonably suitable for the ordinary uses for which goods of that kind were sold; (3) that at the time of his injury, the plaintiff was using the product in a manner that the defendant intended or that could reasonably have been foreseen; and (4) that the defect or unreasonably defective condition . . . was a legal cause of the plaintiff's injury.

Lally v. Volkswagen Aktiengesellschaft, 45 Mass. App. Ct. 317, 337 (1998). A product may be defective because of a design defect or because of a failure to warn.

1. Defective Design

To demonstrate that a product is defective under a design defect theory, it must be shown that the product was "made according to an unreasonably dangerous design and does not meet a consumer's reasonable expectation as to its safety." Everett v. Bucky Warren, Inc., 376 Mass. 280, 290 (1978) (internal quotations omitted). The focus of the claim must be on the design itself, not on the manufacturer's conduct and it requires proof of the existence of a safer alternative design. Id. at 290-91; see Evans v. Lorillard Tobacco Co., 465 Mass. 411, 428 (2013). A manufacturer may only be held liable for a defective design if it fails to "design against the reasonably foreseeable risks attending the product's use in that setting." Back v. Wickes Corp., 375 Mass. 633, 641 (1978).

a. Alternative Design

Here, Pharmacia argues that Westport cannot show that there is any evidence of a reasonable alternative design to the PCBs found in the plasticizers used during the construction of WMS. "To establish a prima facie case of defect, the plaintiff must prove the availability of a technologically feasible and practical alternative design that would have reduced or prevented the plaintiff's harm." Evans, 465 Mass. at 428. In assessing whether a feasible alternative design exists, the Court bears in mind that Massachusetts law does not allow for the categorical imposition of liability on an entire class of products. See id. at 431 n. 11 (explaining that "our case law does not permit a jury to impose categorical product liability on all cigarettes . . . "). A design defect claim, in other words, cannot be premised on the conclusion that the product should never have existed in the first place. Instead, a plaintiff must show that there was a feasible alternative design for the product that would have reduced or prevented the harm.

In Town of Lexington v. Pharmacia Corp., an action similarly seeking recovery for environmental remediation of property damage allegedly resulting from the presence of PCBs at a local public school, this Court explained that "[a] claim for defective design cannot be maintained where the presence of [PCBs] is the alleged defect in design, and its very presence is a characteristic of the product itself." Lexington, 133 F. Supp. 3d 258, 270 (D. Mass. 2015) (quoting Godoy ex rel. Gramling v. E.I. du Pont de Nemours & Co., 319 Wis. 2d 91, 100 (2009)). Recognizing that Lexington was challenging the design of the PCBs as PCBs, the Court there found insufficient evidence of a design defect and granted summary judgment in favor of Pharmacia. Id. Here, Pharmacia makes the same argument it made in Lexington, namely that Westport cannot point to any aspect of the PCBs' design that makes them defective other than the fact PCBs are an inherently flawed category of product. D. 206 at 4.

In response, Westport distinguishes its defective design claim here as one premised on the design of the plasticizers—not on the PCBs, themselves. D. 212 at 4-5. This, however, is a distinction without a difference. The Aroclor 1248 and Aroclor 1254 plasticizers were complex mixtures containing multiple PCB isomers. D. 207 ¶ 1; D. 212-1 ¶ 1 (agreeing that these products had different degrees of chlorination and mixtures of multiple PCB cogeners). That is, the Aroclor 1248 and 1254 plasticizers that Pharmacia shipped to its formulators were raw PCB congeners. D. 207 ¶¶ 1, 13; D. 212-1 ¶¶ 1, 13. Pharmacia's expert, Dr. Jack Matson, noted as much in his expert report, observing that "[t]he Aroclor 1200 series signified products that contained only mixtures of PCBs." D. 207-1 at 76. In other words, if one removed PCBs from the Aroclor 1248 or Aroclor 1254 products, there would be nothing remaining, as those products were pure PCBs.

Westport maintains that Pharmacia could have used alternatives to PCB-plasticizers given that Pharmacia manufactured a wide array of various types of plasticizers—some that contained PCBs and many others that did not. D. 212 at 6. Westport points the Court to several letters from Pharmacia representatives to its customers informing them of potential replacements for the Aroclor 1200 series after Pharmacia voluntarily began to phase out the sale of PCBs for various applications. One such letter, for example, informed customers of Pharmacia's intention to discontinue the sale of PCB-containing products and provided customers with a list of "suggested alternatives for most applications." D. 212-3 at 142-47 (with accompanying table). Another document relied upon by Westport is an internal company memorandum entitled "Improved Plasticizers for Polysulfides" from May 1970, which suggests in relevant part that Aroclor 1248 and 1254 could be replaced by Santicizer 261, Santicizer 148 and Aroclor 5442 blends with Santicizer 160 or 261. D. 212-3 at 149-50. According to Westport, these documents and other such memoranda and charts listing possible replacements for plasticizers in the Aroclor 1200 series

indicate that Pharmacia knew of potential alternatives to its pure PCB plasticizers and, therefore, that there is at least a factual dispute as to whether an alternative design to the PCB plasticizers reasonably existed.

The essence of Westport's argument that Pharmacia should have manufactured a plasticizer product without PCBs, however, was rejected by this Court in Lexington. The documents to which Westport directs the Court appear to show Pharmacia's attempts to find suitable replacements for the Aroclor 1200 line to continue to maintain business with certain customers after discontinuing the Aroclor 1200 series. The replacement proposed is an entirely separate type of product. That is, the evidence presented here does not show an alternative design but, rather, the complete replacement of one item for another. As this Court noted in Lexington:

> As for Lexington's assertion that Pharmacia should have manufactured a plasticizer other than PCBs, that argument boils down to a complaint that the caulk manufacturer defectively designed the caulk when it chose a formula that included PCBs rather than an alternative plasticizer. Lexington, however, has not sued the manufacturer of the caulk used at [the public school] (nor can it identify the caulk manufacturer). It may not impute the absent manufacturer's liability, if any, to Pharmacia, which did not develop the caulk formulation.

Lexington, 133 F. Supp. 3d at 271-72. This concern applies with equal force here where, again, the manufacturer of the PCBs, Pharmacia, is being sued rather than the formulator responsible for choosing the composition of the various interacting components of the caulk formulation.

In reaching such a conclusion in Lexington, the Court analogized the PCBs found in the Lexington school to lead paint, which was similarly banned in the late 1970s. See 16 C.F.R. § 1303.1(a). The Court relied, in part, upon a case involving a defective design claim brought against lead pigment manufacturers. City of Philadelphia v. Lead Indus. Ass'n, Civ. A. No. 90–7064, 1992 WL 98482, at *3 (E.D. Pa. Apr. 23, 1992). There, the plaintiffs argued that the product at issue, lead pigment, was inherently dangerous and that a reasonable alternative design would have been

a non-toxic substitute for the lead pigment. Id. The court disagreed, highlighting the fact that the "challenge is to the product itself, not to its specific design." Id. Following this logic, Lexington explained that like the lead pigment at issue in Lead Indus. Ass'n, "here, PCBs cannot be PCBs without the presence of PCBs themselves, along with their inherent characteristics. Rather, Lexington must point to some aspect of Pharmacia's design of PCBs, not the mere presence of PCBs, to sustain its claim for design defect." Lexington, 133 F. Supp. 3d at 271. While Westport attempts to meet their alternative design burden by claiming that the defective feature product at issue (PCBs) is not the product but rather an application of the product (plasticizers), such an argument does not undermine the legal reasoning that this Court applied to a similar claim against the same defendants in Lexington. Accordingly, Westport has failed to demonstrate that a feasible alternative design existed for the Aroclor 1248 and Aroclor 1254 plasticizers.

b. Foreseeability

Even if a feasible alternative design existed, Pharmacia would also need to establish that the risk of the injury alleged was reasonably foreseeable at the time the caulk was installed at WMS in 1969. See Vassallo v. Baxter Healthcare Corp., 428 Mass. 1, 23 (1998) (deciding that "a defendant will not be held liable . . . for failure to warn or provide instructions about risks that were not reasonably foreseeable"); Bernier v. Bos. Edison Co., 380 Mass. 372, 378 (1980) (ruling that a product designer "must anticipate the environment in which its product will be used, and it must design against the reasonably foreseeable risks attending the product's use in that setting") (quoting Back, 375 Mass. at 640-41 (1978)). The foreseeability inquiry asks whether the risk was "reasonably foreseeable at the time of sale or could not have been discovered by way of reasonable testing prior to marketing the product." Vassallo, 428 Mass. at 23.

In Lexington, the Court considered the question of whether the risks associated with plasticizers containing PCBs as used in window caulk were reasonably foreseeable or discoverable at the time the caulk was sold. Lexington, 133 F. Supp. 3d at 267. The Court, there, found that it was not enough that the evidence might demonstrate that defendants knew that "dangers presented by PCBs in certain circumstances" or that dangers presented in certain applications of PCB-containing plasticizers (i.e., in house paints but not in window caulk). Id. at 268. Rather, Lexington had to produce evidence sufficient to support a conclusion that defendants "knew [or should have known] of the inherent danger[s] of PCBs" and, more specifically, "of the risks that PCBs would volatilize into airborne form after being installed as a component in window caulk." Id. In other words, "the specific risk at issue [was] the presence of PCBs in caulk and the resulting presence of PCBs in the indoor air of a building" and plaintiff had to show "that that particular danger was reasonably foreseeable . . . ." Id. at 269.

In the instant case, Westport has the benefit of a perhaps more developed record than the parties had in Lexington. To establish that the specific risk of harm associated with caulk containing PCBs was reasonably foreseeable, Westport sets up the inferential chain that, as of 1969 when WMS was built, Pharmacia knew:

> (1) PCBs were known to cause systemic toxic effects resulting in physiological harm;
>
> (2) PCB-plasticizers were sold for use in polysulfide sealants in applications for building construction;
>
> (3) All plasticizers volatilized out of polymer products through contact with air, liquids, or adjacent solids;
>
> (4) PCBs volatilized from PCB-plasticizer-containing polymer products including polysulfide sealants and persisted in indoor environments, thus exposing occupants to PCBs;

(5) PCBs, and specifically Aroclors 1248 and 1254, were persistent, bioaccumulative, and toxic environmental contaminants.

D. 212 at 4. Westport provides evidence for each claim in the chain, principally in the form of scientific studies and expert testimony. D. 212 at 4; D. 207-1 at 73, 82; D. 212-2 at 222-235. Nevertheless, Westport's evidence still falls short of raising a triable issue of material fact as to whether the risks associated with PCBs in window caulk were reasonably foreseeable as of 1969, the date of installation. Although Westport has attempted to differentiate the record from that in Lexington, they have not produced facts that compel a different legal result.

As an initial matter, Westport's reliance on a series of inferences rather than discrete evidence of harms specific to PCB-containing caulk undermines—but does not necessarily foreclose—their argument that the harms were reasonably foreseeable. The first two steps in the chain are consistent with the evidence that was before this Court in Lexington. See Lexington, 133 F. Supp. 3d at 268. Numerous studies from the 1930s through 1950s confirmed the potential toxic effects of PCBs. See D. 212-1 ¶¶ 3-4; D. 229 ¶¶ 3-4. Moreover, in the 1950s, Pharmacia officials acknowledged that PCBs were toxic in certain concentrations. Id. ¶¶ 11-12; D. 229 ¶¶ 11-12. It is equally clear that prior to 1969 Pharmacia manufactured and sold PCBs that were used in polysulfide sealants (i.e., caulks). Id. ¶ 29; D. 229 ¶ 29. The chain begins to breaks down, however, at the claim that "[a]ll plasticizers volatilized out of polymer products through contact with air, liquids, or adjacent solids." D. 212 at 4. Here, Westport relies principally on the same paint studies from the 1950s that the Court considered in Lexington. Compare Lexington, 133 F. Supp. 3d at 268 with D. 212-1 ¶¶ 8-10. Those studies found that under certain conditions PCBs volatilize out of paint products at potentially dangerous levels. Id. In addition to these studies,

Westport produces the report of its chemical engineering expert Dr. Matson.[1] Id. ¶ 7; see D. 212-2 at 183-88. Dr. Matson's report cites several other studies from the 1960s to suggest that it was known within the industry that plasticizers (although not specifically plasticizers containing PCBs) volatilize out of other types of polymers over time at faster or slower rates depending on variables such as temperature and thickness. D. 212-2 at 184. Yet these studies concerned resin sheets containing plasticizers, not caulks or other polysulfide sealants. See id. The evidence Dr. Matson cites concerning the volatility of PCB-containing plasticizers in caulks comes from several of Pharmacia's clients who, by the late 1960s, were concerned about the "high volatility" of the plasticizers for the purposes of certain caulking applications. Id. at 187-88. The customers' concerns, however, were with the effectiveness of the plasticizers, not with any associated health or environmental risks. Id. Taken together, this additional evidence does not bridge the gap identified in Lexington, as it fails to provide any basis to conclude that it was reasonably foreseeable as of 1969 that PCBs would volatilize out of caulk at dangerous or even concerning levels. Rather, it allows only for the conclusion PCBs were associated with dangers in certain

[1] The Court considers Dr. Matson's report to the extent that it provides information and testimony relating to what was known in the industry prior to 1969 regarding the volatilization of PCB-containing caulk and other polysulfide sealants. As noted above, the Court does not consider Dr. Matson's conclusions regarding Pharmacia's specific knowledge or intent. Even if the Court accepted Dr. Matson's testimony that Pharmacia knew or should have known that PCBs were toxic and that the volatilization of PCBs would contaminate indoor air, however, the Court's ultimate conclusions here would remain unchanged. Indeed, the Court has considered a similar opinion from Dr. Olson about industry-wide knowledge, D. 154-1 at 32, and nonetheless concludes that Westport has failed in demonstrate that PCBs volatilizing from building products like caulk or PCBs at levels found at WMS cause human disease. See infra at 17. No such studies existed in 1969 and, tellingly, no such studies exist today. Id. Moreover, even if such studies existed today, there is no evidence suggesting that a risk of harm from PCBs in caulk would have been reasonably discoverable at the time WMS was built. See infra at 18.

conditions and not that it was foreseeable that the dangers would present in the conditions applicable in this case. Lexington, 133 F. Supp. 3d at 268.

Pharmacia, for its part, advances two arguments that confirm the conclusion that the risk of harm from PCBs in window caulk was not reasonably foreseeable as of 1969. D. 206 at 4-6. First, Pharmacia argues that there were no scientific studies then (or now) that demonstrate either (1) that PCBs volatilizing from caulk cause human disease, or (2) that the levels of PCBs found at WMS in 2011 cause human disease.[2] Id. at 5. For support, Pharmacia relies principally on the admissions of Westport's own experts. Id.; see D. 207 ¶¶ 28-32. For example, Dr. Matson acknowledged in his deposition that he did not know of any scientific studies demonstrating that PCBs volatilizing from building materials caused adverse health effects. D. 207 ¶ 30. Westport's industrial hygiene expert Robert Herrick also admitted that "those studies haven't been done."[3]

[2] The Court recognizes that this is not the precise harm of which Westport complains. But, the risk of adverse health effects is inextricably linked with the risk of property damage, of which Westport does complain, from PCBs volatilizing from caulk. Indeed, Westport also frames its arguments concerning the foreseeability of harm in terms of what was known or knowable concerning the health risks associated with PCBs generally and PCBs in caulk specifically. See D. 212 at 2-4.

[3] As noted above, Pharmacia moved to exclude Dr. Herrick's expert testimony. D. 159, arguing that his opinion as to the reasonableness of Westport's remediation efforts is inadmissible on the bases that that (1) the opinion is not scientifically verifiable, (2) Dr. Herrick is not qualified to offer an opinion as to reasonableness and (3) the opinion does not "fit" the relevant legal issue in the case (i.e., whether Westport's remediation efforts were reasonably necessary). D. 160 at 3-7. Pharmacia also argues that Dr. Herrick's opinion as to the existence of a "health threat" at WMS is inadmissible on the bases that (1) the opinion does not "fit" the relevant legal issue in the case (i.e., whether WMS was unsafe), (2) the opinion is unsupported by scientific data, (3) the opinion relied on data inapplicable to WMS, (4) Dr. Herrick fails to use a recognized methodology in reaching his opinion, (5) Dr. Herrick is not qualified to offer an opinion about the health effects of PCBs and (6) the opinion is cumulative. D. 160 at 7-13.

The Court disagrees and, as the Court previously made clear, considered his opinion here. First, the Court finds that Dr. Herrick is a trained industrial hygienist with sufficient experience assessing toxic exposures, including industrial materials containing PCBs. D. 186 at 6-7. Second, the Court finds that the proffered expert testimony is helpful in assessing the relevant issues in instant case, even if the language of Dr. Herrick's opinion does not precisely map onto the legal standard. Stewart's Case, 74 Mass. App. Ct. 919, 919 (2009). Additionally, the Court finds that

Id. ¶ 31. Dr. Matson and Westport's toxicologist Dr. James Olson also admitted that there are no available studies demonstrating that the PCB levels detected in WMS were dangerous to human health. Id. ¶¶ 29-32. In light of these admissions, the Court cannot conclude that there is evidence sufficient to support a finding that it was reasonably foreseeable more than forty years ago when it is not clear today that the PCBs contained in caulks posed a danger to human health.

Second, Pharmacia addresses the concern that even if the risk of harm from PCBs in caulk was not reasonably foreseeable in 1969, it may have been reasonably discoverable. D. 206 at 5-6. Pharmacia points to the lack of any "legal requirement, government or industry standard, or recommendation from any source that required long-term toxicology tests" or that required "a manufacturer of a component part . . . to test the volatilization of PCBs from another manufacturer's consumer end product." Id. at 5; see D. 207 ¶¶ 33, 37. Westport argues, however, that Pharmacia "consciously decided" in the 1950s not to conduct further studies concerning the toxicity of PCBs. D. 212 at 3; see D. 212-1 ¶ 12. Regardless of whether this is an accurate characterization of evidence,[4] this argument is unavailing because Westport cannot point to any evidence that additional toxicity studies would have discovered the potential hams associated with PCBs in caulk. Indeed, Dr. Olson conceded in his deposition that, even if Pharmacia had conducted studies of ambient dosage levels for PCBs in the 1950s and 1960s, he could not say that the company would have discovered anything to suggest a risk of harm. D. 207 ¶ 32; D. 212-1 ¶

Dr. Herrick's proposed expert testimony is sufficiently reliable for the purposes of FRE 702. Not only is Herrick qualified to offer an expert opinion regarding Westport's remediation efforts and the health threat posed by PCBs at WMS, but he has grounded his opinion in relevant scientific data and drawn his conclusions from that data based on his relevant experience.

[4] The cited document appears to be a recommendation that additional toxicity testing was not necessary. The document, however, also appears to suggest that additional research would be worthwhile if it was "directed towards finding out what the concentrations are of [PCBs] during different operations whether it is industrial or painting." D. 212-3 at 161.

32; see Mason v. Gen. Motors Corp., 397 Mass. 183, 192 (1986) (finding that "failure to perform [a] particular type of . . . test was simply not relevant" where there is no evidence that such a test would have provided information to enable the manufacturer to avoid a particular risk or harm). For all these reasons, the Court concludes that Westport has failed to produce evidence sufficient to support a finding that the specific risk of harm associated with PCBs in caulk was reasonably foreseeable or discoverable by Pharmacia as of 1969. As such, summary judgment is GRANTED as to the breach of the implied warranty of merchantability for design defect (Count I).

2. Failure to Warn

Westport presents two theories for its failure to warn claims. First, that Pharmacia failed to provide adequate warnings to end users, like Westport and WMS, at the time of sale. D. 212 at 10-14. Second, that Pharmacia failed to provide adequate warnings post-sale consistent with its continuing duty to warn. Id. at 14-15. Both of these theories require that the risk of harm be reasonably foreseeable, Lexington, 133 F. Supp. 3d at 272-73 (concluding that a duty to warn, both at the time of sale and after the fact, only applied to reasonably foreseeable risks), and so fail for the reasons already discussed. Nevertheless, the Court considers the merits of the duty to warn claims independent of its foreseeability analysis, and finds that those claims still fail even if the risk of harm associated with PCBs were reasonably foreseeable.

Pharmacia argues that to the extent it was subject to a duty to warn end users like WMS about the foreseeable risks associated with PCBs, it satisfied that duty pursuant to the "bulk supplier doctrine." D. 206 at 7-9. The bulk supplier doctrine relieves bulk suppliers of their duty to warn end users of a product as long as the bulk supplier has "reasonable assurance that the information will reach those whose safety depends upon their having it." Hoffman v. Houghton Chem. Corp., 434 Mass. 624, 632 (2001) (quoting Restatement (Second) of Torts § 388 cmt. n

(1965)). For the bulk supplier doctrine to apply, the defendant must produce evidence that its product was "delivered in bulk to an intermediary vendee." Id. at 630; see Genereux v. Am. Beryllia Corp., 577 F.3d 350, 374 (1st Cir. 2009). "This requirement reflects two rationales for the doctrine: that products delivered in bulk are often reformulated and repackaged by an intermediary, making it unlikely that the supplier could provide a warning that would reach end users; and that bulk supplies are often put to 'multitudinous commercial uses,' making it unduly burdensome to require the supplier to warn all foreseeable end users." Genereux, 577 F.3d at 374 (quoting Hoffman, 434 Mass. at 633). That is, the bulk supplier doctrine is premised on the idea that "the intermediary vendee, particularly the large industrial company, has its own independent obligation to provide adequate safety measures for its end users, an obligation on which bulk suppliers should be entitled to rely." Hoffman, 434 Mass. at 633. As an affirmative defense, Pharmacia bears the burden of proof in demonstrating that the bulk supplier doctrine is applicable here.

It is undisputed that Pharmacia was a bulk supplier of plasticizers containing PCBs to intermediary vendees that reformulated the plasticizers into caulks and other polysulfide sealants.[5] See D. 206 at 7; D. 212 at 10-13; D. 212-1 ¶¶ 9-10. Rather, Westport disputes whether Pharmacia communicated adequate safety warnings to the intermediary caulk manufacturers and whether it

[5] Westport does raise the objection that Pharmacia cannot avoid liability because its PCB-containing products were reformulated to be included in caulk. D. 212 at 13-14. Westport argues that Pharmacia can still be held liable under the "component part doctrine" upon showing that the plasticizers provided by Pharmacia were defective and that the defect caused harm. Id. at 13. The Court does not read Pharmacia's argument to suggest that Pharmacia was relieved of its duty to warn end users simply because the plasticizers were reformulated into caulk. See D. 206 at 8. Rather, Pharmacia points out that its products were reformulated (1) to demonstrate the applicability of the bulk supplier doctrine, and (2) to add to its argument that it was reasonable to rely on the intermediaries to provide the requisite warnings to end users.

was reasonable for Pharmacia to rely on those same manufacturers to warn end users such as WMS. D. 212 at 11-13.

Pharmacia's warnings to caulk manufacturers throughout the 1940s, 1950s and much of the 1960s were focused on the potential systemic toxic effects associated with handling and prolonged exposure to PCB-containing plasticizers for industrial workers. D. 206 at 8; D. 212 at 11-12. Westport maintains that these warnings did not address the potential risks to end users, specifically the risk that PCBs would volatilize out of open-use products, contaminate indoor air and adjacent surfaces and persist in the environment for extended periods of time. D. 212 at 11-12. Pharmacia's position is that more specific warnings were unnecessary, not only because those risks were not reasonably foreseeable as of 1969, but also because it was well known within the industry that plasticizers would eventually volatilize out of the end products. D. 206 at 8. Moreover, because the plasticizers were reformulated in ways that influenced the volatilization rate, Pharmacia was not in a position where it could communicate more specific warnings about the risks that end users might face. Id. at 10.

Westport counters that even if the intermediary manufacturers knew of the general toxicity risks and volatilization of plasticizers containing PCBs, the intermediaries still did not know, and were not warned, about the characteristics of PCBs that lead them to persist and circulate in indoor environments. D. 212 at 12. Yet, elsewhere in its brief, Westport cites specifically to Pharmacia technical bulletins and advertisements that discussed how PCBs did not readily degrade or disintegrate and had an affinity for dust. Id. at 3; see D. 212-1 ¶ 34. Westport's position boils down to the argument that Pharmacia was under a duty to provide caulk manufacturers with complete warnings regarding the potential risks to end users, rather than warnings just about the risks to industrial workers. D. 212 at 12-13. Yet, that argument runs contrary to the stated purposes

of the bulk supplier doctrine. Genereux, 577 F.3d at 374; see Ditto v. Monsanto Co., 867 F. Supp. 585, 591 (N.D. Ohio 1993) (concluding that a manufacturer of PCBs had discharged its duty to warn under the bulk supplier doctrine where the intermediary was generally apprised of the risks associated with PCBs), aff'd, 36 F.3d 1097 (6th Cir. 1994). Given these facts, as well as the conclusion that the specific risks associated with PCBs were not reasonably foreseeable as of 1969, the Court finds that as a matter of law Pharmacia reasonably relied upon intermediary manufacturers to pass on the necessary warnings to the end users of PCB-containing plasticizers.

As to Westport's theory that Pharmacia had a continuing duty to warn end users after 1969, "[a] continuing duty to warn arises when (1) 'a seller knows or reasonably should have known of product dangers discovered post-sale;' (2) 'a reasonable person in the seller's position would provide a warning;' (3) 'those to whom a warning might be provided can be identified;' and (4) 'the warning [can be] effectively communicated to them.'" Lexington, 133 F. Supp. 3d at 273 (quoting Lewis v. Ariens Co., 434 Mass. 643, 647-48 (2001)). Westport's position is that Pharmacia knew or reasonably should have known of the risks associated with PCBs as of 1969 and so had a continuous post-sale duty to warn end users. Although, for reasons already discussed, the Court disagrees that that there is sufficient evidence to support a finding that Pharmacia knew or should have known of the risks associated with PCBs as 1969, it is possible that at some point thereafter Pharmacia did know, or reasonably should have known, of the risks associated with PCBs and, at that point, a post-sale duty to warn arose. But, even if that were the case, it would not change the legal outcome here.

Westport has not produced evidence that Pharmacia could have identified or effectively communicated a warning to Westport at any point after 1969. See id. (granting summary judgment on post-sale duty to warn claim because plaintiff did "not explain how Pharmacia was to identify

[plaintiff] or otherwise effectively communicate any danger associated with PCBs"). Westport attempts to argue on the basis of Jones v. Bowie Indus., Inc., 282 P.3d 316 (Alaska 2012), that "[t]he law does not require this level of precise knowledge or communication . . . ." D. 212 at 14. Rather, Pharmacia could have identified end users and communicated a warning to them simply by "using public media." See Jones, 282 P.3d at 336. Pharmacia maintained a list of its customers that purchased plasticizers containing PCBs which, Westport argues, would have been sufficient for Pharmacia to identify and communicate with end users like WMS. D. 212 at 15. Yet, this argument is in tension with the caution that, "[i]n light of the serious potential for overburdening sellers in this regard, the court should carefully examine the circumstances for and against imposing a duty to provide a post-sale warning in a particular case." Lewis, 434 Mass. at 648 (quoting Restatement (Third) of Torts: Products Liability § 10 cmt. a (Am. Law Inst. 1998)). Moreover, Pharmacia has produced evidence of "a complex supply chain" by which its plasticizers traveled to end users, undermining Westport's claim that WMS could have been readily identified by Pharmacia. D. 206 at 10; see D. 207 ¶¶ 13, 18; D. 212-1 ¶¶ 13, 18. As a legal matter, it is not enough that Pharmacia could have published a general warning for all conceivable end users of products containing it plasticizers. See Town of Princeton v. Monsanto Co., Solutia Inc., 202 F. Supp. 3d 181, 197 (D. Mass. 2016) (dismissing post-sale duty to warn claim for failing to allege how defendant could identify end users other than through direct purchasers). In the absence of a showing of how Pharmacia could have identified WMS as an end user of its product, and so communicated a warning, the Court finds that Westport's duty to warn claims, to the extent they are predicated on a post-sale duty to warn, also fail as a matter of law.

For these reasons, Pharmacia's motion for summary judgment is GRANTED as to Westport's claim of breach of the implied warranty of merchantability for failure to warn (Count II).

B. Negligence (Count III)

Westport also asserts that Pharmacia acted negligently in its manufacturing of PCB-containing plasticizers under the same theories of design defect and failure to warn outlined above. Negligent design claims, as with all claims of negligence, require a plaintiff to prove that the defendant breached a legally cognizable duty of care and that the breach caused the plaintiff actual harm. Cigna Ins. Co. v. Oy Saunatec, Ltd., 241 F.3d 1, 15 (1st Cir. 2001). Under a design defect theory, that duty of care requires manufacturers to design products to eliminate foreseeable defects or dangers to product consumers. Chartier v. Brabender Technologie, Inc., No. 08-40237-FDS, 2011 WL 4732940, at *8 (D. Mass. Oct. 5, 2011). But the Court has already concluded that the alleged harm caused by the PCBs in Pharmacia's plasticizer was not reasonably foreseeable as a matter of law and that a plausible alternative design did not exist. The Court does not reach a different conclusion here. This is because "[a] defendant in a products liability case in the Commonwealth may be found to have breached its warranty of merchantability without having been negligent, but the reverse is not true. A defendant cannot be found to have been negligent without having breached the warranty of merchantability." Hayes v. Ariens Co., 391 Mass. 407, 410 (1984), abrogated on other grounds by Vassallo, 428 Mass. 1. Additionally, as for failure to warn, "[t]he Supreme Judicial Court has effectively collapsed the two standards for negligence and breach of warranty where the plaintiffs' allegations are based upon a failure to warn, determining that 'negligent failure to warn and failure to warn under breach of warranty are to be judged by the same standard: the reasonableness of the defendant's actions in the circumstances.'"

Calisi v. Abbott Labs., No. 11-cv-10671-DJC, 2013 WL 5441355, at *14 (D. Mass. Sept. 27, 2013) (quoting Hoffman, 434 Mass. at 637 (2001)). Thus, a claim of negligence based on either design defect or failure to warn cannot be maintained here.

Westport also purports to bring a negligence claim under a theory of negligent marketing and promotion. D. 212 at 15. It is not clear to the Court whether a claim under a theory of negligent marketing can be brought independently of a claim of negligence for design defect. Indeed, numerous courts have found such claims to be one in the same. See Ileto v. Glock Inc., 349 F.3d 1191, 1200 n.11 (9th Cir. 2003) (discussing a California state court case and noting that "although the plaintiffs characterized their action as a negligence claim, it was in reality a products liability action . . . and was therefore dismissed"); Hamilton v. Accu–tek, 935 F. Supp. 1307, 1323 (E.D.N.Y. 1996) (suggesting that a negligent marketing claim "really amount[s] to an alternate pleading of the [strict] product liability theory," and that the act of marketing a product cannot "give rise to liability absent a defect in the manufacture or design of the product itself"). While the Massachusetts courts have recognized claims for negligent marketing in very limited circumstances, see Killeen v. Harmon Grain Prods., Inc., 11 Mass. App. Ct. 20, 28 (1980) (noting that negligent marketing could occur through the marketing of a product "in a manner calculated to induce direct purchases by children whose use would involve unreasonable risk of injury"), courts in the Commonwealth have not extended negligence liability to situations with facts like the ones presented in this case. As such, the standard under which such a claim should be adjudged under this theory is not particularly clear. One commentator has generally described that negligent marketing claims "would require proof that a reasonable person in defendant's position . . . would not have marketed the product," while also weighing the foreseeable risks of harm against the costs of avoiding that harm. Joseph A. Page, Liability for Unreasonably and Unavoidably Unsafe

Products: Does Negligence Doctrine Have a Role to Play?, 72 Chi.-Kent L. Rev. 87, 97 (1996). In the instant case, to the extent a negligence claim under a theory of negligent marketing can be brought independent of a design defect claim under the laws of this Commonwealth, the Court concludes that the foreseeability inquiry discussed above remains dispositive. See Hamilton, 935 F. Supp. at 1323. A manufacturer of a product cannot be held liable for negligent marketing where the potential dangers of the product were not reasonably foreseeable at the time the marketing occurred. In addition, Pharmacia marketed and sold PCBs for use as plasticizers to sophisticated formulators. Given that even Westport's experts concede that it was common knowledge in the industry that PCBs, like all other plasticizers, volatilize, Westport has produced no evidence demonstrating that Pharmacia's acts exposed others to an unreasonable risk of injury. D. 207-1 at 87-88; D. 207-2 at 14-15, 18-19, 97-99. Consequently, summary judgment is GRANTED as to the claim of negligence.[6]

VII. Conclusion

For the foregoing reasons, the Court ALLOWS the motion for summary judgment, D. 205, and DENIES the motion for partial summary judgment, D. 201, as moot. Furthermore, the Court DENIES the motions to exclude expert testimony, D. 153, D. 157, D. 159, D. 164, D. 167, D. 170, D. 173, as moot. While the Court would otherwise have partially granted the motions to exclude at trial the expert testimony of Jack V. Matson, D. 155, and Michael Duarte, D. 158, for the reasons

[6] In light of summary judgment to Pharmacia as to all three remaining claims in this case, the Court does not reach Pharmacia's arguments regarding the alleged lack of compensable injury and compensable damages, nor does the Court reach Pharmacia's statute of limitations argument. Moreover, Pharmacia's motion for partial summary judgment seeking to limit Westport's damages to no more than the fair market value of WMS is DENIED as moot. D. 201. The Court is aware that Pharmacia moved for leave to file a notice of supplemental authorities addressing whether the presence of PCB contamination constitutes property damage irrespective of the level shown to cause human disease. D. 234. The Court considered that motion and the opposition to same, D. 237, and DENIES the motion as moot in light of its summary judgment decision.

discussed supra, the Court also DENIES those as moot in light of its allowance of the motion for summary judgment.

So Ordered.

/s/ Denise J. Casper
United States District Judge